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Preface

Using the Qualys API, third parties can integrate their own applications with Qualys cloud security and compliance solutions using an extensible XML interface. The APIs described in this guide are available to customers using Qualys Cloud Platform (VM, PC).

About Qualys

Qualys, Inc. (NASDAQ: QLYS) is a pioneer and leading provider of cloud-based security and compliance solutions. The Qualys Cloud Platform and its integrated apps help businesses simplify security operations and lower the cost of compliance by delivering critical security intelligence on demand and automating the full spectrum of auditing, compliance and protection for IT systems and web applications.

Founded in 1999, Qualys has established strategic partnerships with leading managed service providers and consulting organizations including Accenture, BT, Cognizant Technology Solutions, Deutsche Telekom, Fujitsu, HCL, HP Enterprise, IBM, Infosys, NTT, Optiv, SecureWorks, Tata Communications, Verizon and Wipro. The company is also a founding member of the Cloud Security Alliance (CSA). For more information, please visit www.qualys.com.

Contact Qualys Support

Qualys is committed to providing you with the most thorough support. Through online documentation, telephone help, and direct email support, Qualys ensures that your questions will be answered in the fastest time possible. We support you 7 days a week, 24 hours a day. Access support information at www.qualys.com/support/.
Chapter 1 - Welcome

The Qualys API allows third parties to integrate their own applications with Qualys cloud security and compliance solutions using an extensible XML interface. APIs in this user guide are supported using Qualys Cloud Platform (VM, PC).

We recommend you join our Community and subscribe to our API Notifications RSS Feeds for announcements and discussions.

API Conventions

Qualys User Account

Authentication with valid Qualys user account credentials is required for making Qualys API requests to the Qualys API servers. These servers are hosted at the Qualys platform, also referred to as the Security Operations Center (SOC), where your account is located. If you need assistance with obtaining a Qualys account, please contact your Qualys account representative.

Users with a Qualys user account may access the API functions. When a subscription has multiple users, all users with any user role (except Contact) can use the Qualys API. Each user’s permissions correspond to their assigned user role.

Qualys user accounts that have been enabled with VIP two-factor authentication can be used with the Qualys API, however two-factor authentication will not be used when making API requests. Two-factor authentication is only supported when logging into the Qualys GUI.

URL to Qualys API Server

Qualys maintains multiple Qualys platforms. The Qualys API server URL that you should use for API requests depends on the platform where your account is located.

<table>
<thead>
<tr>
<th>Account Location</th>
<th>API Server URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualys US Platform 1</td>
<td><a href="https://qualysapi.qualys.com">https://qualysapi.qualys.com</a></td>
</tr>
<tr>
<td>Qualys US Platform 2</td>
<td><a href="https://qualysapi.qg2.apps.qualys.com">https://qualysapi.qg2.apps.qualys.com</a></td>
</tr>
<tr>
<td>Qualys US Platform 3</td>
<td><a href="https://qualysapi.qg3.apps.qualys.com">https://qualysapi.qg3.apps.qualys.com</a></td>
</tr>
<tr>
<td>Qualys EU Platform 1</td>
<td><a href="https://qualysapi.qualys.eu">https://qualysapi.qualys.eu</a></td>
</tr>
<tr>
<td>Qualys EU Platform 2</td>
<td><a href="https://qualysapi.qg2.apps.qualys.eu">https://qualysapi.qg2.apps.qualys.eu</a></td>
</tr>
</tbody>
</table>
Account Location | API Server URL
---|---
Qualys India Platform 1 | https://qualysapi.qg1.apps.qualys.in
Qualys Canada Platform 1 | https://qualysapi.qg1.apps.qualys.ca
Qualys Private Cloud Platform | https://qualysapi.<customer_base_url>

The Qualys API documentation and sample code use the API server URL for the Qualys US Platform 1. If your account is located on another platform, please replace this URL with the appropriate server URL for your account.

Still have questions? You can easily find the API server URL for your account. Just log in to your Qualys account and go to Help > About. You’ll see this information under Security Operations Center (SOC).

Making API requests

Curl samples in our API docs
We use curl in our API documentation to show an example how to form REST API calls, and it is not meant to be an actual production example of implementation.

GET and POST Methods
Qualys API functions allow API users to submit parameters (name=value pairs) using the GET and/or POST method. There are known limits for the amount of data that can be sent using the GET method, and these limits are dependent on the toolkit used. Please refer to the individual descriptions of the API function calls to learn about the supported methods for each function.
Parameters in URLs
API parameters, as documented in this user guide, should be specified one time for each URL. In the case where the same parameter is specified multiple times in a single URL, the last parameter takes effect and the previous instances are silently ignored.

Date Format in API Results
The Qualys API has adopted a date/time format to provide consistency and interoperability of the Qualys API with third-party applications. The date format follows standards published in RFC 3339 and ISO 8601, and applies throughout the Qualys API. The date format is:

```
yyyy-mm-ddThh-mm-ssZ
```

This represents a UTC value (GMT time zone).

URL Encoding in API Code
You must URL encode variables when using the Qualys API. This is standard practice for HTTP communications. If your application passes special characters, like the single quote (‘), parentheses, and symbols, they must be URL encoded.

For example, the pound (#) character cannot be used as an input parameter in URLs. If “#” is specified, the Qualys API returns an error. To specify the “#” character in a URL you must enter the encoded value “%23”. The “#” character is considered by browsers and other Internet tools as a separator between the URL and the results page, so whatever follows an un-encoded “#” character is not passed to the Qualys API server and returns an error.

UTF-8 Encoding
The Qualys API uses UTF-8 encoding. The encoding is specified in the XML output header as shown below.

```
<?xml version="1.0" encoding="UTF-8" ?>
```

URL Elements are Case Sensitive
URL elements are case sensitive. The sample URL below will retrieve a previously saved scan report that has the reference code “scan/987659876.19876”. The parameter name “ref” is defined in lower-case characters. This URL will return the specified scan report:

```
ref=scan/987659876.19876
```

The sample URL below is incorrect and will not return the specified scan report because the parameter name “Ref” appears in mixed-case characters:

```
Ref=scan/987659876.19876
```
Decoding XML Reports

There are a number of ways to parse an XML file. Select the method which is most appropriate for your application and its users. Qualys publishes DTDs for each report on its Web site. For example, the scan list output DTD is found at the URL shown:

https://qualysapi.qualys.com/api/2.0/fo/scan/scan_list_output.dtd

The URLs to current report DTDs are included with the function descriptions in this document.

Occasionally Qualys updates the report DTDs. It is recommended that you request the most recent DTDs from the Qualys platform to decode your reports. The URLs to the report DTDs are included in this user guide.

Detailed information about each XML report is provided in the document Qualys API for VM and Compliance XML/DTD Reference

Some parts of the XML report may contain HTML tags or other special characters (such as accented letters). Therefore, many elements contain CDATA sections, which allow HTML tags to be included in the report. “High” ASCII and other non-printable characters are escaped using question marks.

API Limits

Qualys Cloud Platform enforces limits on the API calls subscription users can make. The limits apply to the use of all APIs, except “session” API (session login/logout).

API controls are applied per subscription based on your subscription’s service level. Default settings are provided and these may be customized per subscription by Qualys Support.

There’s 2 controls defined per subscription:

- Concurrency Limit per Subscription (per API). The maximum number of API calls allowed within the subscription during the configured rate limit period (as per service level).

- Rate Limit per Subscription (per API). The period of time that defines a window when API calls are counted within the subscription for each API. The window starts from the moment each API call is received by the service and extends backwards 1 hour or 1 day. Individual rate and count settings are applied (as per service level).

Click here to learn more about the controls and settings per service level.

How it works - Qualys checks the concurrency limit and rate limit each time an API request is received. In a case where an API call is received and our service determines a limit has been exceeded, the API call is blocked and an error is returned (the concurrency limit error takes precedence).
Chapter 1 - Welcome
Tracking API usage by user

You can track API usage per user without the need to provide user credentials such as the username and password. Contact Qualys Support to get the X-Powered-By HTTP header enabled. Once enabled, the X-Powered-By HTTP header is returned for each API request made by a user. The X-Powered-By value includes a unique ID generated for each subscription and a unique ID generated for each user. See sample headers below.

Click here to learn more.

HTTP Response Headers

Your subscription’s API usage and quota information is exposed in the HTTP response headers generated by Qualys APIs (all APIs except “session” API).

The HTTP response headers generated by Qualys APIs are described below.

The HTTP status code “OK” (example: “HTTP/1.1 200 OK”) is returned in the header for normal (not blocked) API calls. The HTTP status code “Conflict” (example: “HTTP/1.1 409 Conflict”) is returned for API calls that were blocked.

<table>
<thead>
<tr>
<th>Header</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-RateLimit-Limit</td>
<td>Maximum number of API calls allowed in any given time period of &lt;number-seconds&gt; seconds, where &lt;number-seconds&gt; is the value of X-RateLimit-Window-Sec.</td>
</tr>
<tr>
<td>X-RateLimit-Window-Sec</td>
<td>Time period (in seconds) during which up to &lt;number-limit&gt; API calls are allowed, where &lt;number-limit&gt; is the value of X-RateLimit-Limit.</td>
</tr>
<tr>
<td>X-RateLimit-Remaining</td>
<td>Number of API calls you can make right now before reaching the rate limit &lt;number-limit&gt; in the last &lt;number-seconds&gt; seconds.</td>
</tr>
<tr>
<td>X-RateLimit-ToWait-Sec</td>
<td>The wait period (in seconds) before you can make the next API call without being blocked by the rate limiting rule.</td>
</tr>
<tr>
<td>X-Concurrency-Limit-Limit</td>
<td>Number of API calls you are allowed to run concurrently.</td>
</tr>
<tr>
<td>X-Concurrency-Limit-Running</td>
<td>Number of API calls that are running right now (including the one identified in the current HTTP response header).</td>
</tr>
<tr>
<td>X-Powered-By</td>
<td>This header is only returned when the X-Powered-By header is enabled for your subscription. It includes a unique ID generated for each subscription and a unique ID generated for each user. Click here to learn more.</td>
</tr>
</tbody>
</table>
Sample HTTP Response Headers

Sample 1: Normal API call (API call not blocked)
Returned from API call using HTTP authentication.

HTTP/1.1 200 OK
Date: Fri, 22 Apr 2018 00:13:18 GMT
Server: qweb
X-RateLimit-Limit: 15
X-RateLimit-Window-Sec: 360
X-Concurrency-Limit-Limit: 3
X-Concurrency-Limit-Running: 1
X-RateLimit-ToWait-Sec: 0
X-RateLimit-Remaining: 4
Transfer-Encoding: chunked
Content-Type: application/xml

Sample 2: API Call Blocked (Rate Limit exceeded)
Returned from API call using HTTP authentication.

HTTP/1.1 409 Conflict
Date: Fri, 22 Apr 2018 00:13:18 GMT
Server: qweb
X-RateLimit-Limit: 15
X-RateLimit-Window-Sec: 360
X-Concurrency-Limit-Limit: 3
X-Concurrency-Limit-Running: 1
X-RateLimit-ToWait-Sec: 181
X-RateLimit-Remaining: 0
Transfer-Encoding: chunked
Content-Type: application/xml

Sample 3: API Call Blocked (Concurrency Limit exceeded)
Returned from API call using API session authentication.

HTTP/1.1 409 Conflict
Date: Fri, 22 Apr 2018 00:13:18 GMT
Server: qweb
Expires: Mon, 24 Oct 1970 07:30:00 GMT
Cache-Control: post-check=0,pre-check=0
Pragma: no-cache
X-RateLimit-Limit: 15
X-RateLimit-Window-Sec: 360
X-Concurrency-Limit-Limit: 3
X-Concurrency-Limit-Running: 3
In case where the concurrency limit has been reached, no information about rate limits will appear in the HTTP headers.

**Sample 4: Tracking API usage through the X-Powered-By HTTP header**

```
HTTP/1.1 200 OK
Date: Fri, 22 Apr 2018 00:13:18 GMT
Server: qweb
X-Powered-By: Qualys:USPOD1:d9a7e94c-0a9d-c745-82e9-980877cc5043:7f8af1e-4049-7f0e-81ca-75584feb8e93
X-RateLimit-Limit: 15
X-RateLimit-Window-Sec: 360
X-Concurrency-Limit-Limit: 3
X-Concurrency-Limit-Running: 1
X-RateLimit-ToWait-Sec: 0
X-RateLimit-Remaining: 4
Transfer-Encoding: chunked
Content-Type: application/xml
```

Once X-Powered-By HTTP header is enabled, information is returned in the following format:

```
X-Powered-By Qualys: <POD_ID>:<SUB_UUID>:<USER_UUID>
```

Where,

POD_ID is the shared POD or a PCP. Shared POD is USPOD1, USPOD2, etc.

SUB_UUID is the unique ID generated for the subscription

USER_UUID is the unique ID generated for the user

For example,

```
X-Powered-By: Qualys:USPOD1:d9a7e94c-0a9d-c745-82e9-980877cc5043:7f8af1e-4049-7f0e-81ca-75584feb8e93
```

You can use the USER_UUID to track API usage per user.

**Activity Log**

You can view the Activity Log using the Qualys user interface and the Activity Log API (/api/2.0/fo/activity_log). The Activity Log shows details about user actions taken.

To view the Activity Log, log into your Qualys account. Go to Users and click the Activity Log tab. Select Filters > Recent API Calls. You’ll see the API Processes list showing the API calls subject to the API limits (all APIs except “session” API) made by subscription users and/or updated by the service in the past week.
Tip - You can search the processes list to find API processes. You can search by process state (Queued, Running, Expired, Finished and/or Blocked), by submitted date and by last updated date. You can search for API processes that were blocked due to exceeding the API rate limit and/or the API concurrency limit.
Chapter 2 - Authentication to your account

Authentication with valid Qualys account credentials is required for making Qualys API requests to the Qualys API servers. When calling the V2 APIs (i.e. APIs with /2.0/ as URL element), users have the option to choose between session based authentication (using login and logout operations) and basic HTTP authentication (method supported for V1 APIs (i.e. APIs with /msp/ as URL element).

What do I need to know?

Using the API Session Resource
Session Login
Session Logout

What do I need to know?

Here’s some things to know about making authenticated API requests to Qualys API servers.

Required Header Parameter
The following header parameter must be included in all API calls using basic HTTP authentication and session based authentication:

"X-Requested-With: <user description, like a user agent>"

Specifying the required “X-Requested-With” parameter helps to protect Qualys API users from cross-site request forgery (CSRF) attacks.

Using Basic HTTP Authentication

Using this method, Qualys account credentials are transmitted using the “Basic Authentication Scheme” over HTTPS for each API call. For information, see the “Basic Authentication Scheme” section of RFC #2617:

http://www.faqs.org/rfcs/rfc2617.html

The exact method of implementing authentication will vary according to which programming language is used.

A sample asset/host API request (Curl) using basic HTTP authentication:

curl -H "X-Requested-With: Curl Sample" -u "acme_ab12:passwd" "https://qualysapi.qualys.com/api/2.0/fo/asset/host/?action=list"
Using Session Based Authentication

Using this method, the user makes a sequence of API requests as follows (supported for V2 API calls):

**Step 1: Make session login request**

Use the Qualys API `session` resource to make a login request. Upon success, the request returns a session ID in the Set-Cookie HTTP header:

```
curl -H "X-Requested-With: Curl Sample" -D headers
-b "action=login&username=acme_ab12&password=passwd"
"https://qualysapi.qualys.com/api/2.0/fo/session/
```

**Step 2: Make resource requests**

Use the API resources to make API requests, as described in this user guide, and include the session ID in the cookie header for each request.

You’ll notice the session cookie (QualysSession) was extracted from the “headers” file contents returned from the session login API call (Step 1 above):

```
curl -H "X-Requested-With: Curl Sample"
-b "QualysSession=71e6cda2a35d2cd404cddaf305ea0208; path=/api; secure" -d "action=list"
"https://qualysapi.qualys.com/api/2.0/fo/report/
```

**Step 3: Make session logout request**

Once logged in to Qualys you can make multiple API requests. Use the Qualys API `session` resource to logout of the current session. Logging out of the session closes the open session and ensures secure, ongoing access to your account. Access may be denied if a user makes too many session login requests without closing sessions properly:

```
curl -H "X-Requested-With: Curl Sample"
-b "QualysSession=10b8eb6d4553b4d1ecb860c2b3c247d4; path=/api; secure"
-d "action=logout"
"https://qualysapi.qualys.com/api/2.0/fo/session/
```

**Using the API Session Resource**

Sessions created using the Qualys API via the `session` resource are equivalent in every way to sessions created by users logging into the Qualys user interface. Too many open sessions, whether created via the API and/or via user interface login, will lock out new session login attempts from both interfaces (user and API).
The request URL has several elements. The following elements appear in every request URL based on the API V2 architecture.

<table>
<thead>
<tr>
<th>URL element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>qualysapi.qualys.com:443</td>
<td>FQDN of the Qualys API server and option port (443 if specified).</td>
</tr>
<tr>
<td>api</td>
<td>Qualys Application component name.</td>
</tr>
<tr>
<td>2.0</td>
<td>Qualys API version number.</td>
</tr>
<tr>
<td>fo</td>
<td>Qualys interface component name.</td>
</tr>
<tr>
<td>session</td>
<td>scan</td>
</tr>
<tr>
<td>action={value}</td>
<td>Qualys API resource-specific action. In the sample session login URL above, the action is “login”.</td>
</tr>
</tbody>
</table>

**Session Login Request**

The session login request includes the Qualys user login credentials, the request URL, and the location where the HTTP response headers will be saved.

The sample API call below saves the HTTP headers in a local file named “headers”:

```
curl -H "X-Requested-With: Curl Sample" -D headers
-d "action=login&username=acme_ab12&password=passwd"
"https://qualysapi.qualys.com/api/2.0/fo/session/"
```

If you do not wish to store this information in the “headers” file, you can save the HTTP header in a cookie as shown below:

```
curl -H "X-Requested-With: Curl Sample" -c cookie.txt
-d "action=login&username=acme_ab12&password=passwd"
"https://qualysapi.qualys.com/api/2.0/fo/session/"
```

Upon success, the sample Qualys API call returns an XML response with the message “Logged in” and the Qualys API session ID in the Set-Cookie HTTP header. See “HTTP Response Headers” for further information.

**Resource Requests**

When session based authentication is used, the session cookie returned in the XML response from the session login request must be included in the cookie header of subsequent API requests. Multiple API requests can be made using the same session cookie (this is supported using V2 API requests).

The resource request includes the Qualys user login credentials, the Qualys API session ID, the request URL, and the location where the HTTP response headers are saved.

The sample API request below is used to request a list of reports in the user’s Report Share storage space. You’ll notice the session cookie (QualysSession) was extracted from the “headers” file contents returned from the session login API call.
Chapter 2 - Authentication to your account
Using Session Based Authentication

curl -H "X-Requested-With: Curl Sample"
   -d "action=list"
   -b "QualysSession=71e6cda2a35d2cd404cddaf305ea0208; path=/api; secure" "https://qualysapi.qualys.com/api/2.0/fo/report/

If you saved the HTTP response headers (from the session login request) in a cookie file, make an API request to obtain the cookie from the cookie file as shown below:

curl -H "X-Requested-With: Curl Sample"
   -d "action=list"
   -b "cookie.txt" "https://qualysapi.qualys.com/api/2.0/fo/report/

Upon success, the sample report list API call returns an XML response listing the reports in the user’s Report Share. In progress and completed reports are included.

HTTP Response Headers
These API requests return HTTP response headers: session login requests, session logout requests, and fetch (download) report requests. These requests provide information to the third party application about the XML output.

Sample XML output showing HTML response headers returned from a session logout request:

HTTP/1.1 200 OK
Date: Wed, 20 Jun 2007 16:21:03 GMT
Server: qweb/3.3h
Set-Cookie: QualysSession=71e6cda2a35d2cd404cddaf305ea0208; path=/api; secure
Expires: Mon, 24 Oct 1970 07:30:00 GMT
Cache-Control: post-check=0,pre-check=0
Pragma: no-cache
Connection: close
Transfer-Encoding: chunked
Content-Type: text/xml

Sample XML output showing HTML response headers returned from a fetch (download) report request, where the report format is HTML:

HTTP/1.1 200 OK
Date: Wed, 20 Jun 2007 16:36:42 GMT
Server: qweb/3.3h
Expires: Mon, 24 Oct 1970 07:30:00 GMT
Cache-Control: post-check=0,pre-check=0
Pragma: no-cache
Content-Disposition: attachment;
   filename=scan_report__1182357402.zip
Content-length: 98280
Connection: close
Expires HTTP Header - For the Expires header, Qualys complies with RFC #2109 and sets the Expires date to an old date (a date long in the past). Currently Qualys sets the Expires date to “Mon, 24 Oct 1970 07:30:00 GMT”. Note that Qualys cookie expiration is managed on the server side, and Qualys does not rely on clients to drop their expired cookies.

Session Logout Request
A sample session logout request (POST method) is shown below. Upon success, the sample Qualys API call returns an XML response with the message "Logged out".

    curl -H "X-Requested-With: Curl Sample"
    -d "action=logout"
    -b "QualysSession=71e6cda2a35d2cd404cddaf305ea0208; path=/api; secure"  "https://qualysapi.qualys.com/api/2.0/fo/session/

See “Session Logout” below for further information.

Session Timeout
Every Qualys user account has a session timeout setting. This setting is configurable at the subscription level by Manager users in the Qualys user interface (go to Users > Setup > Security). For a new subscription, this is set to 60 minutes.

The session timeout applies to sessions started using the user interface and sessions started using the Qualys APIs, including APIs based on the new API architecture.

When you launch a scan or report (using Report Share), the task is launched in the background, and processing does not timeout until the task has completed.

Session Login

/api/2.0/fo/session/?action=login

[POST]

Make a request to Qualys API server for session login.

A session login request is used to authenticate to the Qualys API and receive a Qualys API session ID, which must be included in the cookie header of subsequent API resource requests.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=login</td>
<td>(Required) A flag used to make a session login request.</td>
</tr>
<tr>
<td>username</td>
<td>(Required) The user name (login) of a Qualys user account.</td>
</tr>
</tbody>
</table>
Session Login

A sample session login request (POST method) is shown below. Upon success, the sample Qualys API call returns an XML response with the message “Logged in” and the Qualys API session ID as shown.

```bash
curl -H "X-Requested-With: Curl Sample" -D headers.4 -d "action=login&username=acme_ab12&password=passwd" "https://qualysapi.qualys.com/api/2.0/fo/session/

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE GENERIC SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2007-06-20T16:21:04Z</DATETIME>
    <TEXT>Logged in</TEXT>
  </RESPONSE>
</SIMPLE_RETURN>

cat headers.4

HTTP/1.1 200 OK
Date: Wed, 20 Jun 2007 16:21:03 GMT
Server: qweb/3.3h
Set-Cookie: QualysSession=71e6cda2a35d2cd404cddaf305ea0208; path=/api; secure
Expires: Mon, 24 Oct 1970 07:30:00 GMT
Cache-Control: post-check=0,pre-check=0
Pragma: no-cache
Connection: close
Transfer-Encoding: chunked
Content-Type: text/xml
```

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>password</td>
<td>(Required) The password of a Qualys user account.</td>
</tr>
<tr>
<td>echo_request=0</td>
<td>(Optional) Specifies whether to echo the request’s input parameters (names and values) in the XML output. When not specified, parameters are not included in the XML output. Specify 1 to view parameters in the XML output.</td>
</tr>
</tbody>
</table>
Session Logout

/api/2.0/fo/session/?action=logout

[POST]

Make a request to Qualys API server for session logout.

When you’re done making V2 API resource requests, the third party application must make a session logout request. This results in closing the session ID for the user’s account, preventing future API requests from running.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=logout</td>
<td>(Required) A flag used to make a session logout request.</td>
</tr>
<tr>
<td>echo_request=0</td>
<td>1</td>
</tr>
</tbody>
</table>

A sample session logout request (POST method) is shown below. Upon success, the sample Qualys API call returns an XML response with the message “Logged out” as shown.

```
curl -H "X-Requested-With: Curl Sample"
-d "action=logout"
-b "QualysSession=71e6cda2a35d2cd404cddaf305ea0208; path=/api; secure" "https://qualysapi.qualys.com/api/2.0/fo/session/

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE GENERIC SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2007-06-20T21:50:37Z</DATETIME>
    <TEXT>Logged out</TEXT>
  </RESPONSE>
</SIMPLE_RETURN>
```
cat headers.18

HTTP/1.1 200 OK
Date: Wed, 20 Jun 2007 21:50:36 GMT
Server: qweb/3.3h
Expires: Mon, 24 Oct 1970 07:30:00 GMT
Cache-Control: post-check=0, pre-check=0
Pragma: no-cache
Set-Cookie: QualysSession=71e6cda2a35d2cd404cddaf305ea0208;
expires=Wed, 13-Jun-2007 21:50:37 GMT; path=/fo
Connection: close
Transfer-Encoding: chunked
Content-Type: text/xml
Chapter 3 - Scans

Launch and manage vulnerability scans, compliance scans, discovery scans (maps).

VM Scans | Compliance Scans | Cloud Perimeter Scans

Scan Schedules
Scan List Parameters | Scan Parameters | Cloud Perimeter Scan Parameters | Scan Schedule Parameters

VM Scan Statistics
VM Scan Summary
Scanner Details
Share PCI Scan
Discovery Scans (maps) | Domain List | Add/Edit Domain
**VM Scans**

The VM Scan API (/api/2.0/fo/scan/) is used to obtain a list of vulnerability scans in your account and to take actions on them like cancel, pause, resume, and fetch (download) finished results.

Express Lite: This API is available to Express Lite users.

**Permissions**

<table>
<thead>
<tr>
<th>User Role</th>
<th>Permissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager</td>
<td>Manage scans on all IPs in the subscription.</td>
</tr>
<tr>
<td>Unit Manager</td>
<td>Launch, list and fetch scans on IPs in the user’s business unit. And take actions on scans launched by users in the same business unit (cancel, pause, resume and delete).</td>
</tr>
<tr>
<td>Scanner</td>
<td>Launch, list and fetch scans on IPs in the user’s account. And take actions on scans that the user owns (cancel, pause, resume and delete).</td>
</tr>
<tr>
<td>Reader</td>
<td>View scans with targets containing IPs in the user’s account. Download scan results when the target includes at least one IP in the user’s account.</td>
</tr>
<tr>
<td>Auditor</td>
<td>No permissions.</td>
</tr>
</tbody>
</table>

**VM Scan List**

/\api/2.0/fo/scan/?action=list

[GET] [POST]

List vulnerability scans in the user’s account. By default the XML output lists scans launched in the past 30 days.

**Input Parameters**

The input parameters for requesting a VM scan list are shown below. See Scan List Parameters for complete details.

<table>
<thead>
<tr>
<th>Type</th>
<th>Parameter List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request</td>
<td>action=list (required), echo_request</td>
</tr>
<tr>
<td>Scan List Filters</td>
<td>scan_ref, state, processed, type, target, user_login, launched_after_datetime, launched_before_datetime, scan_type=certview, scan_type=ec2certview, client_id and client_name (only for Consultant type subscriptions)</td>
</tr>
<tr>
<td>Show/Hide Information</td>
<td>show_ags, show_op, show_status, show_last, ignore_target</td>
</tr>
</tbody>
</table>
Samples
List all scans in the user account.

curl -H "X-Requested-With: Curl Sample"
-b "QualysSession=71e6cda2a35d2cd404cddaf305ea0208; path=/api; secure" "https://qualysapi.qualys.com/api/2.0/fo/scan/?action=list&echo_request=1&show_ags=1&show_op=1"

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SCAN_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/scan/scan_list_output.dtd">
<SCAN_LIST_OUTPUT>
<REQUEST>
  <USER_LOGIN>acme_ab</USER_LOGIN>
  <RESOURCE>https://qualysapi.qualys.com/api/2.0/fo/scan/</RESOURCE>
  <PARAM_LIST>
    <PARAM>
      <KEY>action</KEY>
      <VALUE>list</VALUE>
    </PARAM>
    <PARAM>
      <KEY>echo_request</KEY>
      <VALUE>1</VALUE>
    </PARAM>
    <PARAM>
      <KEY>show_ags</KEY>
      <VALUE>1</VALUE>
    </PARAM>
    <PARAM>
      <KEY>show_op</KEY>
      <VALUE>1</VALUE>
    </PARAM>
  </PARAM_LIST>
</REQUEST>
<RESPONSE>
  <SCAN_LIST>
    <SCAN>
      <REF>scan/1187117392.587</REF>
      <TYPE>On-Demand</TYPE>
      <TITLE><![CDATA[Web Servers 09/25]]></TITLE>
      <USER_LOGIN>acme_ab</USER_LOGIN>
      <LAUNCH_DATETIME>2018-05-25T08:10:43Z</LAUNCH_DATETIME>
    </SCAN>
  </SCAN_LIST>
</RESPONSE>
List all running scans that were launched by the user with the login ID “acme_ab”:

```
curl -H "X-Requested-With: Curl Sample"
-h "QualysSession=71e6cda2a35d2cd404cddaf305ea0208; path=/api; secure" "https://qualysapi.qualys.com/api/2.0/fo/scan/?action=list&state=Running&user_login=acme_ab"
```

List all scheduled scans that were launched after June 5, 2018.

```
curl -H "X-Requested-With: Curl Sample"
-h "QualysSession=71e6cda2a35d2cd404cddaf305ea0208; path=/api; secure" "https://qualysapi.qualys.com/api/2.0/fo/scan/?action=list&type=Scheduled&launched_after_datetime=2018-06-05"
```
List all scans for AFCO Company client (only for Consultant type subscriptions).

```bash
curl -u "USERNAME:PASSWORD" -H "content-type:
text/xml""https://qualysapi.qualys.com/api/2.0/fo/scan/?action=list&client_name=AFCO Company"
```

**DTD**
<platform API server>/api/2.0/fo/scan/scan_list_output.dtd

**Launch VM Scan**

/api/2.0/fo/scan/?action=launch

[POST]
Launch vulnerability scan in the user’s account.

The Launch Scan API is asynchronous. When you make a request to launch a scan using this API, the service will return a scan reference ID right away and the call will quit without waiting for the complete scan results.

Using networks? Choose the Global Default Network to scan IPs on your network perimeter.

**Input Parameters**
The input parameters for launching a VM scan are shown below. See Scan Parameters for complete details.

<table>
<thead>
<tr>
<th>Type</th>
<th>Parameter List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request</td>
<td>action=launch (required), echo_request, runtime_http_header</td>
</tr>
<tr>
<td>Scan Title</td>
<td>scan_title</td>
</tr>
<tr>
<td>Option Profile</td>
<td>option_id or option_title</td>
</tr>
<tr>
<td>Scanner Appliance</td>
<td>isscanner_id or isscanner_name, ec2_instance_ids</td>
</tr>
<tr>
<td>Processing Priority</td>
<td>priority</td>
</tr>
<tr>
<td>Asset IPs/Groups</td>
<td>ip, asset_group_ids, asset_groups, exclude_ip_per_scan, default_scanner, scanners_in_ag</td>
</tr>
<tr>
<td>Asset Tags</td>
<td>target_from/tags, use_ip_nt_range_tags, tag_include_selector, tag_exclude_selector, tag_set_by, tag_set_exclude, tag_set_include</td>
</tr>
<tr>
<td>Network</td>
<td>ip_network_id (when the Network Support feature is enabled)</td>
</tr>
<tr>
<td>Client</td>
<td>client_id and client_name (only for Consultant type subscriptions)</td>
</tr>
</tbody>
</table>
Sample - Launch scan on IP address

API request:

curl -H "X-Requested-With: Curl" -u "USERNAME:PASSWORD" -X "POST" -d "action=launch&scan_title=My+Vulnerability+Scan&ip=10.10.10.10&option_id=43165&iscanner_name=scanner1" "https://qualysapi.qualys.com/api/2.0/fo/scan/" > outputfile.txt

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2013-01-15T21:32:40Z</DATETIME>
    <TEXT>New vm scan launched</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>136992</VALUE>
      </ITEM>
      <ITEM>
        <KEY>REFERENCE</KEY>
        <VALUE>scan/1358285558.36992</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>

Sample - Launch scan using asset tags

API request:

curl -H "X-Requested-With: Curl" -u "USERNAME:PASSWD" -X "POST" -d "action=launch&scan_title=My+Vulnerability+Scan&target_from=tags&tag_set_by=name&tag_set_include=Windows&option_id=43165&iscanner_name=scanner1" "https://qualysapi.qualys.com/api/2.0/fo/scan/" > file.txt

Sample - Launch scan using All Scanners in Network

API request:

curl -u "username:password" -H "X-Requested-With:curl demo" -d "action=launch&scan_title=scan3&option_title=Initial+Options&ip_network_id=12807913&scanners_in_network=1&asset_groups=AG1-GDN" "https://qualysapi.qualys.com/api/2.0/fo/scan/"
Launch VM Scan on EC2 assets

/api/2.0/fo/scan/?action=launch

[POST]

Launch vulnerability scan on your Amazon EC2 hosts (in your Amazon Web Services account).

A few things to consider...
- EC2 Scanning must be enabled for your Qualys account.
- Managers and Unit Managers can launch EC2 scans.
- Before scanning you’ll need to complete some set up steps. See Securing Amazon Web Services with Qualys

Input Parameters

The input parameters for launching an EC2 scan are shown below. See Scan Parameters for complete details.

<table>
<thead>
<tr>
<th>Type</th>
<th>Parameter List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request</td>
<td>action=launch (required), echo_request</td>
</tr>
<tr>
<td>Scan Title</td>
<td>scan_title</td>
</tr>
<tr>
<td>EC2 environment</td>
<td>connector_name (required), ec2_endpoint (required)</td>
</tr>
<tr>
<td>Option Profile</td>
<td>option_id or option_title</td>
</tr>
<tr>
<td>Scanner Appliance</td>
<td>iscanner_id or iscanner_name</td>
</tr>
<tr>
<td>Processing Priority</td>
<td>priority</td>
</tr>
<tr>
<td>Target Hosts</td>
<td>target_from=tags</td>
</tr>
<tr>
<td>Note:</td>
<td>Use tags to select the EC2 hosts you want to scan.</td>
</tr>
<tr>
<td></td>
<td>use_ip_nt_range_tags=0</td>
</tr>
<tr>
<td></td>
<td>The default setting is &quot;0&quot;. Important - This cannot be set to &quot;1&quot; for EC2 scanning.</td>
</tr>
<tr>
<td></td>
<td>These tag parameters are used to select tags:</td>
</tr>
<tr>
<td></td>
<td>tag_set_include={tag1,tag2,...} (required)</td>
</tr>
<tr>
<td></td>
<td>tag_set_exclude={tag1,tag2,...} (optional)</td>
</tr>
<tr>
<td></td>
<td>tag_include_selector={any</td>
</tr>
<tr>
<td></td>
<td>tag_exclude_selector={any</td>
</tr>
<tr>
<td></td>
<td>tag_set_by={id</td>
</tr>
<tr>
<td></td>
<td>ec2_instance_ids={value}</td>
</tr>
<tr>
<td></td>
<td>The ID of the target EC2 instance to launch the VM or compliance scan. Multiple ec2 instance ids are comma separated. You can add up to maximum 10 instance ids.</td>
</tr>
</tbody>
</table>

Sample - Launch EC2 Vulnerability scan

Launch an EC2 vulnerability scan using the connector "EC2_Connector" on assets that match tags with IDs 1558997 and 1559222.
API request:

curl -H "X-Requested-With: Curl" -u "USERNAME:PASSWD" -X "POST" -d "action=launch&scan_title=My+EC2+Scan&connector_name=EC2_Connector &ec2_endpoint=us-east-1&target_from=tags&use_ip_nt_range_tags=0 &tag_include_selector=any&tag_set_by=id&tag_set_include=1558997,15 59222&option_id=43165&iscanner_name=EC2-1" "https://qualysapi.qualys.com/api/2.0/fo/scan/" > outputfile.txt

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-02-25T21:32:40Z</DATETIME>
    <TEXT>New vm scan launched</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>136992</VALUE>
      </ITEM>
      <ITEM>
        <KEY>REFERENCE</KEY>
        <VALUE>scan/1358285558.36992</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```

Sample - Launch EC2 Vulnerability scan for EC2 instance

Launch a VM scan on EC2 instances using the parameter ec2_instance_ids.

API request:

curl -u "USERNAME:PASSWORD" -H "content-type: text/xml" "action=launch&scan_title=Ec2InstanceScanScan_TAGS_1525653991&&option_title=Initial+Options&iscanner_id=212711&connector_name=arn&ec 2_endpoint=useast-1&ec2_instance_ids=i-0c9768f97a2816ad6, i- 0211d76d18a6df979" "https://qualysapi.qualys.com/api/2.0/fo/scan/"
Manage VM Scans

/api/2.0/fo/scan/?action={action}

Take actions on vulnerability scans in their account, like cancel, pause, resume, delete and fetch completed scan results.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) One action required for the request: cancel - Stop a scan in progress (POST method) pause - Stop a scan in progress and change status to &quot;Paused&quot; (POST method) resume - Restart a scan that has been paused (POST method) delete - Delete a scan in your account (POST method) fetch - Download scan results for a scan with status of &quot;Finished&quot;, &quot;Canceled&quot;, &quot;Paused&quot; or &quot;Error&quot; (GET or POST method)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>scan_ref={value}</td>
<td>(Required) The scan reference for a vulnerability scan. This will have the format: scan/nnnnnnnnn.nnnn</td>
</tr>
</tbody>
</table>

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) An action for the request: cancel - stop a scan in progress, &quot;Running&quot; or &quot;Paused&quot; pause - stop a scan in progress and change status to &quot;Paused&quot; resume - restart a scan that has been paused fetch - download scan results for a scan with the status &quot;Finished&quot;, &quot;Canceled&quot;, &quot;Paused&quot; or &quot;Error&quot;.</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>scan_ref={value}</td>
<td>(Required) Specifies a scan reference. A scan reference has the format “scan/987659876.19876”.</td>
</tr>
<tr>
<td>ips={value}</td>
<td>(Optional for a fetch request) Show only certain IP addresses/ranges in the scan results. One or more IPs/ranges may be specified. A range entry is specified using a hyphen (for example, 10.10.10.1-10.10.10.20). Multiple entries are comma separated.</td>
</tr>
</tbody>
</table>
Samples - Take actions on scans

Cancel a scan (POST method) is shown below.

```bash
curl -H "X-Requested-With: Curl Sample"
-d "action=cancel&scan_ref=234234234.12345"
-b "QualysSession=71e6cda2a35d2cd404cddaf305ea0208; path=/api; secure" "https://qualysapi.qualys.com/api/2.0/fo/scan/
```

Pause a scan (POST method) is shown below.

```bash
curl -H "X-Requested-With: Curl Sample"
-d "action=pause&scan_ref=234234234.12345"
-b "QualysSession=71e6cda2a35d2cd404cddaf305ea0208; path=/api; secure" "https://qualysapi.qualys.com/api/2.0/fo/scan/
```

Resume a scan (POST method) is shown below.

```bash
curl -H "X-Requested-With: Curl Sample"
-d "action=resume&scan_ref=234234234.12345"
-b "QualysSession=71e6cda2a35d2cd404cddaf305ea0208; path=/api; secure" "https://qualysapi.qualys.com/api/2.0/fo/scan/
```

Fetch/download a scan result is shown below.

```bash
curl -H "X-Requested-With: Curl Sample"
-d "action=fetch&scan_ref=234234234.12345"
-b "QualysSession=71e6cda2a35d2cd404cddaf305ea0208; path=/api; secure" "https://qualysapi.qualys.com/api/2.0/fo/scan/
```
Chapter 3 - Scans
Compliance Scans

The Compliance Scan API (/api/2.0/fo/scan/compliance/) is used to launch compliance scans, get a list of compliance scans in your account and manage them. The SCAP Scan API (/api/2.0/fo/scan/scap/) is used to get a list of SCAP scans in your account.

Permissions
To use this API, these options must be enabled in the user’s subscription: Policy Compliance (PC) module and New Scanner Services. Role-based user permissions are described below.

<table>
<thead>
<tr>
<th>User Role</th>
<th>Permissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager</td>
<td>Manage compliance scans on all compliance IPs in the subscription.</td>
</tr>
<tr>
<td>Unit Manager</td>
<td>When the “Manage compliance” permission is enabled in the user’s account settings: 1) ability to launch, list and fetch compliance scans on IPs in the user’s business unit, 2) ability to take actions on scans launched by users in the same business unit (cancel, pause, resume and delete).</td>
</tr>
<tr>
<td>Scanner</td>
<td>When the “Manage compliance” permission is enabled in the user’s account settings: 1) ability to launch, list and fetch compliance scans on IPs in the user’s account, 2) ability to take actions on scans that the user owns (cancel, pause, resume and delete).</td>
</tr>
<tr>
<td>Reader</td>
<td>No permissions to manage compliance scans.</td>
</tr>
<tr>
<td>Auditor</td>
<td>No permissions to manage compliance scans.</td>
</tr>
</tbody>
</table>
## Compliance Scan List

/\api/2.0/fo/scan/compliance/ with action=list

[GET] [POST]

List of compliance scans in your account. By default the XML output lists scans launched in the past 30 days.

The input parameters for requesting a PC scan list are below. See Scan List Parameters for complete details.

### Type

<table>
<thead>
<tr>
<th>Parameter List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request</td>
</tr>
<tr>
<td>Scan List Filters</td>
</tr>
<tr>
<td>Show Information</td>
</tr>
</tbody>
</table>

### API Request:

```sh
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" -d "action=list&state=Finished&scan_ref=compliance/1344842952.1340" "https://qualysapi.qualys.com/api/2.0/fo/scan/compliance/"
```

### XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SCAN_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/scan/scan_list_output.dtd">

<SCAN_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-06-12T07:28:46Z</DATETIME>
    <SCAN_LIST>
      <SCAN>
        <ID>3332486</ID>
        <REF>compliance/1344842952.1340</REF>
        <TYPE>Scheduled</TYPE>
        <TITLE><![CDATA[MY PC Scan]]></TITLE>
        <USER_LOGIN>USERNAME</USER_LOGIN>
        <LAUNCH_DATETIME>2018-05-13T07:30:09Z</LAUNCH_DATETIME>
        <DURATION>00:06:29</DURATION>
        <PROCESSED>1</PROCESSED>
        <STATUS>
          <STATE>Finished</STATE>
        </STATUS>
      </SCAN>
    </SCAN_LIST>
  </RESPONSE>
</SCAN_LIST_OUTPUT>
```
Chapter 3 - Scans
Compliance Scans

<TARGET><![CDATA[10.10.25.50]]></TARGET>
</SCAN>
</SCAN_LIST>
</RESPONSE>
</SCAN_LIST_OUTPUT>

DTD:
<platform API server>/api/2.0/fo/scan/scan_list_output.dtd

SCAP Scan List
/api/2.0/fo/scan/scap/ with action=list

[GET] [POST]
List SCAP scans in your account. By default the XML output lists scans launched in the past 30 days.
The input parameters for requesting a SCAP scan list are below. See Scan List Parameters for complete details.

<table>
<thead>
<tr>
<th>Type</th>
<th>Parameter List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request</td>
<td>action=list (required), echo_request</td>
</tr>
<tr>
<td>Scan List Filters</td>
<td>scan_id (compliance scan ID), scan_ref, state, type, target, user_login, launched_after_datetime, launched_before_datetime</td>
</tr>
<tr>
<td>Show Information</td>
<td>show_ags, show_op, show_status, show_last</td>
</tr>
</tbody>
</table>

API request 1: all SCAP scans

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -d "action=list" "https://qualysapi.qualys.com/api/2.0/fo/scan/scap/"

API request 2: SCAP scan by reference number

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -d "action=list&scan_ref=qscap/1402642816.80342" "https://qualysapi.qualys.com/api/2.0/fo/scan/scap/"

API request 3: On Demand SCAP scans only

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -d "action=list&type=On-Demand" "https://qualysapi.qualys.com/api/2.0/fo/scan/scap/"

XML output:
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SCAN_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/scan/qscap_scan_list_output.dtd">
Chapter 3 - Scans

Compliance Scans

```xml
<SCAN_LIST_OUTPUT>
  <RESPONSE>
    <SCAN_LIST>
      <SCAN>
        <ID>6980366</ID>
        <REF>qscap/1402694682.80366</REF>
        <TYPE>On-Demand</TYPE>
        <TITLE><![CDATA[<IMG SRC="http://www.google.com/images/logos/ps_logo2.png">]]></TITLE>
        <POLICY>
          <ID>39298</ID>
          <TITLE><![CDATA[Policy A]]></TITLE>
        </POLICY>
        <USER_LOGIN>acme_ab</USER_LOGIN>
        <STATUS>
          <STATE>Finished</STATE>
        </STATUS>
        <TARGET><![CDATA[10.10.30.244, 10.10.34.222]]></TARGET>
      </SCAN>
      ...
    </SCAN_LIST>
  </RESPONSE>
</SCAN_LIST_OUTPUT>

DTD:
<platform API server>/api/2.0/fo(scan/qscap_scan_list_output.dtd
```
Launch Compliance Scan

/api/2.0/fo/scan/compliance/?action=launch

[POST]

Launch compliance scan in the user’s account.

Using networks? Choose the Global Default Network to scan IPs on your network perimeter.

Input Parameters

The input parameters for launching a compliance scan are shown below. See Securing Amazon Web Services with Qualys

<table>
<thead>
<tr>
<th>Type</th>
<th>Parameter List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request</td>
<td>action=launch (required), echo_request, runtime_http_header</td>
</tr>
<tr>
<td>Scan Title</td>
<td>scan_title</td>
</tr>
<tr>
<td>Option Profile</td>
<td>option_id or option_title</td>
</tr>
<tr>
<td>Scanner Appliance</td>
<td>iscanner_id or iscanner_name</td>
</tr>
<tr>
<td>Asset IPs/Groups</td>
<td>ip, asset_group_ids, asset_groups, exclude_ip_per_scan, default_scanner, scanners_in_ag</td>
</tr>
<tr>
<td>Asset Tags</td>
<td>target_from=tags, use_ip_nt_range_tags, tag_include_selector, tag_exclude_selector, tag_set_by, tag_set_exclude, tag_set_include</td>
</tr>
<tr>
<td>Network</td>
<td>ip_network_id (when the Network Support feature is enabled)</td>
</tr>
<tr>
<td>Client</td>
<td>client_id and client_name (only for Consultant type subscriptions)</td>
</tr>
</tbody>
</table>

Sample - Launch a Compliance Scan

**API request:**

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" -d "action=launch&ip=10.10.25.52&iscanner_name=iscan_er5&option_title=Initial+PC+Options&echo_request=1" "https://qualysapi.qualys.com/api/2.0/fo/scan/compliance/" > apiOutputScan.txt
```

Sample - Launch a compliance scan using all scanners in network

**API request:**

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl demo 2" -d "action=launch&scan_title=pc+scan+API&option_id=3262&ip_network_id=
```
Launch Compliance Scan on EC2 assets

/api/2.0/fo/scan/compliance/?action=launch

[POST]
Launch a compliance scan on your Amazon EC2 hosts (in your Amazon Web Services account).

A few things to consider...
- EC2 Scanning must be enabled for your Qualys account.
- Managers and Unit Managers can launch EC2 scans.
- Before scanning you’ll need to complete some set up steps. See Securing Amazon Web Services with Qualys
Input Parameters
The input parameters for launching an EC2 scan are shown below. Please see Scan Parameters for complete details.

<table>
<thead>
<tr>
<th>Type</th>
<th>Parameter List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request</td>
<td>action=launch (required), echo_request</td>
</tr>
<tr>
<td>Scan Title</td>
<td>scan_title</td>
</tr>
<tr>
<td>EC2 environment</td>
<td>connector_name (required), ec2_endpoint (required)</td>
</tr>
<tr>
<td>Option Profile</td>
<td>option_id or option_title</td>
</tr>
<tr>
<td>Scanner Appliance</td>
<td>iscanner_id or iscanner_name</td>
</tr>
<tr>
<td>Target Hosts</td>
<td>target_from=tags (required)</td>
</tr>
<tr>
<td></td>
<td>Use tags to select the EC2 hosts you want to scan.</td>
</tr>
<tr>
<td></td>
<td>use_ip_nt_range_tags=0</td>
</tr>
<tr>
<td></td>
<td>The default setting is &quot;0&quot;. Important - This cannot be set to &quot;1&quot; for EC2 scanning.</td>
</tr>
<tr>
<td></td>
<td>These tag parameters are used to select tags:</td>
</tr>
<tr>
<td></td>
<td>tag_set_include={tag1,tag2,...} (required)</td>
</tr>
<tr>
<td></td>
<td>tag_set_exclude={tag1,tag2,...} (optional)</td>
</tr>
<tr>
<td></td>
<td>tag_include_selector={any</td>
</tr>
<tr>
<td></td>
<td>tag_exclude_selector={any</td>
</tr>
<tr>
<td></td>
<td>tag_set_by={id</td>
</tr>
</tbody>
</table>

Sample - Launch EC2 compliance scan

API request:

```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST"
-d "action=launch&scan_title=My+EC2+Scan+via+API&connector_name=EC2-Connector-Lab&ec2_endpoint=us-east-1&target_from=tags&tag_include_selector=any&tag_set_by=id&tag_set_include=270325&option_id=61769&iscanner_name=my-ec2-scanner"
"https://qualysapi.qualys.com/api/2.0/fo/scan/compliance/
```

XML output:

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
    <REQUEST>
        <DATETIME>2018-06-24T10:10:51Z</DATETIME>
        <USER_LOGIN>USERNAME</USER_LOGIN>
        <RESOURCE>https://qualysapi.qualys.com/api/2.0/fo/scan/compliance/</RESOURCE>
    </REQUEST>
</RESPONSE>
```
Manage Compliance Scans

/api/2.0/fo/scan/compliance/?action={action}

Take actions on compliance scans in their account, like cancel, pause, resume, delete and fetch completed scan results.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) One action required for the request: cancel - Stop a scan in progress (POST method) pause - Stop a scan in progress and change status to “Paused” (POST method) resume - Restart a scan that has been paused (POST method) delete - Delete a scan in your account (POST method) fetch - Download scan results for a scan with status of “Finished”, “Canceled”, “Paused” or “Error” (GET or POST method)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>scan_ref={value}</td>
<td>(Required) The scan reference for a compliance scan. This will have the format: compliance/nnnnnnnnnnnnnn</td>
</tr>
</tbody>
</table>

Sample - Fetch PC Scan Results

API request:

curl -u USERNAME:PASSWORD -H "X-Requested-With: Curl" "https://qualysapi.qualys.com/api/2.0/fo/scan/compliance/?action=fetch&scan_ref=compliance/1347709693.37303" > apiOutputScanFetch.txt
XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE COMPLIANCE_SCAN_RESULT_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo(scan/compliance/compliance_scan_result_output.dtd">
<COMPLIANCE_SCAN_RESULT_OUTPUT>
<RESPONSE>
<DATETIME>2018-06-17T10:23:53Z</DATETIME>
<COMPLIANCE_SCAN>
<HEADER>
<NAME><![CDATA[Compliance Scan Results]]></NAME>
<GENERATION_DATETIME>2012-09-17T10:23:53Z</GENERATION_DATETIME>
<COMPANY_INFO>
<NAME><![CDATA[Qualys]]></NAME>
<ADDRESS><![CDATA[1600 Bridge Parkway]]></ADDRESS>
<CITY><![CDATA[Redwood Shores]]></CITY>
<STATE><![CDATA[California]]></STATE>
<COUNTRY><![CDATA[United States]]></COUNTRY>
<ZIP_CODE><![CDATA[94065]]></ZIP_CODE>
</COMPANY_INFO>
<User_INFO>
<NAME><![CDATA[NAME]]></NAME>
<USERNAME>USERNAME</USERNAME>
<ROLE>Manager</ROLE>
</USER_INFO>
<KEY value="USERNAME">USERNAME</KEY>
<KEY value="COMPANY">![CDATA[Qualys]]></KEY>
<KEY value="DATE">2018-06-15T11:49:08Z</KEY>
<KEY value="TITLE">![CDATA[My PC Scan]]></KEY>
<KEY value="TARGET">10.10.10.29</KEY>
<KEY value="EXCLUDED_TARGET">![CDATA[N/A]]></KEY>
<KEY value="DURATION">00:01:00</KEY>
<KEY value="SCAN_HOST">10.10.21.122 (Scanner 6.6.28-1, Vulnerability Signatures 2.2.215-2)</KEY>
<KEY value="NBHOST_ALIVE">1</KEY>
<KEY value="NBHOST_TOTAL">1</KEY>
<KEY value="REPORT_TYPE">Scheduled</KEY>
<KEY value="OPTIONS">File Integrity Monitoring: Enabled, Scanned Ports: Standard Scan, Hosts to Scan in Parallel - External Scanners: 15, Hosts to Scan in Parallel - Scanner Appliances: 30, Total Processes to Run in Parallel: 10, HTTP Processes to Run in Parallel: 10,
Packet (Burst) Delay: Medium, Intensity: Normal, Overall
Performance: Normal, ICMP Host Discovery, Ignore RST packets: Off, Ignore firewall-generated SYN-ACK packets: Off, Do not send ACK or SYN-ACK packets during host discovery: Off

<KEY value="STATUS">FINISHED</KEY>
<OPTION_PROFILE>
  <OPTION_PROFILE_TITLE
  option_profile_default="0"> <![CDATA[11412]]>
</OPTION_PROFILE_TITLE>
</OPTION_PROFILE>
</HEADER>

<APPENDIX>
  <TARGET_HOSTS>
    <HOSTS_SCANNED>10.10.10.29</HOSTS_SCANNED>
  </TARGET_HOSTS>
  <TARGET_DISTRIBUTION>
    <SCANNER>
      <NAME><![CDATA[iscan_sx]]></NAME>
      <HOSTS>10.10.10.29</HOSTS>
    </SCANNER>
  </TARGET_DISTRIBUTION>
  <AUTHENTICATION>
    <AUTH>
      <TYPE>Windows</TYPE>
      <SUCCESS>
        <IP>10.10.10.29</IP>
      </SUCCESS>
    </AUTH>
  </AUTHENTICATION>
</APPENDIX>
</COMPLIANCE_SCAN_RESULT_OUTPUT>
Cloud Perimeter Scans

/api/2.0/fo/scan/cloud/perimeter/job/

[POST]

Cloud perimeter scans are available for VM and PC modules. Only Managers and Unit Managers have permission to configure cloud perimeter scans.

The input parameters for requesting a Cloud Perimeter scan are below. See Cloud Perimeter Scan Parameters for complete details.

<table>
<thead>
<tr>
<th>Type</th>
<th>Parameter List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request</td>
<td>action={create</td>
</tr>
<tr>
<td>Scan List Filters</td>
<td>id, module, cloud_provider, cloud_service, connector_name, connector_uuid, scan_title, active, option_title, option_id, priority, scanner_id, isscanner_name, platform_type, region_code, vpc_id, tag_include_selector, tag_exclude_selector, tag_set_by, tag_set_include, tag_set_exclude, elb_dns, schedule</td>
</tr>
</tbody>
</table>

**API Request:**

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" "action=create&tag_set_by=name&tag_include_selector=any&tag_set_in clude=ec2-Virginia,Unassigned Business Unit&connector_name=conn1&region_code=us-east-1&active=1&option_title=Initial Options&module=vm&schedule=now&cloud_provider=aws&platform_type=classic&&after_notify=1&after_notify_message=Scan Finished" "https://qualysapi.qualys.com/api/2.0/fo/scan/cloud/perimeter/job/"
```

**XML output:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-11T04:06:01Z</DATETIME>
    <TEXT>Scan has been created successfully</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>1352070</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```
Chapter 3 - Scans
Cloud Perimeter Scans

Example - Create Cloud Perimeter Scan Job (Recurring Schedule)

API Request:
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl"
"action=create&tag_set_by=name&tag_include_selector=any&tag_set_in
clude=EC2_Targets&tag_exclude_selector=any&tag_set_exclude=EC2_Tes
t&connector_name=EC2 Connector&region_code=us-east-
1&active=0&occurrence=daily&start_date=04/02/2018&start_hour=10&st
art_minute=30&time_zone_code=IN&option_title=Initial
Options&frequency_days=365&observe_dst=no&module=vm&schedule=recur
ring&cloud_provider=aws&platform_type=classic&after_notify=1&recip
ient_group_ids=4229"
"https://qualysapi.qualys.com/api/2.0/fo/scan/cloud/perimeter/job/
"
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
 <RESPONSE>
  <DATETIME>2018-04-11T05:01:42Z</DATETIME>
  <TEXT>Scan has been created successfully</TEXT>
  <ITEM_LIST>
   <ITEM>
    <KEY>ID</KEY>
    <VALUE>1352071</VALUE>
   </ITEM>
  </ITEM_LIST>
 </RESPONSE>
</SIMPLE_RETURN>
```

Example - Update Cloud Perimeter Scan Job

API Request:
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl"
"action=update&id=1352071&connector_name=EC2Connector-
2&platform_type=vpc_peered&region_code=us-west-1"
"https://qualysapi.qualys.com/api/2.0/fo/scan/cloud/perimeter/job/
"
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
 <RESPONSE>
  <DATETIME>2018-04-11T05:05:35Z</DATETIME>
  </RESPONSE>
</SIMPLE_RETURN>
```
<TEXT>Scan has been updated successfully</TEXT>

<ITEM_LIST>
  <ITEM>
    <KEY>ID</KEY>
    <VALUE>1352071</VALUE>
  </ITEM>
</ITEM_LIST>
</RESPONSE>
</SIMPLE_RETURN>

DTD:
<platform API server>/api/2.0/fo/scan/simple_return.dtd
Scan Schedules

The Schedule Scan API (/api/2.0/fo/schedule/scan/) is used to define schedules for vulnerability scans in the user’s account.

Permissions

<table>
<thead>
<tr>
<th>User Role</th>
<th>Permissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager</td>
<td>Create scan schedules for all assets in the subscription</td>
</tr>
<tr>
<td></td>
<td>Remove all scan schedules</td>
</tr>
<tr>
<td></td>
<td>View all scan schedules in the subscription</td>
</tr>
<tr>
<td>Unit Manager</td>
<td>Create scan schedules for assets in user’s business unit</td>
</tr>
<tr>
<td></td>
<td>Remove scan schedules in user’s business unit.</td>
</tr>
<tr>
<td></td>
<td>View scan schedules in the subscription*</td>
</tr>
<tr>
<td>Scanner</td>
<td>Create scan schedules for assets in user’s account.</td>
</tr>
<tr>
<td></td>
<td>Remove user’s scan schedules</td>
</tr>
<tr>
<td></td>
<td>View scan schedules in the subscription*</td>
</tr>
<tr>
<td>Readers</td>
<td>No permission to create or remove scan schedules</td>
</tr>
<tr>
<td></td>
<td>View scan schedules in the subscription*</td>
</tr>
</tbody>
</table>

* Qualys includes an account permission setting that restricts Unit Managers, Scanners, and Readers from viewing scheduled tasks on unassigned assets.

List scan schedules

/api/2.0/fo/schedule/scan/?action=list

[GET] [POST]

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Optional) The ID of the scan schedule you want to display.</td>
</tr>
<tr>
<td>active={0</td>
<td>1}</td>
</tr>
<tr>
<td>show_notifications={0</td>
<td>1}</td>
</tr>
<tr>
<td>scan_type=certview</td>
<td>(Optional) Launch a CertView type VM scan. This option will be supported when CertView GA is released and enabled for your account.</td>
</tr>
<tr>
<td>scan_type=ec2certview</td>
<td>(Optional) Launch a CertView type VM scan for EC2 assets.</td>
</tr>
</tbody>
</table>
**Scan Schedules**

**API request:**

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" "https://qualysapi.qualys.com/api/2.0/fo/schedule/scan/?action=list&id=160642&show_notifications=1"
```

**XML output:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SCHEDULE_SCAN_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/schedule/scan/schedule_scan_list_output.dtd">
<SCHEDULE_SCAN_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2017-12-01T19:26:50Z</DATETIME>
    <SCHEDULE_SCAN_LIST>
      <SCAN>
        <ID>160642</ID>
        <ACTIVE>1</ACTIVE>
        <TITLE><![CDATA[My Daily Scan]]></TITLE>
        <USER_LOGIN>qualys_ps</USER_LOGIN>
        <TARGET><![CDATA[10.10.10.10-10.10.10.20]]></TARGET>
        <NETWORK_ID><![CDATA[0]]></NETWORK_ID>
        <ISCANNER_NAME><![CDATA[External Scanner]]></ISCANNER_NAME>
        <USER_ENTERED_IPS>
          <fqdn>Optional</fqdn>
          (The target FQDN for a CertView type VM scan. For a CertView type scan you must specify at least one target i.e. IPs, asset groups or FQDNs. Multiple values are comma separated. This option will be supported when CertView GA is released and enabled for your account.)
          <show_cloud_details>({0}|1) (Optional) Set to 1 to display the cloud details (Provider, Connector, Scan Type and Cloud Target) in the XML output. Otherwise the details are not displayed in the output.
          <client_id>({value}) (Optional) Id assigned to the client (Consultant type subscription only). Parameter client_id or client_name may be specified for the same request.
          <client_name>({value}) (Optional) Name of the client (Consultant type subscription only). Parameter client_id or client_name may be specified for the same request.
          <scan_type>perimeter (Optional) List cloud perimeter scans only. This option will be supported for Cloud Perimeter Scans in future release.
          <show_cloud_details>({0}|1) (Optional) Set to 1 to display cloud details in the XML output. The cloud details will show scan type "Cloud Perimeter" for cloud perimeter scans.
        </USER_ENTERED_IPS>
      </SCAN>
    </SCHEDULE_SCAN_LIST>
  </RESPONSE>
</SCHEDULE_SCAN_LIST_OUTPUT>
```

**Parameter** | **Description**
---|---
fqdn={value} | (Optional) The target FQDN for a CertView type VM scan. For a CertView type scan you must specify at least one target i.e. IPs, asset groups or FQDNs. Multiple values are comma separated. This option will be supported when CertView GA is released and enabled for your account.
show_cloud_details={0|1} | (Optional) Set to 1 to display the cloud details (Provider, Connector, Scan Type and Cloud Target) in the XML output. Otherwise the details are not displayed in the output.
client_id={value} | (Optional) Id assigned to the client (Consultant type subscription only). Parameter client_id or client_name may be specified for the same request.
client_name={value} | (Optional) Name of the client (Consultant type subscription only). Parameter client_id or client_name may be specified for the same request.
scan_type=perimeter | (Optional) List cloud perimeter scans only. This option will be supported for Cloud Perimeter Scans in future release.
show_cloud_details={0|1} | (Optional) Set to 1 to display cloud details in the XML output. The cloud details will show scan type "Cloud Perimeter" for cloud perimeter scans.
<RANGE>
  <START>10.10.10.10</START>
  <END>10.10.10.20</END>
</RANGE>
</USER_ENTERED_IPS>
<OPTION_PROFILE>
  <TITLE><![CDATA[Initial Options]]></TITLE>
  <DEFAULT_FLAG>1</DEFAULT_FLAG>
</OPTION_PROFILE>

<PROCESSING_PRIORITY>0 - No Priority</PROCESSING_PRIORITY>

<SCHEDULE>
  <DAILY frequency_days="1" />
  <START_DATE_UTC>2017-11-30T00:30:00Z</START_DATE_UTC>
  <START_HOUR>16</START_HOUR>
  <START_MINUTE>30</START_MINUTE>
  <NEXT_LAUNCH_UTC>2017-12-02T00:30:00</NEXT_LAUNCH_UTC>
  <TIME_ZONE>
    <TIME_ZONE_CODE>US-CA</TIME_ZONE_CODE>
    <TIME_ZONE_DETAILS>(GMT-0800) United States: America/Los_Angeles</TIME_ZONE_DETAILS>
  </TIME_ZONE>
  <DST_SELECTED>1</DST_SELECTED>
</SCHEDULE>

<NOTIFICATIONS>
  <BEFORE_LAUNCH>
    <TIME>30</TIME>
    <UNIT><![CDATA[minutes]]></UNIT>
    <MESSAGE><![CDATA[This is my custom before scan email message.]]></MESSAGE>
  </BEFORE_LAUNCH>
  <AFTER_COMPLETE>
    <MESSAGE><![CDATA[This is my custom after scan email message.]]></MESSAGE>
  </AFTER_COMPLETE>
</NOTIFICATIONS>

</SCAN>
</SCHEDULE_SCAN_LIST>
</RESPONSE>
</SCHEDULE_SCAN_LIST_OUTPUT>
Chapter 3 - Scans

Scan Schedules

Example: Users can filter the schedule scan list to only show cloud perimeter scan jobs. Also, when you include cloud details in the output, we’ll show scan type "Cloud Perimeter".

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl"
"https://qualysapi.qualys.com/api/2.0/fo/schedule(scan/?action=list&id=1340788&scan_type=perimeter&show_cloud_details=1"

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SCHEDULE_SCAN_LIST_OUTPUT SYSTEM
"https://qualysapi.qualys.com/api/2.0/fo/schedule/scan/schedule_scan_list_output.dtd">
<SCHEDULE_SCAN_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-04-12T12:57:03Z</DATETIME>
    <SCHEDULE_SCAN_LIST>
      <SCAN>
        <ID>1340788</ID>
        <ACTIVE></ACTIVE>
        <TITLE><![CDATA[My_External_Scan]]></TITLE>
        <USER_LOGIN>utwrx_mp</USER_LOGIN>
        <TARGET><![CDATA[Asset Tags Included]]></TARGET>
        <ISCANNER_NAME><![CDATA[External Scanner]]></ISCANNER_NAME>
        <EC2_INSTANCE>
          <CONNECTOR_UUID><![CDATA[8047abce-c3ac-42e0-ad49-be4181d22c84]]></CONNECTOR_UUID>
          <EC2_ENDPOINT><![CDATA[1507b6c1-07a7-4d88-acf2-8c6b63e749c4]]></EC2_ENDPOINT>
          <EC2_ONLY_CLASSIC><![CDATA[1]]></EC2_ONLY_CLASSIC>
        </EC2_INSTANCE>
        <CLOUD_DETAILS>
          <PROVIDER>AWS</PROVIDER>
          <CONNECTOR>
            <ID>37361</ID>
            <UUID>8047abce-c3ac-42e0-ad49-be4181d22c84</UUID>
            <NAME><![CDATA[EC2 Connector]]></NAME>
          </CONNECTOR>
          <SCAN_TYPE>Cloud Perimeter</SCAN_TYPE>
          <CLOUD_TARGET>
            <PLATFORM>Classic</PLATFORM>
            <REGION>
              <UUID>1507b6c1-07a7-4d88-acf2-8c6b63e749c4</UUID>
              <CODE>us-east-1</CODE>
              <NAME><![CDATA[US East (N. Virginia)]]></NAME>
            </REGION>
          </CLOUD_TARGET>
        </CLOUD_DETAILS>
      </SCAN>
    </SCHEDULE_SCAN_LIST>
  </RESPONSE>
</SCHEDULE_SCAN_LIST_OUTPUT>
<ASSET_TAGS>
  <TAG_INCLUDE_SELECTOR>any</TAG_INCLUDE_SELECTOR>
  <TAG_SETINCLUDE><![CDATA[EC2_Targets]]></TAG_SETINCLUDE>
  <TAG_EXCLUDE_SELECTOR>any</TAG_EXCLUDE_SELECTOR>
  <TAG_SET_EXCLUDE><![CDATA[EC2_Test]]></TAG_SET_EXCLUDE>
  <USE_IP_NT_RANGE_TAGS>0</USE_IP_NT_RANGE_TAGS>
</ASSET_TAGS>

<ELB_DNS>
  <DNS><![CDATA[abc.com]]></DNS>
  <DNS><![CDATA[abc123.com]]></DNS>
</ELB_DNS>

<OVERRIDE_PROFILE>
  <TITLE><![CDATA[Initial Options]]></TITLE>
  <DEFAULT_FLAG>1</DEFAULT_FLAG>
</OVERRIDE_PROFILE>

<PROCESSING_PRIORITY>0 - No Priority</PROCESSING_PRIORITY>

<SCHEDULE>
  <DAILY frequency_days="364" />
  <START_DATE_UTC>2018-04-02T05:00:00Z</START_DATE_UTC>
  <START_HOUR>10</START_HOUR>
  <START_MINUTE>30</START_MINUTE>
  <TIME_ZONE>
    <TIME_ZONE_CODE>IN</TIME_ZONE_CODE>
    <TIME_ZONE_DETAILS>(GMT+0530) India: Asia/Calcutta</TIME_ZONE_DETAILS>
  </TIME_ZONE>
  <DST_SELECTED>0</DST_SELECTED>
</SCHEDULE>

</SCAN>
</SCHEDULE_SCAN_LIST>
</RESPONSE>
</SCHEDULE_SCAN_LIST_OUTPUT>

**DTD:**

```xml
<platform API server>/api/2.0/fo/schedule.scan/schedule_scan_list_output.dtd
```
Create scan schedule

/api/2.0/fo/schedule(scan)?action=create

[POST]

Create a scan schedule in the user’s account.

Input Parameters

The input parameters for creating a scan schedule are below. For complete details see Scan Parameters and Scan Schedule Parameters.

<table>
<thead>
<tr>
<th>Type</th>
<th>Parameter List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request</td>
<td>action=create (required), echo_request</td>
</tr>
<tr>
<td>Scan</td>
<td>scan_title (required), active=0/1 (required)</td>
</tr>
<tr>
<td>Option Profile</td>
<td>option_id or option_profile (one is required)</td>
</tr>
<tr>
<td>Scanner Appliance</td>
<td>iscanner_id or iscanner_name</td>
</tr>
<tr>
<td>Processing Priority</td>
<td>priority</td>
</tr>
<tr>
<td>Asset IPs/Groups</td>
<td>ip, asset_group_ids, asset_groups, exclude_ip_per_scan, default_scanner, scanners_in_ag</td>
</tr>
<tr>
<td>Asset Tags</td>
<td>target_from=tags, tag_include_selector, tag_exclude_selector, tag_set_by, tag_set_exclude, tag_set_include, use_ip_nt_range_tags</td>
</tr>
<tr>
<td>Network</td>
<td>ip_network_id to filter IPs/ranges in “ip” parameter (valid when the networks feature is enabled)</td>
</tr>
<tr>
<td>EC2 Hosts</td>
<td>target_from=tags (required) use_ip_nt_range_tags=0 (optional) tag_set_include (required) More Asset Tags parameters (optional)</td>
</tr>
<tr>
<td>EC2 Environment</td>
<td>connector_name or connector_uuid (one is required) ec2_endpoint (required)</td>
</tr>
<tr>
<td>Scheduling</td>
<td>start_date (current date by default) start_hour, start_minute, time_zone_code, occurrence (required) observe_dst, recurrence, end_after, pause_after_hours, resume_in_days</td>
</tr>
<tr>
<td>Daily Scan</td>
<td>occurrence=daily, frequency_days (required)</td>
</tr>
<tr>
<td>Weekly Scan</td>
<td>occurrence=weekly, frequency_weeks, weeks (required)</td>
</tr>
<tr>
<td>Monthly Scan</td>
<td>occurrence=monthly, frequency_months (required) Nth day of month: day_of_month (required) Day in Nth week: day_of_week, week_of_month (required)</td>
</tr>
<tr>
<td>Notifications</td>
<td>before_notify, before_notify_unit, before_notify_time, before_notify_message, after_notify, after_notify_message, recipient_group_ids</td>
</tr>
</tbody>
</table>
Sample - Create scan schedule

API request:
```
curl -u "USERNAME:PASSWD" -H "X-Requested-With: curl" -X "POST" -d "scan_title=My+Scan+Schedule&active=1&option_id=3456&target_from=tags&tag_set_include=tag1,tag2,tag3&iscanner_name=scanner1&occurrence=daily&frequency_days=5&time_zone_code=US-CA&observe_dst=yes&start_hour=14&start_minute=0"
"https://qualysapi.qualys.com/api/2.0/fo/schedule/scan/?action=create"
```

Sample - Create Scan Schedule, Cancel after 45 minutes

API request:
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -d "action=create&scan_title=My_Weekly_Scan&option_title=Initial+Options&ip=10.20.31.73,10.20.31.106&active=1&occurrence=weekly&start_hour=13&start_minute=30&time_zone_code=IN&frequency_weeks=1&weekdays=Sunday&end_after=0&end_after_mins=45&iscanner_name=scanner1,scanner2&before_notify=1&before_notify_unit=hours&before_notify_time=20&recipient_group_ids=4228,5628"
"https://qualysapi.qualys.com/api/2.0/fo/schedule/scan/"
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2019-01-02T21:32:40Z</DATETIME>
    <TEXT>New scan scheduled successfully</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>136992</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```

Sample - Create scan schedule using all scanners in network

API request:
```
curl -u "USERNAME:PASSWD" -H "X-Requested-With:curl demo 2" -d "action=create&scan_title=API+Schedule+scan&option_title=Initial+Options&ip_network_id=12807913&scanners_in_network=1&ip=10.10.10.10,10.10.10.11&occurrence=monthly&frequency_months=12&day_of_month=2"
```

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Chapter 3 - Scans
Scan Schedules

XML output:

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-20T21:32:40Z</DATETIME>
    <TEXT>New scan scheduled successfully</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>136992</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```

**Update a scan schedule**

/api/2.0/fo/schedule/scan/?action=update

[POST]

Update a scan schedule in the user’s account.

**Input Parameters**

The input parameters for updating a scan schedule are below. For complete details see Scan Parameters and Scan Schedule Parameters.

<table>
<thead>
<tr>
<th>Type</th>
<th>Parameter List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request</td>
<td>action=update (required), id (required), echo_request</td>
</tr>
<tr>
<td>Scan Title</td>
<td>scan_title</td>
</tr>
<tr>
<td>Status</td>
<td>active=0</td>
</tr>
<tr>
<td>Option Profile</td>
<td>option_id or option_title</td>
</tr>
<tr>
<td>Scanner Appliance</td>
<td>iscanner_id, iscanner_name, default_scanner, scanners_in_ag, scanners_in_network, scanners_in_tagset</td>
</tr>
<tr>
<td>Processing Priority</td>
<td>priority</td>
</tr>
<tr>
<td>Asset IPs/Groups</td>
<td>ip, asset_group_ids or asset_groups, exclude_ip_per_scan</td>
</tr>
<tr>
<td>Type</td>
<td>Parameter List</td>
</tr>
<tr>
<td>---------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Asset Tags</td>
<td>target_from=tags, use_ip_nt_range_tags, tag_include_selector, tag_exclude_selector, tag_set_by, tag_set_exclude, tag_set_include</td>
</tr>
<tr>
<td>EC2 Environment</td>
<td>connector_name or connector_uuid, ec2_endpoint, ec2_only_classic</td>
</tr>
<tr>
<td>Network</td>
<td>ip_network_id (when the Network Support feature is enabled)</td>
</tr>
<tr>
<td>Start Time</td>
<td>Must be specified together: set_start_time=1, start_date, start_hour, start_minute, time_zone_code, observe_dst</td>
</tr>
<tr>
<td>Recurrence</td>
<td>recurrence</td>
</tr>
<tr>
<td>Daily Scan</td>
<td>Must be specified together: occurrence=daily, frequency_days</td>
</tr>
<tr>
<td>Weekly Scan</td>
<td>Must be specified together: occurrence=weekly, frequency_weeks, weekdays</td>
</tr>
<tr>
<td>Monthly Scan</td>
<td>Must be specified together: occurrence=monthly, frequency_months, Nth day of month: day_of_month, Day in Nth week: day_of_week, week_of_month</td>
</tr>
<tr>
<td>End</td>
<td>end_after, end_after_mins</td>
</tr>
<tr>
<td>Pause and Resume</td>
<td>pause_after_hours, pause_after_mins, resume_in_days, resume_in_hours</td>
</tr>
<tr>
<td>Notifications</td>
<td>before_notify, before_notify_unit, before_notify_time, before_notify_message, after_notify, after_notify_message, recipient_group_ids</td>
</tr>
</tbody>
</table>

**Sample - Update scan schedule, Pause after 15 minutes**

**API request:**
```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" -d "action=update&id=146754&pause_after_hours=0&pause_after_mins=15&resume_in_days=2&resume_in_hours=5"
https://qualysapi.qualys.com/api/2.0/fo/schedule/scan/
```

**XML output:**
```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2019-01-14T11:57:42Z</DATETIME>
    <TEXT>Edit scheduled Scan Completed successfully</TEXT>
  </RESPONSE>
</SIMPLE_RETURN>
```
Delete scan schedule

`/api/2.0/fo/schedule(scan/schedule)?action=update`

[POST]
Delete a scan schedule in the user’s account.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=delete</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Optional) The ID of the scan schedule you want to delete.</td>
</tr>
</tbody>
</table>

Sample - Delete scan schedule

API request:
```
curl -u "USERNAME:PASSWD" -H "X-Requested-With: curl" -X "POST" -d "id=123456"
"https://qualysapi.qualys.com/api/2.0/fo/schedule(scan)/?action=delete"
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-05-30T21:32:40Z</DATETIME>
    <TEXT>Schedule scan deleted successfully</TEXT>
  </RESPONSE>
</SIMPLE_RETURN>
```
Chapter 3 - Scans
Scan Schedules

</ITEM_LIST>
</RESPONSE>
</SIMPLE_RETURN>
# Scan List Parameters

## Request type

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required) A flag used to make a request for a scan list.</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

## Filters - Several parameters allow you to set filters to restrict the scan list output. When no filters are specified, the service returns all scans launched by all users within the past 30 days.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>scan_ref={value}</td>
<td>(Optional) Show only a scan with a certain scan reference code. When unspecified, the scan list is not restricted to a certain scan. For a vulnerability scan, the format is: scan/987659876.19876 For a compliance scan the format is: compliance/98765456.12345 For a SCAP scan the format is: qscap/987659999.22222</td>
</tr>
<tr>
<td>scan_id={value}</td>
<td>(Optional) Show only a scan with a certain compliance scan ID.</td>
</tr>
<tr>
<td>state={value}</td>
<td>(Optional) Show only one or more scan states. By default, the scan list is not restricted to certain states. A valid value is: Running, Paused, Canceled, Finished, Error, Queued (scan job is waiting to be distributed to scanner(s)), or Loading (scanner(s) are finished and scan results are being loaded onto the platform). Multiple values are comma separated.</td>
</tr>
<tr>
<td>processed={0</td>
<td>1}</td>
</tr>
<tr>
<td>type={value}</td>
<td>(Optional) Show only a certain scan type. By default, the scan list is not restricted to a certain scan type. A valid value is: On-Demand, Scheduled, or API.</td>
</tr>
<tr>
<td>target={value}</td>
<td>(Optional) Show only one or more target IP addresses. By default, the scan list includes all scans on all IP addresses. Multiple IP addresses and/or ranges may be entered. Multiple entries are comma separated. You may enter an IP address range using the hyphen (-) to separate the start and end IP address, as in: 10.10.10.1-10.10.10.2</td>
</tr>
<tr>
<td>user_login={value}</td>
<td>(Optional) Show only a certain user login. The user login identifies a user who launched scans. By default, the scan list is not restricted to scans launched by a particular user. Enter the login name for a valid Qualys user account.</td>
</tr>
</tbody>
</table>
### Chapter 3 - Scans

#### Scan List Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>launched_after_datetime=</td>
<td><em>(Optional)</em> Show only scans launched after a certain date and time (optional). The date/time is specified in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2007-07-01” or “2007-01-25T23:12:00Z”. When launched_after_datetime and launched_before_datetime are unspecified, the service selects scans launched within the past 30 days. A date/time in the future returns an empty scans list.</td>
</tr>
<tr>
<td>launched_before_datetime=</td>
<td><em>(Optional)</em> Show only scans launched before a certain date and time (optional). The date/time is specified in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2007-07-01” or “2007-01-25T23:12:00Z”. When launched_after_datetime and launched_before_datetime are unspecified, the service selects scans launched within the past 30 days. A date/time in the future returns a list of all scans (not limited to scans launched within the past 30 days).</td>
</tr>
<tr>
<td>scan_type=certview</td>
<td><em>(Optional)</em> List CertView VM scans only. This option will be supported when CertView GA is released and enabled for your account.</td>
</tr>
<tr>
<td>scan_type=ec2certview</td>
<td><em>(Optional)</em> List EC2 CertView VM scans only.</td>
</tr>
<tr>
<td>client_id={value}</td>
<td><em>(Optional)</em> Id assigned to the client (Consultant type subscriptions).</td>
</tr>
<tr>
<td>client_name={value}</td>
<td><em>(Optional)</em> Name of the client (Consultant type subscriptions). Note: The client_id and client_name parameters are mutually exclusive and cannot be specified together in the same request.</td>
</tr>
</tbody>
</table>

**Show/Hide** - These parameters specify whether certain information will be shown in the XML output.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show_ags={0</td>
<td>1}</td>
</tr>
<tr>
<td>show_op={0</td>
<td>1}</td>
</tr>
<tr>
<td>show_status={0</td>
<td>1}</td>
</tr>
<tr>
<td>show_last={0</td>
<td>1}</td>
</tr>
</tbody>
</table>
### Chapter 3 - Scans

#### Scan Parameters

Input parameters used to launch a VM or PC scan are below.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={launch}</td>
<td>(Required) Specify &quot;launch&quot; to launch a new scan.</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>scan_title={value}</td>
<td>(Optional) The scan title. This can be a maximum of 2000 characters (ascii).</td>
</tr>
<tr>
<td>target_from={assets</td>
<td>tags}</td>
</tr>
<tr>
<td>ip={value}</td>
<td>(Optional) The IP addresses to be scanned. You may enter individual IP addresses and/or ranges. Multiple entries are comma separated. One of these parameters is required: ip, asset_groups or asset_group_ids.</td>
</tr>
<tr>
<td>asset_groups={value}</td>
<td>(Optional) The titles of asset groups containing the hosts to be scanned. Multiple titles are comma separated. One of these parameters is required: ip, asset_groups or asset_group_ids.</td>
</tr>
<tr>
<td>asset_group_ids={value}</td>
<td>(Optional) The IDs of asset groups containing the hosts to be scanned. Multiple IDs are comma separated. One of these parameters is required: ip, asset_groups or asset_group_ids.</td>
</tr>
</tbody>
</table>

These parameters are mutually exclusive and cannot be specified in the same request: asset_groups and asset_group_ids.

---

**pci_only={0|1}** *(Optional)* Specify 1 to show only external PCI scans in the XML output. External PCI scans are vulnerability scans run with the option profile "Payment Card Industry (PCI) Options". When pci_only=1 is specified, the XML output will not include other types of scans run with other option profiles.

**ignore_target={0|1}** *(Optional)* Specify 1 to hide target information from the scan list. Specify 0 to display the target information.
### Chapter 3 - Scans

#### Scan Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>exclude_ip_per_scan=<code>value</code></td>
<td>(Optional) The IP addresses to be excluded from the scan when the scan target is specified as IP addresses (not asset tags). You may enter individual IP addresses and/or ranges. Multiple entries are comma separated. exclude_ip_per_scan is valid only when target_from=assets is specified.</td>
</tr>
<tr>
<td>tag_include_selector=`all</td>
<td>any`</td>
</tr>
<tr>
<td>tag_exclude_selector=`all</td>
<td>any`</td>
</tr>
<tr>
<td>tag_set_by=`id</td>
<td>name`</td>
</tr>
<tr>
<td>tag_set_include=<code>value</code></td>
<td>(Optional) Specify a tag set to include. Hosts that match these tags will be included. You identify the tag set by providing tag name or IDs. Multiple entries are comma separated. tag_set_include is valid only when target_from=tags is specified.</td>
</tr>
<tr>
<td>tag_set_exclude=<code>value</code></td>
<td>(Optional) Specify a tag set to exclude. Hosts that match these tags will be excluded. You identify the tag set by providing tag name or IDs. Multiple entries are comma separated. tag_set_exclude is valid only when target_from=tags is specified.</td>
</tr>
<tr>
<td>use_ip_nt_range_tags=`0</td>
<td>1`</td>
</tr>
</tbody>
</table>
### Chapter 3 - Scans

#### Scan Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>iscanner_id={value}</td>
<td>(Optional) The IDs of the scanner appliances to be used. Multiple entries are comma separated. For an Express Lite user, Internal Scanning must be enabled in the user’s account.</td>
</tr>
<tr>
<td></td>
<td>One of these parameters must be specified in a request: iscanner_name, iscanner_id, default_scanner, scanners_in_ag, scanners_in_tagset. When none of these are specified, External scanners are used.</td>
</tr>
<tr>
<td></td>
<td>These parameters are mutually exclusive and cannot be specified in the same request: iscanner_id and iscanner_name.</td>
</tr>
<tr>
<td>iscanner_name={value}</td>
<td>(Optional) The friendly names of the scanner appliances to be used or “External” for external scanners. Multiple entries are comma separated. For an Express Lite user, Internal Scanning must be enabled in the user’s account.</td>
</tr>
<tr>
<td></td>
<td>One of these parameters must be specified in a request for an internal scan: iscanner_name, iscanner_id, default_scanner, scanners_in_ag, scanners_in_tagset. When none of these are specified, External scanners are used.</td>
</tr>
<tr>
<td></td>
<td>These parameters are mutually exclusive and cannot be specified in the same request: iscanner_id and iscanner_name.</td>
</tr>
<tr>
<td>default_scanner={0</td>
<td>1}</td>
</tr>
<tr>
<td></td>
<td>One of these parameters must be specified in a request for an internal scan: iscanner_name, iscanner_id, default_scanner, scanners_in_ag, scanners_in_tagset. When none of these are specified, External scanners are used.</td>
</tr>
<tr>
<td></td>
<td>default_scanner is valid when the scan target is specified using one of these parameters: asset_groups, asset_group_ids.</td>
</tr>
<tr>
<td>scanners_in_ag={0</td>
<td>1}</td>
</tr>
<tr>
<td></td>
<td>One of these parameters must be specified in a request for an internal scan: iscanner_name, iscanner_id, default_scanner, scanners_in_ag, scanners_in_tagset. When none of these are specified, External scanners are used.</td>
</tr>
<tr>
<td></td>
<td>scanners_in_ag is valid when the scan target is specified using one of these parameters: asset_groups, asset_group_ids.</td>
</tr>
</tbody>
</table>
### Parameter | Description
--- | ---
scanners_in_tagset=:0[1] (Optional) Specify 1 to distribute the scan to scanner appliances that match the asset tags specified for the scan target. One of these parameters must be specified in a request for an internal scan: iscanner_name, iscanner_id, default_scanner, scanners_in_ag, scanners_in_tagset. When none of these are specified, External scanners are used. scanners_in_tagset is valid when the target_from=tags is specified.

scanners_in_network=:value (Optional) Specify 1 to distribute the scan to all scanner appliances in the network.

option_title=:value (Optional) The title of the option profile to be used. One of these parameters must be specified in a request: option_title or option_id. These are mutually exclusive and cannot be specified in the same request.

option_id=:value (Optional) The ID of the option profile to be used. One of these parameters must be specified in a request: option_title or option_id. These are mutually exclusive and cannot be specified in the same request.

priority=:value (Optional for VM scans only) Specify a value of 0 - 9 to set a processing priority level for the scan. When not specified, a value of 0 (no priority) is used. Valid values are:
- 0 = No Priority (the default)
- 1 = Emergency
- 2 = Ultimate
- 3 = Critical
- 4 = Major
- 5 = High
- 6 = Standard
- 7 = Medium
- 8 = Minor
- 9 = Low

connector_name=:value (Required for an EC2 scan) The name of the EC2 connector for the AWS integration you want to run the scan on.


ec2_instance_ids=:value (Optional) The ID of the EC2 instance on which you want to launch the VM or compliance scan. Multiple ec2 instance ids are comma separated. You can add up to maximum 10 instance Ids.
### Chapter 3 - Scans

#### Scan Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ip_network_id={value}</td>
<td>(Optional, and valid only when the Network Support feature is enabled for the user’s account) The ID of a network used to filter the IPs/ranges specified in the “ip” parameter. Set to a custom network ID (note this does not filter IPs/ranges specified in “asset_groups” or “asset_group_ids”). Or set to “0” (the default) for the Global Default Network - this is used to scan hosts outside of your custom networks.</td>
</tr>
<tr>
<td>runtime_http_header={value}</td>
<td>(Optional) Set a custom value in order to drop defenses (such as logging, IPs, etc) when an authorized scan is being run. The value you enter will be used in the “Qualys-Scan:” header that will be set for many CGI and web application fingerprinting checks. Some discovery and web server fingerprinting checks will not use this header.</td>
</tr>
<tr>
<td>scan_type=certview</td>
<td>(Optional) Launch a CertView type scan. This option will be supported when CertView GA is released and enabled for your account.</td>
</tr>
<tr>
<td>fqdn={value}</td>
<td>(Optional) The target FQDN for a CertView type VM scan. For this scan you must specify at least one target i.e. IPs, asset groups or FQDNs. Multiple values are comma separated. This option will be supported when CertView GA is released and enabled for your account.</td>
</tr>
<tr>
<td>client_id={value}</td>
<td>(Optional) Id assigned to the client (Consultant type subscriptions). Note: The client_id and client_name parameters are mutually exclusive and cannot be specified together in the same request.</td>
</tr>
<tr>
<td>client_name={value}</td>
<td>(Optional) Name of the client (Consultant type subscriptions). Note: The client_id and client_name parameters are mutually exclusive and cannot be specified together in the same request.</td>
</tr>
<tr>
<td>include_agent_targets={0</td>
<td>1}</td>
</tr>
</tbody>
</table>
Cloud Perimeter Scan Parameters

The input parameters for creating or updating a Cloud Perimeter scan are below.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={create</td>
<td>update}</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Required and only applicable for Update request) The ID of the scan schedule you want to update.</td>
</tr>
<tr>
<td>module={vm</td>
<td>pc}</td>
</tr>
<tr>
<td>cloud_provider=aws</td>
<td>(Optional) The default value is &quot;aws&quot;.</td>
</tr>
<tr>
<td>cloud_service=ec2</td>
<td>(Optional) The default value is &quot;ec2&quot;.</td>
</tr>
<tr>
<td>connector_name={value}</td>
<td>(Optional) The name of the connector to be used. One of these parameters must be specified in the request: connector_name or connector_uuid. These are mutually exclusive and cannot be specified in the same request.</td>
</tr>
<tr>
<td>connector_uuid={value}</td>
<td>(Optional) The ID of the connector to be used. One of these parameters must be specified in the request: connector_name or connector_uuid. These are mutually exclusive and cannot be specified in the same request.</td>
</tr>
<tr>
<td>scan_title={value}</td>
<td>(Optional) The scan title. When not specified the default scan title is &quot;AWS EC2 Perimeter Scan &lt;date&gt;&quot;</td>
</tr>
<tr>
<td>active={0</td>
<td>1}</td>
</tr>
<tr>
<td>option_title={value}</td>
<td>(Optional) The title of the option profile to be used. One of these parameters must be specified in the request: option_title or option_id. These are mutually exclusive and cannot be specified in the same request.</td>
</tr>
<tr>
<td>option_id={value}</td>
<td>(Optional) The ID of the option profile to be used. One of these parameters must be specified in a request: option_title or option_id. These are mutually exclusive and cannot be specified in the same request.</td>
</tr>
</tbody>
</table>
### Cloud Perimeter Scan Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>priority={value}</td>
<td>(Optional) Specify a value of 0 - 9 to set a processing priority level for the scan. When not specified, a value of 0 (no priority) is used. Valid values are: 0 = No Priority (the default) 1 = Emergency 2 = Ultimate 3 = Critical 4 = Major 5 = High 6 = Standard 7 = Medium 8 = Minor 9 = Low</td>
</tr>
<tr>
<td>iscanner_id={value}</td>
<td>(Optional, only valid when your account is configured to allow internal scanners) The IDs of the scanner appliances to be used. Specify &quot;0&quot; for external scanners. Multiple entries are comma separated. These parameters cannot be specified in the same request: iscanner_id and iscanner_name.</td>
</tr>
<tr>
<td>iscanner_name={value}</td>
<td>(Optional, only valid when your account is configured to allow internal scanners) The friendly names of the scanner appliances to be used or &quot;External&quot; for external scanners. Multiple entries are comma separated. These parameters cannot be specified in the same request: iscanner_id and iscanner_name.</td>
</tr>
<tr>
<td>platform_type={value}</td>
<td>(Required for Create request) The platform type. Valid values are: classic, vpc_peered or selected_vpc.</td>
</tr>
<tr>
<td>region_code={value}</td>
<td>(Optional) The EC2 region code. Valid values are: ap-northeast-1, ap-southeast-1, ap-southeast-2, eu-west-1, sa-east-1, us-east-1, us-west-1 and us-west-2. One of these parameters must be specified in the request: region_code or vpc_id. These are mutually exclusive and cannot be specified in the same request.</td>
</tr>
<tr>
<td>vpc_id={value}</td>
<td>(Optional) The ID of the Virtual Private Cloud (VPC) zone. The ID value must start with vpc% One of these parameters must be specified in the request: region_code or vpc_id. These are mutually exclusive and cannot be specified in the same request.</td>
</tr>
<tr>
<td>tag_include_selector={all</td>
<td>any}</td>
</tr>
<tr>
<td>tag_exclude_selector={all</td>
<td>any}</td>
</tr>
</tbody>
</table>
Scan Schedule Parameters

Scan Schedule - Occurrence

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>occurrence=daily</td>
<td>Required for a daily scan.</td>
</tr>
<tr>
<td>frequency_days={value}</td>
<td>Required for a daily scan. The scan will run every N number of days. Value is an integer from 1 to 365.</td>
</tr>
<tr>
<td>occurrence=weekly</td>
<td>Required for a weekly scan.</td>
</tr>
<tr>
<td>frequency_weeks={value}</td>
<td>Required for a weekly scan. The scan will run every N number of weeks. Value is an integer from 1 to 52.</td>
</tr>
<tr>
<td>weekdays={value}</td>
<td>Required for a weekly scan. The scan will run on the one or more weekdays. Value is one or more days: sunday, monday, tuesday, wednesday, thursday, friday, saturday. Multiple days are comma separated.</td>
</tr>
<tr>
<td>occurrence=monthly</td>
<td>Required for a monthly scan.</td>
</tr>
<tr>
<td>frequency_months={value}</td>
<td>Required for a monthly scan. The scan will run every N number of months. Value is an integer from 1 to 12.</td>
</tr>
<tr>
<td>day_of_month={value}</td>
<td>Required for monthly scan - Nth day of the month. The scan will run on the Nth day of the month. Value is an integer from 1 to 31.</td>
</tr>
</tbody>
</table>
### Chapter 3 - Scans

**Scan Schedule Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>day_of_week={value}</td>
<td>Required for monthly scan - day in Nth week. The scan will run on this day of the week. Value is an integer from 0 to 6, where 0 is Sunday and 2 is Tuesday.</td>
</tr>
<tr>
<td>week_of_month={value}</td>
<td>Required for monthly scan - day in Nth week. The scan will run on this week of the month. Value is one of: first, second, third, fourth, last.</td>
</tr>
</tbody>
</table>

### Scan Schedule - Start Time

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>start_date={mm/dd/yyyy}</td>
<td>(Optional) By default the start date is the date when the schedule is created. You can define another start date in mm/dd/yyyy format.</td>
</tr>
<tr>
<td>start_hour={hour}</td>
<td>(Required) The hour when a scan will start. The hour is an integer from 0 to 23, where 0 represents 12 AM, 7 represents 7 AM, and 22 represents 10 PM.</td>
</tr>
<tr>
<td>start_minute={minute}</td>
<td>(Required) The minute when a scan will start. A valid value is an integer from 0 to 59.</td>
</tr>
<tr>
<td>time_zone_code={value}</td>
<td>(Required) The time zone code for starting a scan, in upper case. For example, the time zone code for US California is US-CA. Valid codes are returned by the Time Zone Code API (/msp/time_zone_code_list.php).</td>
</tr>
<tr>
<td>observe_dst={yes</td>
<td>no}</td>
</tr>
<tr>
<td>recurrence={value}</td>
<td>(Optional) The number of times the scan will be run before it is deactivated. For example, if you set recurrence=2, the scan schedule will be deactivated after it runs 2 times. By default no value is set. A valid value is an integer from 1 to 99.</td>
</tr>
<tr>
<td>end_after={value}</td>
<td>(Optional) End a scan after some number of hours. A valid value is from 0 to 119.</td>
</tr>
<tr>
<td>end_after_mins={value}</td>
<td>(Optional) End a scan after some number of minutes. A valid value is an integer from 0 to 59. Must be specified with end_after. For example, to end the scan after 2 hours and 30 minutes, you would specify end_after=2 and end_after_mins=30. When end_after is set to 0, the minimum value for end_after_mins is 15.</td>
</tr>
<tr>
<td>pause_after_hours={value}</td>
<td>(Optional) Pause a scan after some number of hours if the scan has not finished by then. A valid value is an integer from 0 to 119.</td>
</tr>
</tbody>
</table>
### Scan Schedule Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>pause_after_mins={value}</td>
<td>(Optional) Pause a scan after some number of minutes if the scan has not finished by then. A valid value is an integer from 0-59. Must be specified with pause_after_hours. For example, to pause the scan after 2 hours and 30 minutes, you would specify pause_after_hours=2 and pause_after_mins=30. When pause_after_hours is set to 0, the minimum value for pause_after_mins is 15.</td>
</tr>
<tr>
<td>resume_in_days={value}</td>
<td>(Optional) Resume a paused scan in some number of days. A valid value is an integer from 0 to 9 or Manually.</td>
</tr>
<tr>
<td>resume_in_hours={value}</td>
<td>(Optional) Resume a paused scan in some number of hours. A valid value is an integer from 0-23. Must be specified with pause_after_hours and resume_in_days. For example, to resume your scan in 5 hours, specify resume_in_days=0 and resume_in_hours=5. To resume your scan in 1 day and 12 hours, specify resume_in_days=1 and resume_in_hours=12. Note - The value you set for pause will determine the minimum value for resume. For example, if you set the scan to pause after 1 hour then you can set it to resume in 2 or more hours. If you set the scan to pause between 1-2 hours (from 1hr, 1min to 1 hr, 59min) then you can set it to resume in 3 hours or more.</td>
</tr>
<tr>
<td>set_start_time={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

### Scan Schedule - Notifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>before_notify={0</td>
<td>1}</td>
</tr>
<tr>
<td>before_notify_unit={value}</td>
<td>(Optional) Specify the time unit for when to send the before scan notification. Possible values are: days, hours, minutes. This parameter is required when before_notify=1. Not valid when before_notify=0.</td>
</tr>
<tr>
<td>before_notify_time={value}</td>
<td>(Optional) Indicates the number of days, hours or minutes before the scan starts the notification will be sent. For days, enter a value of 1-31. For hours, enter a value of 1-24. For minutes, enter a value of 5-120. This parameter is required when before_notify=1. Not valid when before_notify=0.</td>
</tr>
</tbody>
</table>
## Chapter 3 - Scans
### Scan Schedule Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>before_notify_message={value}</td>
<td>(Optional) Specify a custom message to add to the before scan notification. The notification will always include certain details like the scan title, owner, option profile and start time. Include up to 4000 characters, no HTML tags.</td>
</tr>
<tr>
<td></td>
<td>For update requests:</td>
</tr>
<tr>
<td></td>
<td>- When not specified we keep the previous setting.</td>
</tr>
<tr>
<td></td>
<td>- Specify an empty string to delete the last saved message.</td>
</tr>
<tr>
<td></td>
<td>This parameter is only valid when before_notify=1.</td>
</tr>
<tr>
<td>after_notify={0</td>
<td>1}</td>
</tr>
<tr>
<td>after_notify_message={value}</td>
<td>(Optional) Specify a custom message to add to the after scan notification. When not specified during a create request, no notification message is saved. Include up to 4000 characters, no HTML tags.</td>
</tr>
<tr>
<td></td>
<td>For update requests:</td>
</tr>
<tr>
<td></td>
<td>- When not specified we keep the previous setting.</td>
</tr>
<tr>
<td></td>
<td>- Specify an empty string to delete the last saved message.</td>
</tr>
<tr>
<td></td>
<td>- If both notifications are disabled (before_notify=0 and after_notify=0) we will delete the after notify message.</td>
</tr>
<tr>
<td></td>
<td>This parameter is only valid when after_notify=1.</td>
</tr>
<tr>
<td>recipient_group_ids={value}</td>
<td>(Optional) The notification recipients in the form of one or more valid distribution group IDs. When not specified during a create request, only the task owner will be notified.</td>
</tr>
<tr>
<td></td>
<td>For update requests:</td>
</tr>
<tr>
<td></td>
<td>- When not specified we keep the previous setting.</td>
</tr>
<tr>
<td></td>
<td>- Specify an empty string to delete the list of IDs.</td>
</tr>
<tr>
<td></td>
<td>- If both notifications are disabled (before_notify=0 and after_notify=0) we will delete the list of IDs.</td>
</tr>
<tr>
<td></td>
<td>This parameter is only valid when before_notify=1 or after_notify=1 is specified in the same request.</td>
</tr>
</tbody>
</table>

### Scan Schedule - Consultant type subscriptions

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>client_id={value}</td>
<td>(Optional) Id assigned to the client (Consultant type subscriptions).</td>
</tr>
<tr>
<td>client_name={value}</td>
<td>(Optional) Name of the client (Consultant type subscriptions). Note: The client_id and client_name parameters are mutually exclusive and cannot be specified together in the same request.</td>
</tr>
</tbody>
</table>
VM Scan Statistics

/api/2.0/fo/scan/stats/?action=list

[GET] [POST]

List details about vulnerability scans and assets that are waiting to be processed.

Permissions - Manager role is required.

You’ll see these sections in the XML output:

UNPROCESSED SCANS - The total number of scans that are not processed, including scans that are queued, running, loading, finished, etc.

VM RECRYPT BACKLOG - The total number of assets across your finished scans that are waiting to be processed.

VM RECRYPT BACKLOG BY SCAN - Scan details for vulnerability scans that are waiting to be processed. For each scan, you’ll see the scan ID, scan title, scan status, processing priority and number of hosts that the scan finished but not processed.

VM RECRYPT BACKLOG BY TASK - Processing task details for vulnerability scans that are waiting to be processed. For each task, you’ll see the same scan details as VM RECRYPT BACKLOG BY SCAN plus additional information like the total hosts alive for the scan, the number of hosts from the scan that have been processed, the number of hosts waiting to be processed, the scan start date, the task type and task status.

Sample - List VM statistics

API request:

```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl"
"https://qualysapi.qualys.com/api/2.0/fo/scan/stats/?action=list"
```

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE TASK_PROCESSING SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/scan/stats/vm_recrypt_results.dtd">
<TASK_PROCESSING>
  <UNPROCESSED_SCANS><![CDATA[366]]></UNPROCESSED_SCANS>
  <VM_RECRYPT_BACKLOG><![CDATA[116]]></VM_RECRYPT_BACKLOG>
  <VM_RECRYPT_BACKLOG_BY_SCAN>
    <SCAN>
      <ID><![CDATA[189275]]></ID>
      <TITLE><![CDATA[API_V2_IP_Scan_1511513769]]></TITLE>
      <STATUS><![CDATA[Loading]]></STATUS>
      <PROCESSING_PRIORITY><![CDATA[None]]></PROCESSING_PRIORITY>
      <COUNT><![CDATA[2]]></COUNT>
    </SCAN>
  </VM_RECRYPT_BACKLOG_BY_SCAN>
</TASK_PROCESSING>
```
<ID><![CDATA[215356]]></ID>
<TITLE><![CDATA[API_V2_AG_Scan_1515742250]]></TITLE>
<STATUS><![CDATA[Running]]></STATUS>

<PROCESSING_PRIORITY><![CDATA[None]]></PROCESSING_PRIORITY>
<NBHOST><![CDATA[]]></NBHOST>
<TO_PROCESS><![CDATA[0]]></TO_PROCESS>
<PROCESSED><![CDATA[0]]></PROCESSED>
<SCAN_DATE><![CDATA[2018-01-12T07:30:42Z]]></SCAN_DATE>
<SCAN_UPDATED_DATE><![CDATA[2018-01-12T08:01:10Z]]></SCAN_UPDATED_DATE>
<TASK_TYPE><![CDATA[VM Scan Processing]]></TASK_TYPE>
<TASK_STATUS><![CDATA[Queued]]></TASK_STATUS>
<TASK_UPDATED_DATE><![CDATA[2018-01-12T08:17:11Z]]></TASK_UPDATED_DATE>

</SCAN>

<SCAN>
<ID><![CDATA[215357]]></ID>
<TITLE><![CDATA[API_V2_AG_Scan_1515742265]]></TITLE>
<STATUS><![CDATA[Loading]]></STATUS>

<PROCESSING_PRIORITY><![CDATA[None]]></PROCESSING_PRIORITY>
<NBHOST><![CDATA[]]></NBHOST>
<TO_PROCESS><![CDATA[0]]></TO_PROCESS>
<PROCESSED><![CDATA[0]]></PROCESSED>
<SCAN_DATE><![CDATA[2018-01-12T07:30:58Z]]></SCAN_DATE>
<SCAN_UPDATED_DATE><![CDATA[2018-01-12T08:01:10Z]]></SCAN_UPDATED_DATE>
<TASK_TYPE><![CDATA[VM Scan Processing]]></TASK_TYPE>
<TASK_STATUS><![CDATA[Queued]]></TASK_STATUS>
<TASK_UPDATED_DATE><![CDATA[2018-01-12T08:17:11Z]]></TASK_UPDATED_DATE>

</SCAN>

...</SCAN>

</VM_RECRYPT_BACKLOG_BY_TASK>
</TASK_PROCESSING>

DTD
<platform API server>/api/2.0/fo/scan/stats/vm_recrypt_results.dtd
VM Scan Summary

/api/2.0/fo(scan/summary)/

[GET]  [POST]

Identify hosts that were not scanned and why.

Permissions - Manager role is required.

How it works - First we'll find all the scans launched since the date (or within the date range) that you specify. Then we'll identify hosts that were included in the scan target but not scanned for some reason. For each host you'll see the category/reason it was not scanned and the host's tracking method.

Categories for hosts not scanned:

Excluded - The hosts were excluded. Hosts may be excluded on a per scan basis (by the user launching or scheduling the scan) or globally for all scans. Managers and Unit Managers have privileges to edit the global excluded hosts list for the subscription.

Cancelled - Hosts were not scanned because the scan was cancelled. Scans may be cancelled by a user, by an administrator or automatically by the service as specified in scheduled scan settings.

Dead - The hosts were not “alive” at the time of the scan, meaning that they did not respond to probes sent by the scanning engine, and the option to Scan Dead Hosts was not enabled.

Unresolved - Hosts were scanned but they could not be reported because the NetBIOS or DNS hostname, whichever tracking method is specified for each host, could not be resolved.

Duplicate - The hosts were duplicated within a single segment/slice of the scan job. For example, two different hostnames resolving to the same IP with tracking by IP.

Not Vulnerable - Hosts were found to be not vulnerable during host discovery without having to run a full scan. This could happen for example if the list of QIDs to be scanned are limited to certain ports and those ports are found to be closed.

Aborted - The scan was abruptly discontinued. This is a rare occurrence that may be caused for various reasons. Contact Support for assistance.

Blocked - Hosts were blocked from scanning for some reason.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>scan_date_since={value}</td>
<td>(Required) Include scans started since a certain date. Specify the date in YYYY-MM-DD format. The date must be less than or equal to today’s date.</td>
</tr>
</tbody>
</table>
Chapter 3 - Scans

VM Scan Summary

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>scan_date_to={value}</td>
<td>(Optional) Include scans started up to a certain date. Specify the date in YYYY-MM-DD format. The date must be more than or equal to scan_date_since, and less than or equal to today's date.</td>
</tr>
<tr>
<td>output_format={value}</td>
<td>(Optional) The output format: XML (the default), CSV or JSON.</td>
</tr>
<tr>
<td>tracking_method={value}</td>
<td>(Optional) By default hosts with any tracking method will be returned in the output. Use this option to only include hosts with a certain tracking method. Valid values are: IP, DNS, NETBIOS.</td>
</tr>
<tr>
<td>include_dead={0</td>
<td>1}</td>
</tr>
<tr>
<td>include_excluded={0</td>
<td>1}</td>
</tr>
<tr>
<td>include_unresolved={0</td>
<td>1}</td>
</tr>
<tr>
<td>include_cancelled={0</td>
<td>1}</td>
</tr>
<tr>
<td>include_notvuln={0</td>
<td>1}</td>
</tr>
<tr>
<td>include_blocked={0</td>
<td>1}</td>
</tr>
<tr>
<td>include_duplicate={0</td>
<td>1}</td>
</tr>
<tr>
<td>include_aborted={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

Sample - VM scan summary

API request:

```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" "https://qualysapi.qualys.com/api/2.0/fo/scan/summary/?action=list &scan_date_since=2018-04-27&include_excluded=1&include_unresolved=1 &include_cancelled=1&include_notvuln=1&include_duplicate=1"
```

XML output:

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SCAN_SUMMARY_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/scan/summary/scan_summary_output.dtd">
<SCAN_SUMMARY_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-05-02T10:45:40Z</DATETIME>
    <SCAN_SUMMARY_LIST>
      <SCAN_SUMMARY>
```

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Chapter 3 - Scans
VM Scan Summary

<SCAN_REF>scan/1525251885.92469</SCAN_REF>
<SCAN_DATE>2018-05-02T09:04:34Z</SCAN_DATE>
<HOST_SUMMARY category="notvuln" tracking="IP">10.10.10.10-10.10.10.15,10.10.10.17</HOST_SUMMARY>
<HOST_SUMMARY category="notvuln" tracking="DNS">gfi-31-1.caac125.qualys.com,gfi-31-2.caac125.qualys.com</HOST_SUMMARY>
<HOST_SUMMARY category="notvuln" tracking="NETBIOS">gfi-31-3,gfi-31-4</HOST_SUMMARY>
<HOST_SUMMARY category="cancelled" tracking="IP">10.10.10.20,10.10.10.22</HOST_SUMMARY>
<HOST_SUMMARY category="cancelled" tracking="DNS">gfi-31-5.caac125.qualys.com,gfi-31-6.caac125.qualys.com</HOST_SUMMARY>
<HOST_SUMMARY category="dead" tracking="IP">10.10.10.25</HOST_SUMMARY>
<HOST_SUMMARY category="dead" tracking="NETBIOS">gfi-31-10,gfi-31-11</HOST_SUMMARY>
<HOST_SUMMARY category="excluded" tracking="IP">10.10.10.26</HOST_SUMMARY>
<HOST_SUMMARY category="unresolved" tracking="NETBIOS">gfi-31-13</HOST_SUMMARY>
<HOST_SUMMARY category="duplicate" tracking="IP">10.10.10.27</HOST_SUMMARY>
<HOST_SUMMARY category="duplicate" tracking="DNS">gfi-31-14.caac125.qualys.com</HOST_SUMMARY>
</SCAN_SUMMARY>
</SCAN_SUMMARY_LIST>
</RESPONSE>
</SCAN_SUMMARY_OUTPUT>

DTD
<platform API server>/api/2.0/fo/scan/summary/scan_summary_output.dtd
Scanner Details

/api/2.0/fo/scan/scanner

[GET] [POST]

Identify the scanner used to scan a particular IP address at a given time.

Permissions - Manager role is required.

This is supported for vulnerability scans only. This API is especially useful when you’re scanning a large number of IPs using a pool of scanners and you’re not sure which scanner was used to scan a particular host.

The XML output will show the IP address scanned with the scan reference number, scan date, the scanner identifier (external scanner or scanner appliance name), scanner type (extranet or appliance) and scanner software versions.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>scan_date_since={value}</td>
<td>(Required) Include scans started since a certain date. Specify the date in YYYY-MM-DD format. The date must be less than or equal to today's date.</td>
</tr>
<tr>
<td>scan_date_to={value}</td>
<td>(Optional) Include scans started up to a certain date. Specify the date in YYYY-MM-DD format. The date must be later than or equal to scan_date_since, and less than or equal to today's date.</td>
</tr>
<tr>
<td>ips={value}</td>
<td>(Required) The IP addresses you want scanner details for. You may enter a combination of IPs and ranges. Multiple entries are comma separated.</td>
</tr>
<tr>
<td>output_format=XML</td>
<td>(Optional) The output format: XML (the default).</td>
</tr>
</tbody>
</table>

Sample - List scanner details for certain IPs

API request:

```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -d "action=list&ips=10.10.10.2-10.10.10.7,10.10.10.10 &scan_date_since=2018-05-24&scan_date_to=2018-09-28" "https://qualysapi.qualys.com/api/2.0/fo/scan/scanner/"
```

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE IP_SCANNERS_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/scan/scanner/scanner_list_output.dtd">```
<IP_SCANNERS_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-11-08T21:49:51Z</DATETIME>
    <IP_SCANNERS_OUTPUT>
      <IP_SCANNED>
        <IP>10.10.10.7</IP>
        <SCAN_REF>scan/1527197914.13102</SCAN_REF>
        <SCANNER_IDENTIFIER>external scanner</SCANNER_IDENTIFIER>
        <SCANNER_TYPE>extranet</SCANNER_TYPE>
        <ML_VERSION>ML-9.7.20-1</ML_VERSION>
        <VULNSIGS_VERSION>VULNSIGS-2.4.182-2</VULNSIGS_VERSION>
      </IP_SCANNED>
      <IP_SCANNED>
        <IP>10.10.10.7</IP>
        <SCAN_REF>scan/1538093810.64913</SCAN_REF>
        <SCAN_DATE>2018-09-28T00:19:25Z</SCAN_DATE>
        <SCANNER_IDENTIFIER>Esxi_4_Network</SCANNER_IDENTIFIER>
        <SCANNER_TYPE>appliance</SCANNER_TYPE>
        <ML_VERSION>ML-9.10.21-1</ML_VERSION>
        <VULNSIGS_VERSION>VULNSIGS-2.4.284-2</VULNSIGS_VERSION>
      </IP_SCANNED>
      <IP_SCANNED>
        <IP>10.10.10.10</IP>
        <SCAN_REF>scan/1538093810.64913</SCAN_REF>
        <SCAN_DATE>2018-09-28T00:19:25Z</SCAN_DATE>
        <SCANNER_IDENTIFIER>Esxi_4_Network</SCANNER_IDENTIFIER>
        <SCANNER_TYPE>appliance</SCANNER_TYPE>
        <ML_VERSION>ML-9.10.21-1</ML_VERSION>
        <VULNSIGS_VERSION>VULNSIGS-2.4.284-2</VULNSIGS_VERSION>
      </IP_SCANNED>
    </IP_SCANNERS_OUTPUT>
  </RESPONSE>
</IP_SCANNERS_LIST_OUTPUT>

DTD

<platform API server>/api/2.0/fo/scan/scanner/scanner_list_output.dtd
Share PCI Scan

The Share PCI Scan API (/api/2.0/fo/scan/pci/) provides an automated way to share (export) finished PCI scans to PCI Merchant accounts and check the export status. A PCI scan is a vulnerability scan that was run with the option profile “Payment Card Industry (PCI) Options”.

Express Lite: This API is available to Express Lite users.

In advance of sharing a PCI scan using the share PCI scan API, the target PCI Merchant account must be already defined as a PCI account link within the API user’s Qualys account. Account links can be defined using the Qualys user interface only.

Permissions - Any user with scan permissions (Manager, Unit Manager or Scanner) can share a PCI scan with one of their own PCI Merchant accounts and obtain share status. The user’s Qualys account must allow access to the PCI scan and must have a link to the target PCI Merchant account.

Share Restriction - The following share restriction applies to all users. One PCI scan can be shared (exported) to one PCI Merchant subscription one time only, assuming the share request is successful. (Note: If a particular scan has been exported to any PCI account in the same PCI Merchant subscription as your PCI account, the scan can’t be exported.) If a share request fails for some reason, it’s possible to submit another share request for the same PCI scan and PCI Merchant account.

Share a PCI Scan

`/api/2.0/fo/scan/pci/ with action=share`

[POST]

Export a finished PCI scan to a selected PCI Merchant account. It’s possible to export a PCI scan one time per PCI Merchant account, and the same PCI scan can be exported to multiple PCI Merchant accounts.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=share</td>
<td>(Required) Specify “share” to share a PCI scan.</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>scan_ref={value}</td>
<td>(Required) The scan reference of a finished PCI scan. The scan status of this scan must be “Finished”.</td>
</tr>
<tr>
<td>merchant_username={value}</td>
<td>(Required) The user name of the PCI Merchant account that the PCI scan will be exported to. The API user’s Qualys account must have a PCI account link already defined for this target PCI Merchant account.</td>
</tr>
</tbody>
</table>
Sample - Share PCI scan

API request:

curl -s -H "X-Requested-With: curl demo 2" -D headers.15 -b "QualysSession=38255848108d68a2feaf9ee664ca78a7; path=/api; secure" -d "action=share&merchant_username=manager1@qualys&scan_ref=scan/1281646610.5720" "https://qualysapi.qualys.com/api/2.0/fo/scan/pci/

XML output Successful Share:
The XML output uses the simple return DTD and the message is “Requested share of scan to PCI”.

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-01-17T00:50:39Z</DATETIME>
    <TEXT>Requested share of scan to PCI</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>scan_ref</KEY>
        <VALUE>scan/1281646610.5720</VALUE>
      </ITEM>
      <ITEM>
        <KEY>merchant_username</KEY>
        <VALUE>manager1@qualys</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>

XML output Share Already in Progress or Completed:
When the request to share a PCI scan fails, the XML output uses the simple return DTD with the error. If the failure is because sharing is in progress for the PCI Merchant account or the scan has already been shared to the PCI account, the output includes the message “This scan has already been shared with the Merchant account”.

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-01-04T14:54:01Z</DATETIME>
    <CODE>999</CODE>
  </RESPONSE>
</SIMPLE_RETURN>
<TEXT>This scan has already been shared with the Merchant account.</TEXT>
</RESPONSE>
</SIMPLE_RETURN>

Get PCI Share Status

/api/2.0/fo/scan/pci/ with action=status

[GET] [POST]

Get the share status of a PCI scan that has already been shared with a PCI merchant account.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=status</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0}[1]</td>
<td>(Optional) Specify 1 to view parameters in the XML output. When unspecified, parameters are not included in the XML output.</td>
</tr>
<tr>
<td>scan_ref={value}</td>
<td>(Required) The scan reference of the shared scan that you want to check the export status for.</td>
</tr>
<tr>
<td>merchant_username={value}</td>
<td>(Required) The username of the PCI account which the scan was shared with.</td>
</tr>
</tbody>
</table>

Sample - PCI Share status

API request:

```sh
curl -s -H "X-Requested-With: curl demo 2" -u "USERNAME:PASSWD" -d "action=status&scan_ref=scan/1531755831.21639&merchant_username=asmith@hq" "https://qualysapi.qualys.com/api/2.0/fo/scan/pci/"
```

XML output:

The XML response for a status request identifies the share status: Queued (request was received and not started yet), In Progress, Finished (scan was exported to PCI account successfully), or Error.

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE PCI_SCAN_SHARE_STATUS SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/scan/pci/pci_scan_share_status.dtd">
<PCI_SCAN_SHARE_STATUS>
  <RESPONSE>
    <SCAN>
      <MERCHANT_USERNAME>asmith@hq</MERCHANT_USERNAME>
      <SCAN_REF>scan/1531755831.21639</SCAN_REF>
    </SCAN>
  </RESPONSE>
</PCI_SCAN_SHARE_STATUS>
```
<STATUS>In Progress</STATUS>
<LAST_SHARED>2018-07-19T05:58Z</LAST_SHARED>
</SCAN>
</RESPONSE>
</PCI_SCAN_SHARE_STATUS>

DTD
<platform API server>/api/2.0/fo/scan pci pci_scan_share_status.dtd
Discovery Scans (maps)

Launch discovery scans, also called maps, to launch network discovery of your domains and/or IP addresses in asset groups. This returns an inventory of your network devices.

Launch Map | Launch Map | Cancel Running Map | Download Saved Map Report | Delete Saved Map Report | Domain List | Add/Edit Domain

Launch Map

/msp/map-2.php

[GET] [POST]

Launch a Qualys network map for one or more domains, initiating network discovery. The map target may include asset groups and the default scanner option may be enabled for distributed mapping across multiple scanner appliances.

Basic HTTP authentication is required. Session based authentication is not supported using this API.

A map request for multiple domains issued using the map-2.php API, runs one map at a time, one domain at a time. If you cancel a running map for a domain using the scan_cancel.php function and there are multiple domains in the map target, the service cancels the maps for any remaining, undiscovered domains in the same map target.

For a map request with multiple domains, the XML map report returned by the map-2.php function includes all domains that were successfully discovered. When you view the map results for this request using the map_report.php function or the Qualys user interface, each map report includes map results for one domain. Also, if the map summary notification is enabled in your account, there is a separate notification for each target domain.

Permissions - Managers can map all domains in the subscription. Unit Managers can map domains in the user’s same business unit. Scanners can map domains in their own account.
## Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>map_title={title}</td>
<td>(Optional) Specifies a title for the map. The map title can have a maximum of 2,000 characters. When specified, the map title appears in the header section of the map results. When unspecified, the API returns a standard, descriptive title in the header section.</td>
</tr>
<tr>
<td>domain={target}</td>
<td>(Optional) Specifies one or more domain names for the map target. Multiple entries are comma separated. (Target may include domain names and/or asset groups)</td>
</tr>
<tr>
<td></td>
<td>For each domain, include the domain name only; do not enter “www.” at the start of the domain name. Netblocks may be specified with each domain name to extend the scope of the map. Multiple domains must be comma separated.</td>
</tr>
<tr>
<td></td>
<td>This parameter and/or asset_groups must be specified.</td>
</tr>
<tr>
<td>asset_groups={title1,title2...}</td>
<td>(Optional) Specifies the titles of asset groups for the map target. Multiple asset groups must be comma separated. (Target may include domain names and/or asset groups)</td>
</tr>
<tr>
<td></td>
<td>This parameter and/or the domain parameter must be specified.</td>
</tr>
<tr>
<td>isscanner_name={name}</td>
<td>(Optional) Specifies the name of the Scanner Appliance for the map, when the map target has private use internal IPs. Using Express Lite, Internal Scanning must be enabled in your account.</td>
</tr>
<tr>
<td></td>
<td>One of these parameters may be specified in the map request: isscanner_name or default scanner.</td>
</tr>
<tr>
<td>default_scanner=1</td>
<td>(Optional) Enables the default scanner feature, which is only valid when the map target consists of asset groups. A valid value is 1 to enable the default scanner, or 0 (the default) to disable it. Using Express Lite, Internal Scanning must be enabled in your account.</td>
</tr>
<tr>
<td></td>
<td>One of these parameters may be specified in the same map request: isscanner_name or default scanner.</td>
</tr>
</tbody>
</table>
Chapter 3 - Scans
Discovery Scans (maps)

Request a map of the domain “www.mycompany.com” using the external scanners and to receive a map report:


Request a map of the domain “www.mycompany.com” using the external scanners, save map report on the Qualys platform:

&save_report=yes

Request a map for the following domain/netblock pair using the scanner appliance “Hong Kong” and custom domain mycompany:


Request a map for this domain/netblock pair using the scanner appliance “San Francisco” and none domain:


**Samples - Launch map**

Option=[title] (Optional) Specifies the title of an option profile to be applied to the map. The profile title must be defined in the user account, and it can have a maximum of 64 characters. If unspecified, the default option profile in the user account is applied.

save_report=yes (Optional) Saves a map report for each target domain on the Qualys server for later use. A valid value is “yes” to save a map report for each target domain, or “no” (the default) to not save the report.

If set to "yes", you can close the HTTP connection when the map is in progress, without cancelling the map. When the map completes the resulting map report is saved on the Qualys platform, and a map summary email notification is sent (if this option is enabled in your user account).

Saved map reports can be retrieved using map_report_list.php and map_report.php.

**Parameter** | **Description**
---|---
option=[title] | (Optional) Specifies the title of an option profile to be applied to the map. The profile title must be defined in the user account, and it can have a maximum of 64 characters. If unspecified, the default option profile in the user account is applied.

save_report=yes | (Optional) Saves a map report for each target domain on the Qualys server for later use. A valid value is “yes” to save a map report for each target domain, or “no” (the default) to not save the report.

**DTD**

<platform API server>/map-2.dtd
Map Report List
/msp/map_report_list.php
[GET] [POST]

List saved map reports in the user’s account. Each entry in the map report list identifies a saved map report for a specific domain. There is a separate saved map report for each domain in the map target.

Basic HTTP authentication is required. Session based authentication is not supported using this API.

Permissions - Managers can view all saved map reports in the subscription. Unit Managers can view saved map reports for domains in user’s business unit. Scanners and Readers can view saved map reports for domains in user’s account.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>last=yes</td>
<td>(Optional) Used to retrieve information only about the last saved map report. A valid value is “yes” to retrieve the last saved map report, or “no” (the default) to retrieve all map reports.</td>
</tr>
<tr>
<td>domain={target}</td>
<td>(Optional) Used to receive a list of all saved map reports for the specified target domain. If both parameters domain={target} and last=yes are specified, you will receive information about the last saved map for the target domain.</td>
</tr>
</tbody>
</table>

Sample

Receive information about the last saved map for the domain “www.companyabc.com”:

```
domain=www.companyabc.com&last=yes
```

DTD

<platform API server>/map_report_list.dtd
Running Map Report List
/msp/scan_running_list.php
[GET] [POST]

List maps and scans that are currently running in the user's account. If you're interested in listing scans only (not maps), we recommend using VM Scan List (/api/2.0/fo(scan) instead.

Basic HTTP authentication is required. Session based authentication is not supported using this API.

Permissions - Managers can view all running maps/scans in the subscription. Unit Managers can view running maps/scans on assets in the user’s business unit. Scanners and Readers can view running maps/scans on assets their account.

Sample - Running map/scan list
https://qualysapi.qualys.com/msp/scan_running_list.php?

DTD
/platform API server>/scan_running_list.dtd

Cancel Running Map
/msp/scan_cancel.php
[GET] [POST]

Cancel a map in progress. It’s not possible to cancel a map when it has the scan status “Loading”.

Basic HTTP authentication is required. Session based authentication is not supported using this API.

Permissions - Managers can cancel all running maps in the subscription. Unit Managers can cancel running maps launched by users in their same business unit. Scanners can cancel running maps they have launched.

Input Parameter

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ref=(value)</td>
<td>(Required) Specifies the map reference for the map to be cancelled (or a scan reference for the scan to be cancelled). A map reference starts with &quot;map/&quot;.</td>
</tr>
</tbody>
</table>
Sample - Cancel a map in progress


DTD
<platform API server>/generic_return.dtd

Download Saved Map Report

/msp/map_report.php

[GET] [POST]

Download a saved map in the user’s account, when the map has the scan status “Finished”. Each saved map report identifies map results for a specific domain. If you issue a map request for multiple domains using the map-2.php API, there is a separate saved map report for each domain in the map target.

Basic HTTP authentication is required. Session based authentication is not supported using this API.

Permissions - Managers can download all saved map reports in subscription. Unit Managers can download saved map report for domain in user’s business unit. Scanners and Readers can download saved map report for domain in user’s account.

Input Parameter

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ref={value}</td>
<td>(Required) Specifies the map reference for the scan you want to download. A map reference starts with “map/”.</td>
</tr>
</tbody>
</table>

Sample - Download saved map report


DTD
<platform API server>/map.dtd
Delete Saved Map Report

msp/scan_report_delete.php

[GET] [POST]

Delete a previously saved network map or scan report, when the scan status is “Finished”.

Basic HTTP authentication is required. Session based authentication is not supported using this API.

Permissions - Managers can delete saved map reports in the subscription. Unit Managers can delete saved map reports for domains in the user’s business unit, including the user’s own maps and maps run by other users in the same business unit. Scanners can delete saved map reports in user’s account.

Input Parameter

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ref={value}</td>
<td>(Required) Specifies the map reference for the map to be deleted. A map reference starts with “map/”.</td>
</tr>
</tbody>
</table>

Sample - Delete saved map report

ref=map/999666888.12345

DTD

<platform API server>/generic_return.dtd
Domain List
/msp/asset_domain_list.php
[GET] [POST]

List asset domains in the user account.
Basic HTTP authentication is required. Session based authentication is not supported using this API.
Permissions - Managers can view all domains in subscription. Unit Managers can view domains in user’s business unit. Scanners, Readers can view domains in their own account.

Sample - List all domains in account

https://qualysapi.qualys.com/msp/asset_domain_list.php

DTD
<platform API server>/domain_list.dtd

Add/Edit Domain
/msp/asset_domain.php
[GET] [POST]

Add and edit domains and related netblocks in the subscription. The domains defined may be used as targets for network scans (maps).
Basic HTTP authentication is required. Session based authentication is not supported using this API.
Permissions - Manager user role is required.

Input Parameter

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={add</td>
<td>edit}</td>
</tr>
</tbody>
</table>
Chapter 3 - Scans
Discovery Scans (maps)

Sample - Add domain

Sample - Edit domain
https://qualysapi.qualys.com/msp/asset_domain.php?action=edit&domain=acme.com&netblock=10.10.10.0/24,10.1.1.0-10.1.1.100

DTD
<platform API server>/generic_return.dtd
Chapter 4 - Scan Configuration

Manage scan configurations in your account - scanner appliances, KnowledgeBase, search lists and option profiles.

Scanner Appliance List
Manage Virtual Scanner Appliances
Update Physical Scanner Appliance
Replace Scanner Appliance
Scanner Appliance VLANs and Static Routes
Option Profile Export | Option Profile Import
Option Profiles for VM | PCI | PC
KnowledgeBase | Editing Vulnerabilities
Static Search Lists
Dynamic Search Lists | Vendor IDs and References
Chapter 4 - Scan Configuration
Scanner Appliance List

/api/2.0/fo/appliance/?action=list

[GET] [POST]

List scanner appliances in your account with their configurations. The list output is shown in “brief” mode by default. Specify output_mode=full to include full output (the same information available within the Qualys user interface).

Permissions - Managers can view all scanner appliances in the subscription. Unit Managers can view appliances in the user’s own business unit. Scanners and Readers can view appliances in their own account.

Express Lite - This API is available to Express Lite users when Internal Scanning is enabled in the user’s account.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required) A flag used to make a request for a list of scanner appliances. The GET or POST method may be used for a list request.</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>output_mode={brief</td>
<td>full}</td>
</tr>
<tr>
<td>scan_detail={0</td>
<td>1}</td>
</tr>
<tr>
<td>show_tags={0</td>
<td>1}</td>
</tr>
<tr>
<td>include_cloud_info={0</td>
<td>1}</td>
</tr>
</tbody>
</table>
## Parameter Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>busy=[0</td>
<td>1]</td>
</tr>
</tbody>
</table>
| scan_ref=[value]      | (Optional) Specify a scan reference code to show only the scanner appliances running a particular scan. You may enter a valid scan reference code for a currently running scan. 

The scan reference code starts with a string that identifies the scan type: "scan/" for a vulnerability scan, "compliance/" for a compliance scan, "was/" for a web application scan, "qscap/" for an FDCC scan, or "map/" for a network map. |
| name=[string]         | (Optional) List only scanner appliances (physical and virtual) that have names matching the string provided. Tip - Substring match is supported. For example, if you have 2 appliances named "myscanner" and "anotherscanner" and you supply the string "name=scan" both appliance both appliances will be returned in the XML output. |
| ids=[id1,id2,...]     | (Optional) List only scanner appliances (physical and virtual) that have certain IDs. Multiple IDs are comma separated. |
| include_license_info=[0|1] | (Optional) Set to 1 to return virtual scanner license information in the XML output. This tells you the number of licenses you have and the number used. This information is not returned by default. When specified the XML output will include the LICENSE_INFO element. |
| type={physical | virtual | offline} | (Optional) Type of scanner appliances: physical, virtual, offline. Appears when output_mode=full is specified in API request. |
| platform_provider     | (Optional) Specify a platform to show scanners deployed on that platform. The valid values are: ec2, ec2_compat, gce, azure, vCenter. 

- ec2 - Amazon EC2, ec2_compat - OpenStack, gce - Google Cloud Platform, azure - Microsoft Azure Cloud Platform, vCenter - VMware vCenter |

### API request:

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -d "action=list&echo_request=1&ids=777,1127,1131&include_license_info=1" "https://qualysapi.qualys.com/api/2.0/fo/appliance/"
```
XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE APPLIANCE_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/appliance/appliance_list_output.dtd">
<APPLIANCE_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2014-01-02T09:26:01Z</DATETIME>
    <APPLIANCE_LIST>
      <APPLIANCE>
        <ID>777</ID>
        <NAME>scanner1</NAME>
        <SOFTWARE_VERSION>2.6</SOFTWARE_VERSION>
        <RUNNING_SCAN_COUNT>0</RUNNING_SCAN_COUNT>
        <STATUS>Online</STATUS>
      </APPLIANCE>
      <APPLIANCE>
        <ID>1127</ID>
        <NAME>scanner2</NAME>
        <SOFTWARE_VERSION>2.6</SOFTWARE_VERSION>
        <RUNNING_SCAN_COUNT>0</RUNNING_SCAN_COUNT>
        <STATUS>Online</STATUS>
      </APPLIANCE>
      <APPLIANCE>
        <ID>1131</ID>
        <NAME>scanner3</NAME>
        <SOFTWARE_VERSION>2.6</SOFTWARE_VERSION>
        <RUNNING_SCAN_COUNT>0</RUNNING_SCAN_COUNT>
        <STATUS>Offline</STATUS>
      </APPLIANCE>
    </APPLIANCE_LIST>
    <LICENSE_INFO>
      <QVSA_LICENSES_COUNT>10</QVSA_LICENSES_COUNT>
      <QVSA_LICENSES_USED>3</QVSA_LICENSES_USED>
    </LICENSE_INFO>
  </RESPONSE>
</APPLIANCE_LIST_OUTPUT>
```
Chapter 4 - Scan Configuration
Scanner Appliance List

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -d "action=list&type=virtual&platform_provider=ec2&include_cloud_info=1&output_mode=full"
"https://qualysapi.qualys.com/api/2.0/fo/appliance/"

XML output:
Sample shows Cloud Info for Amazon EC2.

...<IS_CLOUD_DEPLOYED>1</IS_CLOUD_DEPLOYED>
<PLATFORM_PROVIDER>ec2</PLATFORM_PROVIDER>
<EC2_INFO>
  <INSTANCE_ID>i-02441120f4e14e32c</INSTANCE_ID>
  <INSTANCE_TYPE>m3.medium</INSTANCE_TYPE>
  <AMI_ID>ami-2d4ed53a</AMI_ID>
  <ACCOUNT_ID>205767712438</ACCOUNT_ID>
  <INSTANCE_REGION>US East (N. Virginia)</INSTANCE_REGION>
  <INSTANCE_AVAILABILITY_ZONE>us-east-1c</INSTANCE_AVAILABILITY_ZONE>
  <INSTANCE_ZONE_TYPE>Classic</INSTANCE_ZONE_TYPE>
  <IP_ADDRESS_PRIVATE>10.181.43.219</IP_ADDRESS_PRIVATE>
  <HOSTNAME_PRIVATE>ip-10-181-43-219.ec2.internal</HOSTNAME_PRIVATE>
  <API_PROXY_SETTINGS>
    <SETTING>Enabled</SETTING>
    <PROXY>
      <PROTOCOL>http</PROTOCOL>
      <IP_ADDRESS>1.1.1.1</IP_ADDRESS>
      <HOSTNAME>test_hostname.com</HOSTNAME>
      <PORT>234</PORT>
      <USER>*****</USER>
    </PROXY>
  </API_PROXY_SETTINGS>
</EC2_INFO>
...
API request:
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -d "action=list&output_mode=full" "https://qualysapi.qualys.com/api/2.0/fo/appliance/
```

XML output:
Sample shows type of scanner appliance.
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE APPLIANCE_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/appliance/appliance_list_output.dtd">
<APPLIANCE_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2017-08-31T09:14:49Z</DATETIME>
    <APPLIANCE_LIST>
      <APPLIANCE>
        <ID>132455</ID>
        <UUID>6ae4efce-0c5e-e227-82e0-1b7f55f1b98b</UUID>
        <NAME>VS_ND_1</NAME>
        <SOFTWARE_VERSION>2.6</SOFTWARE_VERSION>
        <RUNNING_SLICES_COUNT>0</RUNNING_SLICES_COUNT>
        <RUNNING_SCAN_COUNT>0</RUNNING_SCAN_COUNT>
        <STATUS>Offline</STATUS>
        <MODEL_NUMBER>cvscanner</MODEL_NUMBER>
        <TYPE>Virtual</TYPE>
        <SERIAL_NUMBER>0</SERIAL_NUMBER>
        <ACTIVATION_CODE>15440265032293</ACTIVATION_CODE>
        <INTERFACE_SETTINGS>
          <INTERFACE>lan</INTERFACE>
          <IP_ADDRESS>1.1.1.1</IP_ADDRESS>
          <NETMASK>128.0.0.0</NETMASK>
          <GATEWAY>128.0.0.0</GATEWAY>
          <LEASE>Static</LEASE>
          <IPV6_ADDRESS></IPV6_ADDRESS>
          <SPEED></SPEED>
          <DUPLEX>Unknown</DUPLEX>
          <DNS>
            <PRIMARY>128.0.0.0</PRIMARY>
            <SECONDARY>128.0.0.0</SECONDARY>
          </DNS>
        </INTERFACE_SETTINGS>
      </APPLIANCE>
    </APPLIANCE_LIST>
  </RESPONSE>
</APPLIANCE_LIST_OUTPUT>
```

DTD:
```
<platform API server>/api/2.0/fo/appliance/appliance_list_output.dtd
```
Manage Virtual Scanner Appliances

Use the Scanner Appliance API (/api/2.0/fo/appliance/) to create, update and delete virtual scanner appliances.

Tell me about permissions. Managers can perform all actions (create, update, delete). Unit Managers and Scanners must have the “Manage virtual scanner appliances” permission to create, update and delete virtual scanners. This permission is only available to Scanner users when your subscription is configured to allow it.

Add New Virtual Scanner Appliance

/api/2.0/fo/appliance/ with action=create

[POST]

Create a new virtual scanner appliance in your account.

Permissions - Managers can create new virtual scanner appliance. Unit Managers and Scanners must have the “Manage virtual scanner appliances” permission. This permission is only available to Scanner users when your subscription is configured to allow it.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=create</td>
<td>(Required)</td>
</tr>
<tr>
<td>name={string}</td>
<td>(Required) The friendly name. This name can’t already be assigned to an appliance in your account. It can be a maximum of 15 characters, spaces are not allowed.</td>
</tr>
<tr>
<td>polling_interval={value}</td>
<td>(Optional) The polling interval, in seconds. A valid value is 60 to 3600 (we recommend 180 which is the default). This is the frequency that the virtual scanner will attempt to connect to our Cloud Security Platform. The appliance calls home to provide health updates/heartbeats to the platform, to get software updates from the platform, to learn if new scan jobs have been requested by users, and to upload scan results data to the platform, if applicable.</td>
</tr>
<tr>
<td>asset_group_id={value}</td>
<td>(Required for Unit Managers and Scanners for Create request) The ID of an asset group the virtual scanner will be assigned to.</td>
</tr>
</tbody>
</table>

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" -d "action=create&echo_request=1&name=scanner1" "https://qualysapi.qualys.com/api/2.0/fo/appliance/"
XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE APPLIANCE_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/appliance/appliance_create_output.dtd">
<APPLIANCE_CREATE_OUTPUT>
  <RESPONSE>
    <DATETIME>2014-01-02T09:26:01Z</DATETIME>
    <ID>777</ID>
    <NAME>scanner1</NAME>
    <ACTIVATION_CODE>ACTIVATION-CODE</ACTIVATION_CODE>
    <REMAINING_QVSA_LICENSES>4</REMAINING_QVSA_LICENSES>
  </RESPONSE>
</APPLIANCE_CREATE_OUTPUT>
```

DTD:

```xml
<platform API server>/api/2.0/fo/appliance/appliance_create_output.dtd
```

**Update Virtual Scanner Appliance**

/api/2.0/fo/appliance/ with action=update [POST]

Update a virtual scanner appliance in your account. You can add tags, remove and reset tags for your scanner appliances.

Permissions - Managers can update a virtual scanner appliance. Unit Managers and Scanners must have the “Manage virtual scanner appliances” permission. This permission is only available to Scanner users when your subscription is configured to allow it.

**Input Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=update</td>
<td>(Required)</td>
</tr>
<tr>
<td>id={id}</td>
<td>(Required) A valid ID of a virtual scanner.</td>
</tr>
<tr>
<td>name={string}</td>
<td>(Optional) The friendly name. This name can’t already be assigned to an appliance in your account. It can be a maximum of 15 characters, spaces are not allowed.</td>
</tr>
</tbody>
</table>
Chapter 4 - Scan Configuration
Manage Virtual Scanner Appliances

**Sample - Update virtual scanner appliance name**

**API request:**
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST"
-d "action=update&echo_request=1&id=12345&name=scanner15"
"https://qualysapi.qualys.com/api/2.0/fo/appliance/
```

**XML output:**
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM
 "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2014-04-03T12:12:45Z</DATETIME>
    <TEXT>Virtual scanner updated successfully</TEXT>
  </RESPONSE>
</SIMPLE_RETURN>
```

### Parameter Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>polling_interval={value}</td>
<td>(Optional) The polling interval, in seconds. A valid value is 60 to 3600 (we recommend 180 which is the default). This is the frequency that the virtual scanner will attempt to connect to our Cloud Security Platform. The appliance calls home to provide health updates/heartbeats to the platform, to get software updates from the platform, to learn if new scan jobs have been requested by users, and to upload scan results data to the platform, if applicable.</td>
</tr>
<tr>
<td>comment={value}</td>
<td>(Optional) User-defined comments.</td>
</tr>
<tr>
<td>set_tags={value}</td>
<td>(Optional) Specify tag to be assigned to the scanner appliance. Both virtual and physical scanners can be tagged. These parameters are mutually exclusive and cannot be specified in the same request: set_tags and add_tags, remove_tags.</td>
</tr>
<tr>
<td>add_tags={value}</td>
<td>(Optional) Specify tag to be added to the existing list of tags assigned to the scanner. Multiple entries are comma separated. These parameters are mutually exclusive and cannot be specified in the same request: set_tags and add_tags, remove_tags.</td>
</tr>
<tr>
<td>remove_tags={value}</td>
<td>(Optional) Specify tag to be removed from the existing list of tags assigned to scanner. Multiple tags are comma separated. These parameters are mutually exclusive and cannot be specified in the same request: set_tags and add_tags, remove_tags.</td>
</tr>
<tr>
<td>tag_set_by={id</td>
<td>name}</td>
</tr>
</tbody>
</table>
Chapter 4 - Scan Configuration
Manage Virtual Scanner Appliances

Sample - Add tags for windows agent, remove tags for linux agents

API request:
```
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2016-09-15T19:44:35Z</DATETIME>
    <TEXT>Virtual scanner updated successfully</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>3105</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```

Sample - Assign tags to virtual scanner appliance

API request:
```
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2016-09-15T19:47:37Z</DATETIME>
    <TEXT>Virtual scanner updated successfully</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>3112</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```
Virtual scanner updated successfully

**ITEM_LIST**

**ITEM**

  **KEY**ID
  **VALUE**3112

**ITEM_LIST**

**RESPONSE**

---

**Delete Virtual Scanner Appliance**

/api/2.0/fo/appliance/ with action=delete

[POST]

Delete a virtual scanner appliance in your account.

Permissions - Managers can delete new virtual scanner appliance. Unit Managers and Scanners must have the “Manage virtual scanner appliances” permission. This permission is only available to Scanner users when your subscription is configured to allow it.

Deleting a virtual scanner results in these actions: 1) The scanner will be removed from associated Asset Groups, and 2) Scheduled Scans using this scanner will be deactivated.

Is your virtual scanner running scans? If yes it’s not possible to delete it. We recommend you check to be sure the virtual scanner you want to delete is not running scans.

**Input Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=delete</td>
<td>(Required)</td>
</tr>
<tr>
<td>id={id}</td>
<td>(Required) A valid ID of a virtual scanner.</td>
</tr>
</tbody>
</table>

**API request:**

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" -d "action=delete&echo_request=1&id=12345" "https://qualysapi.qualys.com/api/2.0/fo/appliance/"

**XML output:**

The XML output uses the simple return (/api/2.0/simple_return.dtd).

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE APPLIANCE_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
```

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Update Physical Scanner Appliance

/api/2.0/fo/appliance/physical/ with action=update

[POST]

Using the Physical Scanner Appliance API (/api/2.0/fo/appliance/physical/), Managers and Unit Managers can update physical scanner appliances.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=update</td>
<td>(Required)</td>
</tr>
<tr>
<td>id={id}</td>
<td>(Required) A valid ID of a physical scanner.</td>
</tr>
<tr>
<td>name={string}</td>
<td>(Optional) The friendly name. This name can't already be assigned to an appliance in your account. It can be a maximum of 15 characters, spaces are not allowed.</td>
</tr>
<tr>
<td>polling_interval={value}</td>
<td>(Optional) The polling interval, in seconds. A valid value is 60 to 3600 (we recommend 180 which is the default). This is the frequency that the physical scanner will attempt to connect to our Cloud Security Platform. The appliance calls home to provide health updates/heartbeats to the platform, to get software updates from the platform, to learn if new scan jobs have been requested by users, and to upload scan results data to the platform, if applicable.</td>
</tr>
</tbody>
</table>
### Sample 1
**API Request:**
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" -d "action=update&id=5115&comment=Hello" "https://qualysapi.qualys.com/api/2.0/fo/appliance/physical/"
```

### Sample 2
Add VLAN and routes with Name, Polling interval and comments to Physical scanner:
**API Request:**
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X POST -d "action=update&id=5115&name=physscanner&polling_interval=360&set_routes=10.10.10.10|255.255.255.0|10.10.10.10|routes1&set_vlans=1|10.2.0.2|255.255.255.0|Testvlan1&comment=Update_scanner" "https://qualysapi.qualys.com/api/2.0/fo/appliance/physical/"
```

### Parameter Descriptions

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>set_vlans={value}</td>
<td>Use this parameter to specify one or more VLANs for scanner. See Manage Virtual Scanner Appliances.</td>
</tr>
<tr>
<td>set_tags= {value}</td>
<td>(Optional) Specify tag to be assigned to the scanner appliance. Both virtual and physical scanners can be tagged. These parameters are mutually exclusive and cannot be specified in the same request: set_tags and add_tags, remove_tags.</td>
</tr>
<tr>
<td>add_tags= {value}</td>
<td>(Optional) Specify tag to be added to the existing list of tags assigned to the scanner. Multiple entries are comma separated. These parameters are mutually exclusive and cannot be specified in the same request: set_tags and add_tags, remove_tags.</td>
</tr>
<tr>
<td>remove_tags= {value}</td>
<td>(Optional) Specify tag to be removed from the existing list of tags assigned to scanner. Multiple entries are comma separated. These parameters are mutually exclusive and cannot be specified in the same request: set_tags and add_tags, remove_tags.</td>
</tr>
<tr>
<td>tag_set_by= {id</td>
<td>name}</td>
</tr>
<tr>
<td>set_routes={value}</td>
<td>Use this parameter to specify one or more routes for scanner. See Manage Virtual Scanner Appliances</td>
</tr>
<tr>
<td>comment={value}</td>
<td>(Optional) User-defined comments.</td>
</tr>
</tbody>
</table>
Sample 3
Update physical scanner using tag_set_by and add_tags parameters:

API Request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST"
-d "action=update&id=5115&tag_set_by=id&add_tags=7691422"
"https://qualysapi.qualys.com/api/2.0/fo/appliance/physical/"

Sample 4
Update physical scanner using tag_set_by and set_tags parameters:

API Request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST"
-d "action=update&id=5115&tag_set_by=id&set_tags=7691422"
"https://qualysapi.qualys.com/api/2.0/fo/appliance/physical/"

Sample 5
Update physical scanner using tag_set_by and remove_tags parameters:

API Request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST"
-d "action=update&id=5115&tag_set_by=id&remove_tags=7691422"
"https://qualysapi.qualys.com/api/2.0/fo/appliance/physical/"

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2017-10-01T00:12:29Z</DATETIME>
    <TEXT>Physical scanner updated successfully</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>5115</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
Replace Scanner Appliance

Using the Replace Scanner Appliance API (/api/2.0/fo/appliance/replace_iscanner), Managers and Unit Managers can replace a scanner appliance with a new one. Tell us the name of the appliance you want to replace and the one you want to use.

Good to Know
- You can replace one scanner appliance at a time.
- Do not replace a scanner appliance while scans (using the appliance) are in progress.
- The old scanner and the new scanner must be in the same network, if applicable.
- You can only replace an EC2 scanner with another EC2 scanner.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=replace</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>old_scanner_name={value}</td>
<td>(Required) The name of the scanner you want to replace.</td>
</tr>
<tr>
<td>new_scanner_name={value}</td>
<td>(Required) The name of the scanner you want to use.</td>
</tr>
<tr>
<td>do_not_copy_settings={0</td>
<td>1}</td>
</tr>
<tr>
<td>do_not_remove_new_scanner_from_objects={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

Sample - Replace scanner with new one

Replace “scanner1” with “scanner2” and copy scanner appliance settings but do not remove the new scanner from business objects.

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" "https://qualysapi.qualys.com/api/2.0/fo/appliance/replace_iscanner/?action=replace&echo_request=1&old_scanner_name=scanner1&new_scanner_name=scanner2&do_not_copy_settings=0&do_not_remove_new_scanner_from_objects=1"
XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SCANNER_REPLACE_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/appliance/replace ISCANNER/replace ISCANNER_OUTPUT.dtd">
<SCANNER_REPLACE_OUTPUT>
  <REQUEST>
    <DATETIME>2018-01-16T06:52:53Z</DATETIME>
    <USER_LOGIN>abcd</USER_LOGIN>

    <RESOURCE>https://qualysapi.qualys.com/api/2.0/fo/appliance/replace ISCANNER/</RESOURCE>

    <PARAM_LIST>
      <PARAM>
        <KEY>echo_request</KEY>
        <VALUE>1</VALUE>
      </PARAM>

      <PARAM>
        <KEY>old_scanner_name</KEY>
        <VALUE>scanner1</VALUE>
      </PARAM>

      <PARAM>
        <KEY>new_scanner_name</KEY>
        <VALUE>scanner2</VALUE>
      </PARAM>

      <PARAM>
        <KEY>do_not_copy_settings</KEY>
        <VALUE>0</VALUE>
      </PARAM>

      <PARAM>
        <KEY>do_not_remove_new_scanner_from_objects</KEY>
        <VALUE>1</VALUE>
      </PARAM>

      <PARAM>
        <KEY>action</KEY>
        <VALUE>replace</VALUE>
      </PARAM>
    </PARAM_LIST>
    </REQUEST>

  <RESPONSE>
    <DATETIME>2018-01-16T06:52:53Z</DATETIME>

    <NEW_SETTINGS>
POLLING_INTERVAL: 180, HEARTBEAT: 1
    </NEW_SETTINGS>

    <SCHEDULED_SCANS>Scheduled-Scan1, Scheduled-Scan2</SCHEDULED_SCANS>

    <ASSET_GROUPS>AG123, AG456</ASSET_GROUPS>
  </RESPONSE>
</SCANNER_REPLACE_OUTPUT>
```
Chapter 4 - Scan Configuration
Scanner Appliance VLANs and Static Routes

SUCCESS>Scanner Appliance replaced successfully.<SUCCESS>
</RESPONSE>
</SCANNER_REPLACE_OUTPUT>

DTD
A replace scanner appliance API request uses this DTD:

<platform API server>/api/2.0/fo/appliance/replace_iscanner/
replace_iscanner_output.dtd

Scanner Appliance VLANs and Static Routes

/api/2.0/fo/appliance/?action=update (virtual appliance)
/api/2.0/fo/appliance/physical/?action=update (physical appliance)

Manage your VLANs and static routes for virtual and physical scanner appliances using the Virtual Scanner Appliance API (/api/2.0/fo/appliance/physical/?action=update) or Physical Scanner Appliance API (/api/2.0/fo/appliance/physical/?action=update). Use the parameters "set_vlans" and "set_routes" to add, update and remove these settings.

What do I need? Your Qualys account must have the VLANs and Static Routes feature enabled. Please contact our Support Team or your Qualys TAM if you would like us to enable this feature for you.

Permissions - Managers can add/remove VLANs and static routes for all scanner appliances in the subscription. Unit Managers can add/remove VLANs and static routes in the user’s same business unit.

Set VLANs on Scanner Appliance

Use the "set_vlans" parameter to specify one or more VLANs.

The format for a single VLAN is ID|IPv4_ADDRESS|NETMASK|NAME|ipv6_static or ipv6_auto|IPv6_ADDRESS, with pipe (|) used as a delimiter. All attributes are required. Multiple VLANs can be assigned using a comma separated list.

Good to know - An API call with the parameter "set_vlans" set to " (empty string) will replace (i.e. remove) "all" of the VLANs that are assigned to the scanner appliance.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>Customer-defined ID (not assigned by Qualys). Must be in the range 0 to 4096, inclusive.</td>
</tr>
<tr>
<td>IPv4_ADDRESS</td>
<td>A valid IPv4 IP address (dotted quad), such as 10.10.10.1. Leave empty when specifying an IPv6 address.</td>
</tr>
<tr>
<td>NETMASK</td>
<td>A valid network mask (dotted quad), such as 255.255.255.0. Leave empty when specifying an IPv6 address.</td>
</tr>
</tbody>
</table>
## API request (1 IPv4 VLAN):

```
curl -u "USERNAME:PASSWD" -H "X-Requested-With: Curl" -X "POST" -d "id=43463&set_vlans=0|10.10.10.1|255.255.255.0|vlan1"
https://qualysapi.qualys.com/api/2.0/fo/appliance/?action=update
```

## API request (mix of IPv6 and IPv4 VLANs):

```
curl -u "USERNAME:PASSWD" -H "X-Requested-With: Curl" -X "POST" -d "id=43463&set_vlans=1234|||Name1234|ipv6_static|fdd1:0:1:108::500,5678|123.123.123.123|255.255.255.255|Name5678,9012|244.244.244.244|255.255.255.0|Name9012|ipv6_auto,3456|12.12.12.12|255.255.255.0|Name3456|ipv6_static|fdd1:0:1:107::500"
https://qualysapi.qualys.com/api/2.0/fo/appliance/?action=update
```

## XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2014-07-09T08:46:54Z</DATETIME>
    <TEXT>Virtual scanner updated successfully</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>43463</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```

## Attribute Description

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME</td>
<td>A valid name (can be empty). The name can be a maximum of 256 ASCII characters. The character : (colon) is permitted. These characters are not permitted: , (comma), &lt; (less than), &gt; (greater than), &quot; (double quote), &amp; (ampersand),</td>
</tr>
<tr>
<td>ipv6_static or ipv6_auto</td>
<td>Specify ipv6_static to provide a static IPv6 address. Specify ipv6_auto to auto-configure IPv6 using SLAAC on the VLAN.</td>
</tr>
<tr>
<td>IPv6_ADDRESS</td>
<td>A valid IPv6 address is required when ipv6_static is specified, such as fdd1:0:1:107::500. Leave empty when ipv6_auto is specified.</td>
</tr>
</tbody>
</table>
Set Static Routes on Scanner Appliance

Use the “set_routes” parameter to specify one or more static routes.

The format for a single static route is IPv4_ADDRESS|NETMASK|IPv4_GATEWAY|NAME|IPv6_ADDRESS|IPv6_GATEWAY, with pipe (|) used as the delimiter. All attributes are required. Multiple static routes can be assigned using a comma separated list.

Good to know - An API call with the parameter “set_routes” set to " (empty string) will replace (i.e. remove) *all* of the static routes that are assigned to the scanner appliance.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPv4_ADDRESS</td>
<td>A valid IPv4 IP address (dotted quad), such as 10.10.26.0. Leave empty when specifying an IPv6 address.</td>
</tr>
<tr>
<td>NETMASK</td>
<td>A valid network mask (dotted quad), such as 255.255.255.0. Leave empty when specifying an IPv6 address.</td>
</tr>
<tr>
<td>IPv4_GATEWAY</td>
<td>A valid IPv4 address (dotted quad), such as 10.10.25.255. Leave empty when specifying an IPv6 address.</td>
</tr>
<tr>
<td>NAME</td>
<td>A valid name (can be empty). The name can be a maximum of 256 ASCII characters. The character : (colon) is permitted. These characters are not permitted: ; (comma), &lt; (less than), &gt; (greater than), &quot; (double quote), &amp; (ampersand),</td>
</tr>
<tr>
<td>IPv6_ADDRESS</td>
<td>A valid IPv6 address (with or without the prefix), such as fdd1:0:1:107::500.</td>
</tr>
<tr>
<td>IPv6_GATEWAY</td>
<td>A valid IPv6 gateway address, such as 2001:470:8418:280d::1.</td>
</tr>
</tbody>
</table>

API request (1 IPv4 static route):
```
curl -u "USERNAME:PASSWD" -H "X-Requested-With: Curl" -X "POST" -d "id=43463&set_routes=10.10.25.0|255.255.255.0|10.10.25.255Route1" "https://qualysapi.qualys.com/api/2.0/fo/appliance/?action=update"
```

API request (mix of IPv4 and IPv6 static routes):
```
curl -u "USERNAME:PASSWD" -H "X-Requested-With: Curl" -X "POST" -d "id=43463&set_routes=192.168.0.0|255.255.255.0|10.100.11.157|Name2,192.168.0.0|255.255.255.0|10.100.11.157|Name3,192.168.10.0|10.100.11.157|Name4,192.167.0.0|255.255.255.0|10.100.11.157|Name5|fdd1:0:1:107::500|2001:470:8418:280d::1,||Name1|fdd1:0:1:107::500|2001:470:8418:280d::1" "https://qualysapi.qualys.com/api/2.0/fo/appliance/?action=update"
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
  <SIMPLE_RETURN>
    <RESPONSE>
```

110
<DATETIME>2014-07-09T08:49:18Z</DATETIME>
<TEXT>Virtual scanner updated successfully</TEXT>
<ITEM_LIST>
  <ITEM>
    <KEY>ID</KEY>
    <VALUE>43463</VALUE>
  </ITEM>
</ITEM_LIST>
</RESPONSE>
</SIMPLE_RETURN>

View Scanner Appliances with VLANs, Static Routes
Use the parameters “action=list” and “output_mode=full”.

API request:
```
curl -u "USERNAME:PASSWD" -H "X-Requested-With: 
"https://qualysapi.qualys.com/api/2.0/fo/appliance/?action=list&id 
s=43463&output_mode=full"
```

XML output:
```
...
<VLANS>
  <SETTING>Enabled</SETTING>
  <VLAN>
    <ID>0</ID>
    <NAME>vlan1</NAME>
    <IP_ADDRESS>10.10.10.1</IP_ADDRESS>
    <NETMASK>255.255.255.0</NETMASK>
  </VLAN>
</VLANS>
<STATIC_ROUTES>
  <ROUTE>
    <NAME>Route1</NAME>
    <IP_ADDRESS>10.10.25.0</IP_ADDRESS>
    <NETMASK>255.255.255.0</NETMASK>
    <GATEWAY>10.10.25.255</GATEWAY>
  </ROUTE>
  <ROUTE>
    <NAME>Route2</NAME>
    <IP_ADDRESS>10.10.26.0</IP_ADDRESS>
    <NETMASK>255.255.255.0</NETMASK>
    <GATEWAY>10.10.26.255</GATEWAY>
  </ROUTE>
</STATIC_ROUTES>
...
Delete All VLAN Records

Use the “set_vlans” parameters and set it to “ (empty string).

API request (deletes all VLAN records):

```bash
curl -u "USERNAME:PASSWD" -H "X-Requested-With: -d "id=43463&set_vlans=" "https://qualysapi.qualys.com/api/2.0/fo/appliance/?action=update"
```

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2014-07-09T08:49:18Z</DATETIME>
    <TEXT>Virtual scanner updated successfully</TEXT>
  </RESPONSE>
</SIMPLE_RETURN>
```

Delete All Static Route Records

Use the “set_routes” parameters and set it to “ (empty string).

API request (deletes all static route records):

```bash
curl -u "USERNAME:PASSWD" -H "X-Requested-With: -d "id=43463&set_routes=" "https://qualysapi.qualys.com/api/2.0/fo/appliance/?action=update"
```

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2014-07-09T08:49:18Z</DATETIME>
    <TEXT>Virtual scanner updated successfully</TEXT>
  </RESPONSE>
</SIMPLE_RETURN>
```
Option Profile Export

/api/2.0/fo/subscription/option_profile/?action=export

[GET]

Export one option profile or all option profiles in the subscription to an XML file. Manager user role is required.

Permissions - The API user must have the Manager role.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=export</td>
<td>(Required)</td>
</tr>
<tr>
<td>output_format=[XML]</td>
<td>(Optional) XML format is supported. When unspecified, output format is XML.</td>
</tr>
<tr>
<td>option_profile_id=[value]</td>
<td>(Optional) By default all option profiles will be exported. Specify an option profile ID and we'll export the option profile matching this ID only.</td>
</tr>
<tr>
<td>option_profile_title=[value]</td>
<td>(Optional) By default all option profiles will be exported. Specify a title and we'll export the option profile matching this title only - exact match is required.</td>
</tr>
<tr>
<td>option_profile_type=[value]</td>
<td>(Optional) Option profile group name/type, e.g. user (for user defined), compliance (for compliance profile), pci (for PCI vulnerabilities profile). Note: &quot;option_profile_type&quot; parameter can be specified with &quot;option_profile_id&quot; or &quot;option_profile_title&quot;.</td>
</tr>
<tr>
<td>include_system_option_profiles=[0</td>
<td>1]</td>
</tr>
</tbody>
</table>

DTD

<platform API server>/api/2.0/fo/subscription/option_profile/option_profile_info.dtd

Sample - Export Option Profiles

All the option profiles in the user’s account get exported in XML format.

API request:

```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X GET "action=export"
"https://qualysapi.qualys.com/api/2.0/fo/subscription/option_profile/
```
XML response:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE OPTION_PROFILES SYSTEM
"https://qualysapi.qualys.com/api/2.0/fo/subscription/options_profi le/options_profile_info.dtd">
<OPTION_PROFILES>
  <OPTION_PROFILE>
    <BASIC_INFO>
      <ID>111186</ID>
      <GROUP_NAME><![CDATA[OP-SCAN]]></GROUP_NAME>
      <GROUP_TYPE>user</GROUP_TYPE>
      <USER_ID><![CDATA[John Doe(john_doe)]></USER_ID>
      <UNIT_ID>0</UNIT_ID>
      <SUBSCRIPTION_ID>44</SUBSCRIPTION_ID>
      <IS_DEFAULT>0</IS_DEFAULT>
      <IS_GLOBAL>1</IS_GLOBAL>
      <IS_OFFLINE_SYNCABLE>0</IS_OFFLINE_SYNCABLE>
      <UPDATE_DATE>N/A</UPDATE_DATE>
    </BASIC_INFO>
    <SCAN>
      <PORTS>
        <TCP_PORTS>
          <TCP_PORTS_TYPE>full</TCP_PORTS_TYPE>
          <THREE_WAY_HANDSHAKE>1</THREE_WAY_HANDSHAKE>
        </TCP_PORTS>
        <UDP_PORTS>
          <UDP_PORTS_TYPE>none</UDP_PORTS_TYPE>
          <UDP_PORTS_ADDITIONAL>
            <HAS_ADDITIONAL>1</HAS_ADDITIONAL>
            <ADDITIONAL_PORTS>1-1024,8080,8181</ADDITIONAL_PORTS>
          </UDP_PORTS_ADDITIONAL>
        </UDP_PORTS>
      </PORTS>
      <SCAN_DEAD_HOSTS>1</SCAN_DEAD_HOSTS>
      <CLOSE_VULNERABILITIES>
        <HAS_CLOSE_VULNERABILITIES>1</HAS_CLOSE_VULNERABILITIES>
        <HOST_NOT_FOUND_ALIVE>7</HOST_NOT_FOUND_ALIVE>
      </CLOSE_VULNERABILITIES>
      <PURGE_OLD_HOST_OS_CHANGED>1</PURGE_OLD_HOST_OS_CHANGED>
      <PERFORMANCE>
        <PARALLEL_SCALING>1</PARALLEL_SCALING>
        <OVERALL_PERFORMANCE>Custom</OVERALL_PERFORMANCE>
        <HOSTS_TO_SCAN>
          <EXTERNAL_SCANNERS>30</EXTERNAL_SCANNERS>
```
Chapter 4 - Scan Configuration
Option Profile Export

<SCANNER_APPLIANCES>48</SCANNER_APPLIANCES>
</HOSTS_TO_SCAN>
<PROCESSES_TO_RUN>
<TOTAL_PROCESSES>18</TOTAL_PROCESSES>
<HTTP_PROCESSES>18</HTTP_PROCESSES>
</PROCESSES_TO_RUN>
<PACKET_DELAY>Minimum</PACKET_DELAY>
<PORT_SCANNING_AND_HOST_DISCOVERY>Minimum</PORT_SCANNING_AND_HOST_DISCOVERY>
</PERFORMANCE>
<LOAD_BALANCER_DETECTION>1</LOAD_BALANCER_DETECTION>
PASSWORD_BRUTE_FORCING>
<SYSTEM>
<HAS_SYSTEM>1</HAS_SYSTEM>
<SYSTEM_LEVEL>Standard</SYSTEM_LEVEL>
</SYSTEM>
<CUSTOM_LIST>
<CUSTOM>
<ID>3001</ID>
<TITLE><![CDATA[123]]></TITLE>
<TYPE>FTP</TYPE>
<LOGIN_PASSWORD><![CDATA[L:temp,P:123123123]]></LOGIN_PASSWORD>
</CUSTOM>
</CUSTOM_LIST>
</PASSWORD_BRUTE_FORCING>
VULNERABILITY_DETECTION>
<CUSTOM_LIST>
<CUSTOM>
<ID>2094</ID>
<TITLE><![CDATA[Option Profile: Qualys Top 20 Options]]></TITLE>
</CUSTOM>
<CUSTOM>
<ID>2095</ID>
<TITLE><![CDATA[Option Profile: 2008 SANS20 Options]]></TITLE>
</CUSTOM>
<CUSTOM>
>ID>2096</ID>
<TITLE><![CDATA[Scan Report Template: High Severity Report]]></TITLE>
</CUSTOM>
</CUSTOM>
<CUSTOM>
<ID>5230</ID>
<TITLE><![CDATA[118960]]></TITLE>
</CUSTOM>
<CUSTOM>
  <ID>87936</ID>
  <TITLE><![CDATA[Bash Shellshock Detection]]></TITLE>
</CUSTOM>

<CUSTOM>
  <ID>87937</ID>
  <TITLE><![CDATA[Heartbleed Detection]]></TITLE>
</CUSTOM>

<CUSTOM>
  <ID>87938</ID>
  <TITLE><![CDATA[Windows Authentication Results v.1]]></TITLE>
</CUSTOM>

<CUSTOM>
  <ID>87939</ID>
  <TITLE><![CDATA[Unix Authentication Results v.1]]></TITLE>
</CUSTOM>

<CUSTOM>
  <ID>87940</ID>
  <TITLE><![CDATA[Inventory Results v.1]]></TITLE>
</CUSTOM>

<CUSTOM>
  <ID>87941</ID>
  <TITLE><![CDATA[SSL Certificates]]></TITLE>
</CUSTOM>

</CUSTOM_LIST>

<DETECTION_INCLUDE>
  <BASIC_HOST_INFO_CHECKS>1</BASIC_HOST_INFO_CHECKS>
  <OVAL_CHECKS>1</OVAL_CHECKS>
</DETECTION_INCLUDE>

<DETECTION_EXCLUDE>
  <CUSTOM_LIST>
    <CUSTOM>
      <ID>2099</ID>
      <TITLE><![CDATA[DL]]></TITLE>
    </CUSTOM>
  </CUSTOM_LIST>
</DETECTION_EXCLUDE>

</VULNERABILITY_DETECTION>

<AUTHENTICATION><![CDATA[Windows, Unix, Oracle, Oracle Listener, SNMP, VMware, DB2, HTTP, MySQL]]></AUTHENTICATION>

<ADDL_CERT_DETECTION>1</ADDL_CERT_DETECTION>

<DISSOLVABLE_AGENT>
  <DISSOLVABLE_AGENT_ENABLE>1</DISSOLVABLE_AGENT_ENABLE>
</DISSOLVABLE_AGENT>
<WINDOWS_SHARE_ENUMERATION_ENABLE>1</WINDOWS_SHARE_ENUMERATION_ENABLE>
</DISSOLVABLE_AGENT>
<LITE_OS_SCAN>1</LITE_OS_SCAN>
<CUSTOM_HTTP_HEADER>
   <VALUE>AFCD</VALUE>
</CUSTOM_HTTP_HEADER>
<FILE_INTEGRITY_MONITORING>
   <AUTO_UPDATEEXPECTED_VALUE>1</AUTO_UPDATEEXPECTED_VALUE>
</FILE_INTEGRITY_MONITORING>
<DO_NOT_OVERWRITE_OS>1</DO_NOT_OVERWRITE_OS>
</SCAN>
</MAP>

<BASIC_INFO_GATHERING_ON>netblockonly</BASIC_INFO_GATHERING_ON>
<TCP_PORTS>
   <TCP_PORTS_STANDARD_SCAN>1</TCP_PORTS_STANDARD_SCAN>
   <TCP_PORTS_ADDITIONAL>
      <HAS_ADDITIONAL>1</HAS_ADDITIONAL>
      <ADDITIONAL_PORTS>1,2,3,80</ADDITIONAL_PORTS>
   </TCP_PORTS_ADDITIONAL>
</TCP_PORTS>
<UDP_PORTS>
   <UDP_PORTS_STANDARD_SCAN>1</UDP_PORTS_STANDARD_SCAN>
   <UDP_PORTS_ADDITIONAL>
      <HAS_ADDITIONAL>1</HAS_ADDITIONAL>
      <ADDITIONAL_PORTS>4,5,6,8181</ADDITIONAL_PORTS>
   </UDP_PORTS_ADDITIONAL>
</UDP_PORTS>
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   <DISABLE_DNS_TRAFFIC>1</DISABLE_DNS_TRAFFIC>
</Map_options>
<Map_performance>
   <OVERALL_PERFORMANCE>Custom</OVERALL_PERFORMANCE>
   <Map_parallel>
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      <SCANNER_APPLIANCES>14</SCANNER_APPLIANCES>
      <NETBLOCK_SIZE>64</NETBLOCK_SIZE>
   </Map_parallel>
   <PACKET_DELAY>Maximum</PACKET_DELAY>
</Map_performance>
</MAP>
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    <ADDITIONAL_PORTS>1-6,1024</ADDITIONAL_PORTS>
  </TCP_ADDITIONAL>
</TCP_PORTS>

<UDP_PORTS>
  <STANDARD_SCAN>1</STANDARD_SCAN>
</UDP_PORTS>

<ICMP>1</ICMP>
</HOST_DISCOVERY>

<BLOCK_RESOURCES>
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  <ALL_REGISTERED_IPS>1</ALL_REGISTERED_IPS>
</BLOCK_RESOURCES>

<PACKET_OPTIONS>
  <IGNORE_FIREWALL_GENERATED_TCP_RST>1</IGNORE_FIREWALL_GENERATED_TCP_RST>
  <IGNORE_ALL_TCP_RST>1</IGNORE_ALL_TCP_RST>
  <IGNORE_FIREWALL_GENERATED_TCP_SYN_ACK>1</IGNORE_FIREWALL_GENERATED_TCP_SYN_ACK>
  <NOT_SEND_TCP_ACK_OR_SYN_ACK_DURING_HOST_DISCOVERY>1</NOT_SEND_TCP_ACK_OR_SYN_ACK_DURING_HOST_DISCOVERY>
</PACKET_OPTIONS>
</ADDITIONAL>
</OPTION_PROFILE>
</OPTION_PROFILES>

Sample - Export Option Profile with specific title and ID

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl"
-X GET "action=export&option_profile_title=OP-COMP&option_profile_id=111235"
"https://qualysapi.qualys.com/api/2.0/fo/subscription/option_profile/"

XML response:

<xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE OPTION_PROFILES SYSTEM
"https://qualysapi.qualys.com/api/2.0/fo/subscription/option_profile_info.dtd">
<OPTION_PROFILES>
```xml
<OPTION_PROFILE>
  <BASIC_INFO>
    <ID>111235</ID>
    <GROUP_NAME><![CDATA[OP-COMP]]></GROUP_NAME>
    <GROUP_TYPE>compliance</GROUP_TYPE>
    <USER_ID><![CDATA[John Doe (john_doe)]]></USER_ID>
    <UNIT_ID>0</UNIT_ID>
    <SUBSCRIPTION_ID>44</SUBSCRIPTION_ID>
    <IS_GLOBAL>0</IS_GLOBAL>
    <UPDATE_DATE>N/A</UPDATE_DATE>
  </BASIC_INFO>
  <SCAN>
    <PORTS>
      <TARGETED_SCAN>1</TARGETED_SCAN>
    </PORTS>
    <PERFORMANCE>
      <PARALLEL_SCALING>0</PARALLEL_SCALING>
      <OVERALL_PERFORMANCE>Normal</OVERALL_PERFORMANCE>
      <HOSTS_TO_SCAN>
        <EXTERNAL_SCANNERS>5</EXTERNAL_SCANNERS>
        <SCANNER_APPLIANCES>30</SCANNER_APPLIANCES>
      </HOSTS_TO_SCAN>
      <HOSTS_TO_RUN>
        <TOTAL_PROCESSES>10</TOTAL_PROCESSES>
        <HTTP_PROCESSES>10</HTTP_PROCESSES>
      </HOSTS_TO_RUN>
      <PACKET_DELAY>Short</PACKET_DELAY>
      <PORT_SCANNING_AND_HOST_DISCOVERY>Minimum</PORT_SCANNING_AND_HOST_DISCOVERY>
    </PERFORMANCE>
    <DISSOLVABLE_AGENT>
      <DISSOLVABLE_AGENT_ENABLE>1</DISSOLVABLE_AGENT_ENABLE>
      <PASSWORD_AUDITING_ENABLE>
        <HAS_PASSWORD_AUDITING_ENABLE>1</HAS_PASSWORD_AUDITING_ENABLE>
        <CUSTOM_PASSWORD_DICTIONARY>asdf</CUSTOM_PASSWORD_DICTIONARY>
      </PASSWORD_AUDITING_ENABLE>
      <WINDOWS_SHARE_ENUMERATION_ENABLE>1</WINDOWS_SHARE_ENUMERATION_ENABLE>
      <WINDOWS_DIRECTORY_SEARCH_ENABLE>1</WINDOWS_DIRECTORY_SEARCH_ENABLE>
    </DISSOLVABLE_AGENT>
    <CONTROL_TYPES>
      <FIM_CONTROLS_ENABLED>1</FIM_CONTROLS_ENABLED>
      <CUSTOM_WMI_QUERY_CHECKS>1</CUSTOM_WMI_QUERY_CHECKS>
    </CONTROL_TYPES>
    <TEST_AUTHENTICATION>1</TEST_AUTHENTICATION>
  </SCAN>
</OPTION_PROFILE>
```
Sample - Export Option Profile of type PCI
The option profile with PCI type in the user’s account get exported in XML format.

API request:
```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X GET "action=export&option_profile_type=pci" "https://qualysapi.qualys.com/api/2.0/fo/subscription-option-profile/
```

XML response:
```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE OPTION_PROFILES SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/subscription-option-profile/info.dtd">
<OPTION_PROFILES>
  <OPTION_PROFILE>
    <BASIC_INFO>
      </SCAN>
      <ADDITIONAL>
        <HOST_DISCOVERY>
          <TCP_PORTS>
            <STANDARD_SCAN>1</STANDARD_SCAN>
          </TCP_PORTS>
          <UDP_PORTS>
            <STANDARD_SCAN>1</STANDARD_SCAN>
          </UDP_PORTS>
          <ICMP>1</ICMP>
        </HOST_DISCOVERY>
        <BLOCK_RESOURCES>
          <WATCHGUARD_DEFAULT_BLOCKED_PORTS>1</WATCHGUARD_DEFAULT_BLOCKED_PORTS>
          <ALL_REGISTERED_IPS>1</ALL_REGISTERED_IPS>
        </BLOCK_RESOURCES>
        <PACKET_OPTIONS>
          <IGNORE_FIREWALL_GENERATED_TCP_RST>1</IGNORE_FIREWALL_GENERATED_TCP_RST>
          <IGNORE_FIREWALL_GENERATED_TCP_SYN_ACK>1</IGNORE_FIREWALL_GENERATED_TCP_SYN_ACK>
          <NOT_SEND_TCP_ACK_OR_SYN_ACK_DURING_HOST_DISCOVERY>1</NOT_SEND_TCP_ACK_OR_SYN_ACK_DURING_HOST_DISCOVERY>
        </PACKET_OPTIONS>
      </ADDITIONAL>
    </OPTION_PROFILE>
  </OPTION_PROFILES>
```
<ID>111223</ID>

GROUP_NAME><![CDATA[PCI-Example]]></GROUP_NAME>

GROUP_TYPE>pci</GROUP_TYPE>

USER_ID><![CDATA[John Doe (john_doe)]]></USER_ID>

UNIT_ID>0</UNIT_ID>

SUBSCRIPTION_ID>44</SUBSCRIPTION_ID>

IS_GLOBAL>1</IS_GLOBAL>

IS_OFFLINE_SYNCABLE>0</IS_OFFLINE_SYNCABLE>

UPDATE_DATE>N/A</UPDATE_DATE>

</BASIC_INFO>

<SCAN>

SCAN_DEAD_HOSTS>1</SCAN_DEAD_HOSTS>

CLOSE_VULNERABILITIES>

HAS_CLOSE_VULNERABILITIES>1</HAS_CLOSE_VULNERABILITIES>

HOST_NOT_FOUND_ALIVE>4</HOST_NOT_FOUND_ALIVE>

CLOSE_VULNERABILITIES>

PURGE_OLD_HOST_OS_CHANGED>1</PURGE_OLD_HOST_OS_CHANGED>

PERFORMANCE>

PARALLEL_SCALING>1</PARALLEL_SCALING>

EXTERNAL_PERFORMANCE>Low</EXTERNAL_PERFORMANCE>

HOSTS_TO.Scan>

EXTERNAL_SCANNERS>5</EXTERNAL_SCANNERS>

SCANNER_APPLIANCES>10</SCANNER_APPLIANCES>

HOSTS_TO.Scan>

TOTAL_PROCESSES>4</TOTAL_PROCESSES>

HTTP_PROCESSES>2</HTTP_PROCESSES>

PERFORMANCES_TO_RUN>

PACKET_DELAY>Long</PACKET_DELAY>

PORT_SCANNING_AND_HOST_DISCOVERY>Minimum</PORT_SCANNING_AND_HOST_DISCOVERY>

</PERFORMANCE>

</SCAN>

</ADDITIONAL>

HOST_DISCOVERY>

TCP_PORTS>

STANDARD.Scan>1</STANDARD.Scan>

TCP_ADDITIONAL>

HAS_ADDITIONAL>1</HAS_ADDITIONAL>

ADDITIONAL_PORTS>1-6,1024</ADDITIONAL_PORTS>

</TCP_ADDITIONAL>

</TCP_PORTS>

</HOST_DISCOVERY>

</ADDITIONAL>

</OPTION_PROFILE>

</OPTION_PROFILES>
Sample - Export Options Profile for Database UDC
Export the Option Profile for MS SQL and Oracle with database preference key setting and it's corresponding value defined.

API request:
curl -u "username:password" -H "Content-type: text/xml" -X -d "action=export&option_profile_id=1710150" "https://qualysapi.qualys.com/api/2.0/fo/subcription/option_profile/" > ExportOptionProfile.xml

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE OPTION_PROFILES SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/subcription/option_profile/option_profile_info.dtd">
<OPTION_PROFILES>
  <OPTION_PROFILE>
    ...
    <SCAN_BY_POLICY>
    </SCAN_BY_POLICY>
    <SCAN_RESTRICTION>
      <DATABASE_PREFERENCE_KEY>
        <MSSQL>
          <DB_UDC_RESTRICTION>1</DB_UDC_RESTRICTION>
          <DB_UDC_LIMIT>250</DB_UDC_LIMIT>
        </MSSQL>
        <ORACLE>
          <DB_UDC_RESTRICTION>1</DB_UDC_RESTRICTION>
          <DB_UDC_LIMIT>10</DB_UDC_LIMIT>
        </ORACLE>
      </DATABASE_PREFERENCE_KEY>
    </SCAN_RESTRICTION>
    <FILE_INTEGRITY_MONITORING>
      <AUTO_UPDATEEXPECTED_VALUE>0</AUTO_UPDATEEXPECTED_VALUE>
    </FILE_INTEGRITY_MONITORING>
    ...
  </OPTION_PROFILE>
</OPTION_PROFILES>
```

Option Profile Import

/api/2.0/fo/subcription/option_profile/?action=import

[POST]

Import all option profiles defined in input XML file.
Permissions - The API user must have the Manager role.
When calling the Import Option Profile API the user needs to pass the proper XML with Content-Type XML. This will create option profiles in that user’s subscription. All validations are applied as in the Qualys portal UI while creating option profiles using the Import Option Profile API.

Validations and Constraints:

1) The Option Profile DTD file is used to validate a generated/exported Option Profile XML file.

2) An XSD file is used to validate a proper format and required elements of the option profile XML file when importing this file.

3) While importing, any Search Lists defined for Vulnerability Detection, Custom and/or Excluded Lists, must be created in the user’s subscription before making an Import Option Profile call. At import time we try to match the Search List “title” to a search list title in the user’s subscription. If a match is found the search list is used, otherwise “Complete” Vulnerability Detection is assigned.

4) Password Brute Force Lists are not imported and will always be empty assigned, regardless of Option Profile XML content.

5) Policies defined for the PC Scan Restriction feature are not imported and will be empty assigned, regardless of Option Profile XML content.

Input Parameter

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=import</td>
<td>(Required)</td>
</tr>
</tbody>
</table>

Sample - Import option profiles in the input file into the user’s account

API request:

curl -u "USERNAME:PASSWORD" -H "content-type: text/xml"-X "POST"
--data-binary @Export_OP.xml
"https://qualysapi.qualys.com/api/2.0/fo/subscription(option_profile)/?action=import"

Note: “Export_OP.xml” contains the request POST data.

Request POST data:

```xml
<?xml version="1.0" encoding="UTF-8"?><!DOCTYPE OPTION_PROFILES SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/subscription(option_profile)/option_profile_info.dtd"><OPTION_PROFILES><OPTION_PROFILE><BASIC_INFO><ID>11123</ID><GROUP_NAME><![CDATA[OP-SCAN]]></GROUP_NAME><GROUP_TYPE>user</GROUP_TYPE></BASIC_INFO></OPTION_PROFILE></OPTION_PROFILES>"```
<USER_ID><![CDATA[John Doe (john_doe)]></USER_ID>
<UNIT_ID>0</UNIT_ID>
<SUBSCRIPTION_ID>76084</SUBSCRIPTION_ID>
<IS_DEFAULT>0</IS_DEFAULT>
<IS_GLOBAL>1</IS_GLOBAL>
<IS_OFFLINE_SYNCABLE>0</IS_OFFLINE_SYNCABLE>
<UPDATE_DATE>N/A</UPDATE_DATE>
</BASIC_INFO>
<SCAN>
<PORTS>
  <TCP_PORTS>
    <TCP_PORTS_TYPE>full</TCP_PORTS_TYPE>
    <THREE_WAY_HANDSHAKE>1</THREE_WAY_HANDSHAKE>
  </TCP_PORTS>
  <UDP_PORTS>
    <UDP_PORTS_TYPE>none</UDP_PORTS_TYPE>
    <HAS_ADDITIONAL>1</HAS_ADDITIONAL>
    <ADDITIONAL_PORTS>1-1024,8080,8181</ADDITIONAL_PORTS>
  </UDP_PORTS>
  <AUTHORITATIVE_OPTION>1</AUTHORITATIVE_OPTION>
</PORTS>
<SCAN_DEAD_HOSTS>1</SCAN_DEAD_HOSTS>
<CLOSE_VULNERABILITIES>
  <HAS_CLOSE_VULNERABILITIES>1</HAS_CLOSE_VULNERABILITIES>
  <HOST_NOT_FOUND_ALIVE>7</HOST_NOT_FOUND_ALIVE>
</CLOSE_VULNERABILITIES>
<PURGE_OLD_HOST_OS_CHANGED>1</PURGE_OLD_HOST_OS_CHANGED>
<PERFORMANCE>
  <PARALLEL_SCALING>1</PARALLEL_SCALING>
  <OVERALL_PERFORMANCE>Custom</OVERALL_PERFORMANCE>
  <HOSTS_TO_SCAN>
    <EXTERNAL_SCANNERS>30</EXTERNAL_SCANNERS>
    <SCANNER_APPLIANCES>48</SCANNER_APPLIANCES>
  </HOSTS_TO_SCAN>
  <PROCESSES_TO_RUN>
    <TOTAL_PROCESSES>18</TOTAL_PROCESSES>
    <HTTP_PROCESSES>18</HTTP_PROCESSES>
  </PROCESSES_TO_RUN>
  <LOAD_BALANCER_DETECTION>1</LOAD_BALANCER_DETECTION>
  <PASSWORD_BRUTE_FORCING>
Chapter 4 - Scan Configuration

Option Profile Import

<SYSTEM>
  <HAS_SYSTEM>1</HAS_SYSTEM>
  <SYSTEM_LEVEL>Standard</SYSTEM_LEVEL>
</SYSTEM>

<CUSTOM_LIST>
  <CUSTOM>
    <ID>3001</ID>
    <TITLE><![CDATA[123]]></TITLE>
    <TYPE>FTP</TYPE>
    <LOGIN_PASSWORD><![CDATA[L:temp,P:123123123]]></LOGIN_PASSWORD>
  </CUSTOM>
</CUSTOM_LIST>

<VULNERABILITY_DETECTION>
  <CUSTOM_LIST>
    <CUSTOM>
      <ID>2094</ID>
      <TITLE><![CDATA[Option Profile: Qualys Top 20 Options]]></TITLE>
    </CUSTOM>
    <CUSTOM>
      <ID>2095</ID>
      <TITLE><![CDATA[Option Profile: 2008 SANS20 Options]]></TITLE>
    </CUSTOM>
    <CUSTOM>
      <ID>2096</ID>
      <TITLE><![CDATA[Scan Report Template: High Severity Report]]></TITLE>
    </CUSTOM>
    <CUSTOM>
      <ID>5230</ID>
      <TITLE><![CDATA[118960]]></TITLE>
    </CUSTOM>
    <CUSTOM>
      <ID>87936</ID>
      <TITLE><![CDATA[Bash Shellshock Detection]]></TITLE>
    </CUSTOM>
    <CUSTOM>
      <ID>87937</ID>
      <TITLE><![CDATA[Heartbleed Detection]]></TITLE>
    </CUSTOM>
    <CUSTOM>
      <ID>87938</ID>
      <TITLE><![CDATA[Windows Authentication Results v.1]]></TITLE>
    </CUSTOM>
  </CUSTOM_LIST>
</VULNERABILITY_DETECTION>
<CUSTOM>
  <ID>87939</ID>
  <TITLE><![CDATA[Unix Authentication Results v.1]]></TITLE>
</CUSTOM>

<CUSTOM>
  <ID>87940</ID>
  <TITLE><![CDATA[Inventory Results v.1]]></TITLE>
</CUSTOM>

<CUSTOM>
  <ID>87941</ID>
  <TITLE><![CDATA[SSL Certificates]]></TITLE>
</CUSTOM>

</CUSTOM_LIST>

<DETECTION_INCLUDE>
  <BASIC_HOST_INFO_CHECKS>1</BASIC_HOST_INFO_CHECKS>
  <OVAL_CHECKS>1</OVAL_CHECKS>
</DETECTION_INCLUDE>

<DETECTION_EXCLUDE>
  <CUSTOM_LIST>
    <CUSTOM>
      <ID>2099</ID>
      <TITLE><![CDATA[DL]]></TITLE>
    </CUSTOM>
  </CUSTOM_LIST>
</DETECTION_EXCLUDE>

</VULNERABILITY_DETECTION>

<AUTHENTICATION><![CDATA[Windows,Unix,Oracle,Oracle Listener,SNMP,VMware,DB2,HTTP,MySQL]]></AUTHENTICATION>

<ADDL_CERT_DETECTION>1</ADDL_CERT_DETECTION>

<DISSOLVABLE_AGENT>
  <DISSOLVABLE_AGENT_ENABLE>1</DISSOLVABLE_AGENT_ENABLE>
</DISSOLVABLE_AGENT>

<WINDOWS_SHARE_ENUMERATION_ENABLE>1</WINDOWS_SHARE_ENUMERATION_ENABLE>

</DISSOLVABLE_AGENT>

<LITE_OS_SCAN>1</LITE_OS_SCAN>

<CUSTOM_HTTP_HEADER>
  <VALUE>AFCD</VALUE>
</CUSTOM_HTTP_HEADER>

<FILE_INTEGRITY_MONITORING>
  <AUTO_UPDATEEXPECTED_VALUE>1</AUTO_UPDATEEXPECTED_VALUE>
</FILE_INTEGRITY_MONITORING>

<DO_NOT_OVERWRITE_OS>1</DO_NOT_OVERWRITE_OS>

</SCAN>

<MAP>
<BASIC_INFO_GATHERING_ON>netblockonly</BASIC_INFO_GATHERING_ON>
<TCP_PORTS>
<TCP_PORTS_STANDARD_SCAN>1</TCP_PORTS_STANDARD_SCAN>
<TCP_PORTS_ADDITIONAL>
<TCP_ADDITIONAL>1</TCP_ADDITIONAL>
<ADDITIONAL_PORTS>1,2,3,80</ADDITIONAL_PORTS>
</TCP_PORTS_ADDITIONAL>
</TCP_PORTS>
<UDP_PORTS>
<UDP_PORTS_STANDARD_SCAN>1</UDP_PORTS_STANDARD_SCAN>
<UDP_PORTS_ADDITIONAL>
<HAS_ADDITIONAL>1</HAS_ADDITIONAL>
<ADDITIONAL_PORTS>4,5,6,8181</ADDITIONAL_PORTS>
</UDP_PORTS_ADDITIONAL>
</UDP_PORTS>
<MAP_OPTIONS>
<PERFORM_LIVE_HOST_SWEEP>1</PERFORM_LIVE_HOST_SWEEP>
DISABLE_DNS_TRAFFIC>1</DISABLE_DNS_TRAFFIC>
</MAP_OPTIONS>
<MAP_PERFORMANCE>
<OVERALL_PERFORMANCE>Custom</OVERALL_PERFORMANCE>
<MAP_PARALLEL>
<EXTERNAL_SCANNERS>16</EXTERNAL_SCANNERS>
<SCANNER_APPLIANCES>14</SCANNER_APPLIANCES>
<NETBLOCK_SIZE>64</NETBLOCK_SIZE>
</MAP_PARALLEL>
<PACKET_DELAY>Medium</PACKET_DELAY>
</MAP_PERFORMANCE>
<MAP_AUTHENTICATION>VMware</MAP_AUTHENTICATION>
</MAP>
<ADDITIONAL>
<HOST_DISCOVERY>
<TCP_PORTS>
<STANDARD_SCAN>1</STANDARD_SCAN>
<TCP_ADDITIONAL>
<HAS_ADDITIONAL>1</HAS_ADDITIONAL>
<ADDITIONAL_PORTS>1-6,1024</ADDITIONAL_PORTS>
</TCP_ADDITIONAL>
</TCP_PORTS>
<UDP_PORTS>
<STANDARD_SCAN>1</STANDARD_SCAN>
</UDP_PORTS>
<ICMP>1</ICMP>
</HOST_DISCOVERY>
</ADDITIONAL>
<BLOCK_RESOURCES>
Chapter 4 - Scan Configuration

Option Profiles for VM

```
<WATCHGUARD_DEFAULT_BLOCKED_PORTS>1</WATCHGUARD_DEFAULT_BLOCKED_PORTS>
  <ALL_REGISTERED_IPS>1</ALL_REGISTERED_IPS>
</BLOCK_RESOURCES>

<PACKET_OPTIONS>
  <IGNORE_FIREWALL_GENERATED_TCP_RST>1</IGNORE_FIREWALL_GENERATED_TCP_RST>
  <IGNORE_ALL_TCP_RST>1</IGNORE_ALL_TCP_RST>
  <IGNORE_FIREWALL_GENERATED_TCP_SYN_ACK>1</IGNORE_FIREWALL_GENERATED_TCP_SYN_ACK>
  <NOT_SEND_TCP_ACK_OR_SYN_ACK_DURING_HOST_DISCOVERY>1</NOT_SEND_TCP_ACK_OR_SYN_ACK_DURING_HOST_DISCOVERY>
</PACKET_OPTIONS>
</ADDITIONAL>
</OPTION_PROFILE>
</OPTION_PROFILES>
```

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2017-04-03T11:17:43Z</DATETIME>
    <TEXT>Successfully imported Option profile for the subscription Id 76084</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>111234</KEY>
        <VALUE>PCI-John</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```

Option Profiles for VM

/api/2.0/fo/subscription/option_profile/vm/

Create, update, list and delete option profiles for VM scans.

Permissions - All users will be able to list option profiles. A Manager will be able to create, update, and delete option profiles in the subscription, and a Unit Manager will be able to create, update, and delete option profiles for users in their business unit.
Create VM Option Profile

/api/2.0/fo/subscription/option_profile/vm/?action=create

[POST]

**Input Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>action=create</code></td>
<td>(Required)</td>
</tr>
<tr>
<td><code>title={value}</code></td>
<td>(Required) A title for easy identification.</td>
</tr>
<tr>
<td><code>owner={value}</code></td>
<td>(Optional) The owner of the option profile(s), or the user who created the option profile.</td>
</tr>
<tr>
<td>`default={0</td>
<td>1}`</td>
</tr>
<tr>
<td>`global={0</td>
<td>1}`</td>
</tr>
<tr>
<td>`offline_scanner={0</td>
<td>1}`</td>
</tr>
<tr>
<td>`scan_tcp_ports={none</td>
<td>full</td>
</tr>
<tr>
<td>`scan_udp_ports={none</td>
<td>full</td>
</tr>
</tbody>
</table>

**Scan**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>`3_way_handshake={0</td>
<td>1}`</td>
</tr>
</tbody>
</table>

---

Appendix B - Ports used for scanning for a list of ports used for standard or light scan. We will scan the standard list of ports unless you choose a different option in the profile.
### Parameter Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>vulnerability_detection=</code></td>
<td>(Required) With a &quot;complete&quot; scan we’ll scan for all vulnerabilities (QIDs) in the KnowledgeBase applicable to each host being scanned. Specify “custom” to limit the scan to specified QIDs only. Then add the QIDs you want to scan. Specify “runtime” to scan QIDs at runtime.</td>
</tr>
<tr>
<td><code>scan_udp_ports_additional=</code></td>
<td>(Optional) Specify additional ports to scan (up to 20500 ports).</td>
</tr>
<tr>
<td><code>authoritative_option=</code></td>
<td>(Optional) Specify 1 to enable Authoritative Scan Option. By enabling the authoritative scan option your light scan will work like a full or standard scan. We will update the vulnerability status for all vulnerabilities found, regardless of which ports they were detected on.</td>
</tr>
<tr>
<td><code>scan_dead_hosts=</code></td>
<td>(Optional) Specify 1 to enable scanning dead hosts. A dead host is a host that is unreachable - it didn’t respond to any pings. Your scan may run longer if you choose to scan dead hosts.</td>
</tr>
<tr>
<td><code>close_vuln_on_dead_hosts=</code></td>
<td>(Optional) Specify 1 to quickly close vulnerabilities for hosts that are not found alive after a set number of scans. When enabled, we’ll mark existing tickets associated with dead hosts as Closed/Fixed and update the vulnerability status to Fixed.</td>
</tr>
<tr>
<td><code>not_found_alive_times=</code></td>
<td>(Optional) Specify the number of times the host is not found alive after which the vulnerability should be closed. This setting is available only when close_vuln_on_dead_hosts=1.</td>
</tr>
<tr>
<td><code>purge_host_data=</code></td>
<td>(Optional) Specify 1 to purge host data. This option is especially useful if you have systems that are regularly decommissioned or replaced. By specifying this option you’re telling us you want to purge the host if we detect a change in the host’s Operating System (OS) vendor at scan time, for example the OS changed from Linux to Windows or Debian to Ubuntu. We will not purge the host for an OS version change like Linux 2.8.13 to Linux 2.9.4.</td>
</tr>
<tr>
<td><code>external_scanners_use=</code></td>
<td>(Optional) Specify the maximum number of external scanners to use for scanning perimeter assets. (This option is available when your subscription is configured with multiple external scanners).</td>
</tr>
<tr>
<td><code>scan_parallel_scaling=</code></td>
<td>(Optional) Specify 1 to enable parallel scaling. This setting can be useful in subscriptions which have physical and virtual scanner appliances with different performance characteristics (e.g., CPU, RAM). Specify this option to dynamically scale up the number of hosts to scan in parallel (at scan time) to a calculated value which is based upon the computing resources available on each appliance. Note that the number of hosts to scan in parallel value determines how many hosts each appliance will target concurrently, not how many appliances will be used for the scan.</td>
</tr>
</tbody>
</table>
Chapter 4 - Scan Configuration
Option Profiles for VM

### scan_overall_performance

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>scan_overall_performance</td>
<td>(Optional) The profile “normal” is recommended in most cases. The settings for scan_external_scanners, scan_scanner_appliances, scan_total_process, scan_http_process, scan_packet_delay, and scan_intensity change as per the specified profile. Normal - Well balanced between intensity and speed. High - Recommended only when scanning a single IP or a small number of IPs. Optimized for speed and shorter scan times. Low - Recommended if responsiveness for individual hosts and services is low. Optimized for low bandwidth network connections and highly utilized networks. May take longer to complete.</td>
</tr>
</tbody>
</table>

### scan_external_scanners

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>scan_external_scanners</td>
<td>(Optional) Specify the number of external scanners to be used for associated scans. This setting is available only if you have multiple external scanners in your subscription. For example, if you have 10 external scanners in your subscription, you can configure this setting to any number between 1 to 10.</td>
</tr>
</tbody>
</table>

### scan_scanner_appliances

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>scan_scanner_appliances</td>
<td>(Optional) Specify the number of scanner appliances to scan at the same time (per scan task). Launching several concurrent scans on the same scanner appliance has a multiplying effect on bandwidth usage and may exceed available scanner resources. Don’t have scanner appliances? Disregard the Scanner Appliance setting.</td>
</tr>
</tbody>
</table>

### scan_total_process

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>scan_total_process</td>
<td>(Optional) Specify the maximum number of processes to run at the same time per host. Note that the total number of processes includes the HTTP processes.</td>
</tr>
</tbody>
</table>

### scan_http_process

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>scan_http_process</td>
<td>(Optional) Specify the maximum number of HTTP processes to run at the same time.</td>
</tr>
</tbody>
</table>

### scan_packet_delay

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>scan_packet_delay</td>
<td>(Optional) Specify the delay between groups of packets sent to each host during a scan. With a short delay, packets are sent more frequently. With a long delay, packets are sent less frequently.</td>
</tr>
</tbody>
</table>

### scan_intensity

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>scan_intensity</td>
<td>(Optional) This setting determines the aggressiveness (parallelism) of port scanning and host discovery at the port level. Lowering the intensity level has the effect of serializing port scanning and host discovery. This is useful for certain network conditions like cascading firewalls and lower scan prioritization on the network. Tip - If you are scanning through a firewall we recommended you reduce the intensity level. Unauthenticated scans see more of a performance difference using this option.</td>
</tr>
</tbody>
</table>

### load_balancer

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>load_balancer</td>
<td>(Optional) Specify 1 to check each target host to determine if it’s a load balancer. When a load balancer is detected, we determine the number of Web servers behind it and report QID 86189 “Presence of a Load-Balancing Device Detected” in your results.</td>
</tr>
</tbody>
</table>
### Parameter Descriptions

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>password_brute_forcing_</code></td>
<td>How vulnerable are your hosts to password-cracking techniques? We’ll attempt to guess the password for each detected login ID on each target host scanned. Specify the level of brute forcing you prefer (‘minimal’ to ‘exhaustive’).</td>
</tr>
<tr>
<td><code>custom_search_list_ids=</code></td>
<td>Specify ids of search lists you want to use in your scan.</td>
</tr>
<tr>
<td><code>custom_search_list_title=</code></td>
<td>Specify titles of search lists you want to use in your scan.</td>
</tr>
<tr>
<td><code>basic_host_information_checks</code></td>
<td>Adds basic host information checks (hostname, OS, etc) to your Custom scans. These are already included in Complete scans. This setting is enabled by default.</td>
</tr>
<tr>
<td><code>oval_checks</code></td>
<td>Specify 1 to add a search list with QID 105186 (a diagnostic check for OVAL).</td>
</tr>
<tr>
<td><code>all_qrdi_checks</code></td>
<td>Specify 1 to scan target assets for all QRDI vulnerabilities in your subscription, i.e. all custom vulnerability checks defined with QRDI (Qualys Remote Detection Interface).</td>
</tr>
<tr>
<td><code>exclude_search_list_ids=</code></td>
<td>Specify ids of search lists you want to exclude from your scan.</td>
</tr>
</tbody>
</table>
| `authentication`                              | Want to run authenticated scans? When you use authentication we’ll perform a more in-depth assessment and get you the most accurate results with fewer false positives. Specify one or more technologies for the hosts you want to scan. Be sure you’ve configured authentication records (under Scans > Authentication) before running your scan. The following options are available:  
  - Windows  
  - Unix  
  - Oracle  
  - Oracle Listener  
  - SNMP  
  - VMware  
  - DB2  
  - HTTP  
  - MySQL  
  - MongoDB  
  - Tomcat Server  
  - Palo Alto Networks Firewall |
| `enable_additional_certificat_e_detection`    | Want to detect additional certificates beyond ports? You need to enable authentication and then run new vulnerability scans. Specify 1 to enable this option before scanning and see additional certificate records (under Assets > Certificates). |
### Chapter 4 - Scan Configuration

**Option Profiles for VM**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>`enable_dissolvable_agent=[0</td>
<td>1]`</td>
</tr>
<tr>
<td>`enable_windows_share Enumeration=[0</td>
<td>1]`</td>
</tr>
<tr>
<td>`enable_lite_os_scan=[0</td>
<td>1]`</td>
</tr>
<tr>
<td><code>custom_http_header={value}</code></td>
<td>(Optional) Specify a custom value in order to drop defenses (such as logging, IPs, etc) when authorized scans are being run.</td>
</tr>
<tr>
<td><code>custom_http_definition_key={value}</code></td>
<td>(Optional) Specify a custom HTTP header definition key</td>
</tr>
<tr>
<td><code>custom_http_definition_header={value}</code></td>
<td>(Optional) Specify a value for the custom HTTP header definition key defined in <code>custom_http_definition_key</code>.</td>
</tr>
<tr>
<td>`host_alive_testing=[0</td>
<td>1]`</td>
</tr>
<tr>
<td>`not_overwrite_os=[0</td>
<td>1]`</td>
</tr>
<tr>
<td>`test_authentication=[0</td>
<td>1]`</td>
</tr>
</tbody>
</table>

**Map**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>`basic_information_gathering=all</td>
<td>register</td>
</tr>
<tr>
<td>`map_tcp_ports_additional=</td>
<td>value1,value2`</td>
</tr>
<tr>
<td>`map_udp_ports_standard_scan=[0</td>
<td>1]`</td>
</tr>
<tr>
<td><code>map_udp_ports_additional={value1,value2}</code></td>
<td>(Optional) Specify additional UDP ports to scan. You can specify up to 10 ports including the standard scan ports.</td>
</tr>
</tbody>
</table>
### Chapter 4 - Scan Configuration
#### Option Profiles for VM

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>`perform_live_host_sweep=0</td>
<td>1`</td>
</tr>
<tr>
<td>`disable_dns_traffic=0</td>
<td>1`</td>
</tr>
<tr>
<td>`map_overall_performance=high</td>
<td>normal</td>
</tr>
<tr>
<td><code>map_external_scanners=value</code></td>
<td>(Optional) Specify the number of external scanners for netblocks to map at the same time per scanner. This setting is available only if you have multiple external scanners in your subscription. For example, if you have 10 external scanners in your subscription, you can configure this setting to any number between 1 to 10.</td>
</tr>
<tr>
<td><code>map_scanner_appliances=value</code></td>
<td>(Optional) Specify the number of scanner appliances for netblocks to map at the same time per scanner. Launching several concurrent scans on the same scanner appliance has a multiplying effect on bandwidth usage and may exceed available scanner resources. Don’t have scanner appliances? Disregard the Scanner Appliance setting.</td>
</tr>
<tr>
<td>`map_netblock_size=1024 IPs</td>
<td>4096 IPs</td>
</tr>
<tr>
<td>`map_packet_delay=minimum</td>
<td>short</td>
</tr>
<tr>
<td><code>map_authentication=VMware</code></td>
<td>(Optional) Authentication enables the scanner to log into hosts at scan time to extend detection capabilities. See the online help to learn how to configure this option.</td>
</tr>
</tbody>
</table>

### Additional
### API request:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>additional_tcp_ports={0</td>
<td>1}</td>
</tr>
<tr>
<td>additional_tcp_ports_standard_scan={0</td>
<td>1}</td>
</tr>
<tr>
<td>additional_tcp_ports_additional={value1,value2}</td>
<td>(Optional) Specify additional TCP ports to scan. You can specify up to 20 ports including the standard scan ports.</td>
</tr>
<tr>
<td>additional_udp_ports={0</td>
<td>1}</td>
</tr>
<tr>
<td>additional_udp_ports_type={standard</td>
<td>custom}</td>
</tr>
<tr>
<td>additional_udp_ports_custom={value1,value2}</td>
<td>(Optional) Specify additional UDP ports to scan. You can specify up to 10 ports including the standard scan ports.</td>
</tr>
<tr>
<td>icmp={0</td>
<td>1}</td>
</tr>
<tr>
<td>blocked_resources={0</td>
<td>1}</td>
</tr>
<tr>
<td>protected_ports={default</td>
<td>custom}</td>
</tr>
<tr>
<td>protected_ports_custom={value1,value2}</td>
<td>(Optional) Specify a custom list of protected ports.</td>
</tr>
<tr>
<td>protected_ips={all</td>
<td>custom}</td>
</tr>
<tr>
<td>protected_ips_custom={value1,value2}</td>
<td>(Optional) Specify a custom list of IP addresses and ranges protected by your firewall/IDS.</td>
</tr>
<tr>
<td>ignore_firewall_generated_tcp_rst_packets={0</td>
<td>1}</td>
</tr>
<tr>
<td>ignore_all_tcp_rst_packets={0</td>
<td>1}</td>
</tr>
<tr>
<td>ignore_firewall_generated_tcp_syn_ack_packets={0</td>
<td>1}</td>
</tr>
<tr>
<td>not_send_tcp_ack_or_syn_ack_packets_during_host_discovery={0</td>
<td>1}</td>
</tr>
</tbody>
</table>
Chapter 4 - Scan Configuration
Option Profiles for VM

curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X POST
"action=create&title=99&global=1&scan_tcp_ports=full&scan_udp_ports=standard&scan_overall_performance=normal&vulnerability_detection=complete&basic_information_gathering=all"
"http://qualysapi.qualys.com/api/2.0/fo/subscription/option_profile/vm/"

XML output:
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "http://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-26T06:40:03Z</DATETIME>
    <TEXT>Option profile successfully added.</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>32112</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>

Update VM Option Profile

/api/2.0/fo/subscription/option_profile/vm/?action=update

[POST]

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=update</td>
<td>(Required)</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Required) The ID of the option profile.</td>
</tr>
</tbody>
</table>

For a list of optional parameters, see Input Parameters for Create VM Option Profile.

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X POST
"action=update&title=33jj&id=25121"
"http://qualysapi.qualys.com/api/2.0/fo/subscription/option_profile/vm/"

XML output:
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM

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"http://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-26T09:51:15Z</DATETIME>
    <TEXT>Option profile successfully updated.</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>25121</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
VM Option Profile List

/api/2.0/fo/subscription/option_profile/vm/?action=list

[GET] [POST]

Input Parameters
All option profiles are fetched if no parameters are given. To fetch a specific option profile, provide the “id” or “title” parameter with the option profile id or title of interest. Optionally, you can filter the results by using optional parameters listed under Input Parameters for Create VM Option Profile.

API request:
curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X GET "action=list" "http://qualysapi.qualys.com/api/2.0/fo/subscription/option_profile/vm/"

XML output:
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE OPTION_PROFILES SYSTEM "http://qualysapi.qualys.com/api/2.0/fo/subscription/option_profile/option_profile_info.dtd">
<OPTION_PROFILES>
  <OPTION_PROFILE>
    <BASIC_INFO>
      <ID>51451401</ID>
      <GROUP_NAME><![CDATA[user op - 1]]></GROUP_NAME>
      <GROUP_TYPE>user</GROUP_TYPE>
      <USER_ID><![CDATA[John smith (jsmith_ap)]></USER_ID>
      <UNIT_ID>0</UNIT_ID>
      <SUBSCRIPTION_ID>10421401</SUBSCRIPTION_ID>
      <IS_DEFAULT>0</IS_DEFAULT>
      <IS_GLOBAL>1</IS_GLOBAL>
      <IS_OFFLINE_SYNCABLE>1</IS_OFFLINE_SYNCABLE>
      <UPDATE_DATE>2018-04-10T13:39:41Z</UPDATE_DATE>
    </BASIC_INFO>
    <SCAN>
      <TCP_PORTS>
        <TCP_PORTS_TYPE>standard</TCP_PORTS_TYPE>
        <TCP_PORTS_ADDITIONAL>
          <HAS_ADDITIONAL>1</HAS_ADDITIONAL>
          <ADDITIONAL_PORTS>1024</ADDITIONAL_PORTS>
        </TCP_PORTS_ADDITIONAL>
        <THREE_WAY_HANDSHAKE>1</THREE_WAY_HANDSHAKE>
      </TCP_PORTS>
    </SCAN>
  </OPTION_PROFILE>
</OPTION_PROFILES>
<UDP_PORTS>
  <UDP_PORTS_TYPE>light</UDP_PORTS_TYPE>
  <UDP_PORTS_ADDITIONAL>
    <HAS_ADDITIONAL>1</HAS_ADDITIONAL>
    <ADDITIONAL_PORTS>8080</ADDITIONAL_PORTS>
  </UDP_PORTS_ADDITIONAL>
</UDP_PORTS>

<AUTHORITATIVE_OPTION>1</AUTHORITATIVE_OPTION>

<SCAN_DEAD_HOSTS>1</SCAN_DEAD_HOSTS>

<CLOSE_VULNERABILITIES>
  <HAS_CLOSE_VULNERABILITIES>1</HAS_CLOSE_VULNERABILITIES>
  <HOST_NOT_FOUND_ALIVE>10</HOST_NOT_FOUND_ALIVE>
</CLOSE_VULNERABILITIES>

<PURGE_OLD_HOST_OS_CHANGED>1</PURGE_OLD_HOST_OS_CHANGED>

<PERFORMANCE>
  <PARALLEL_SCALING>1</PARALLEL_SCALING>
  <OVERALL_PERFORMANCE>Normal</OVERALL_PERFORMANCE>
  <HOSTS_TO_SCAN>
    <EXTERNAL_SCANNERS>10</EXTERNAL_SCANNERS>
    <SCANNER_APPLIANCES>30</SCANNER_APPLIANCES>
  </HOSTS_TO_SCAN>
  <PROCESSES_TO_RUN>
    <TOTAL_PROCESSES>10</TOTAL_PROCESSES>
    <HTTP_PROCESSES>10</HTTP_PROCESSES>
  </PROCESSES_TO_RUN>
  <PACKET_DELAY>Medium</PACKET_DELAY>
</PERFORMANCE>

<PORT_SCANNING_AND_HOST_DISCOVERY>Normal</PORT_SCANNING_AND_HOST_DISCOVERY>

<LOAD_BALANCER_DETECTION>1</LOAD_BALANCER_DETECTION>

<PASSWORD_BRUTE_FORCING>
  <SYSTEM>
    <HAS_SYSTEM>1</HAS_SYSTEM>
    <SYSTEM_LEVEL>Standard</SYSTEM_LEVEL>
  </SYSTEM>
  <CUSTOM_LIST>
    <CUSTOM>
      <ID>1001</ID>
      <TITLE><![CDATA[ftp - 1]]></TITLE>
      <TYPE>FTP</TYPE>
      <LOGIN_PASSWORD><![CDATA[L:Guest, P:temp]]></LOGIN_PASSWORD>
    </CUSTOM>
  </CUSTOM_LIST>
</PASSWORD_BRUTE_FORCING>
Chapter 4 - Scan Configuration
Option Profiles for VM

<ID>1002</ID>
<TITLE <![CDATA[ssh - 1]]> </TITLE>
<TYPE>SSH</TYPE>

<LOGIN_PASSWORD><![CDATA[L:Guest,P:temp]]></LOGIN_PASSWORD>
</CUSTOM>
</CUSTOM>

<ID>1003</ID>
<TITLE><![CDATA[window - 1]]></TITLE>
<TYPE>Windows</TYPE>

<LOGIN_PASSWORD><![CDATA[L:Guest,P:temp]]></LOGIN_PASSWORD>
</CUSTOM>

</CUSTOM_LIST>
</PASSWORD_BRUTE_FORCING>
</VULNERABILITY_DETECTION>

<AUTHENTICATION><![CDATA[Windows,Unix,Oracle,Oracle Listener,SNMP,VMware,DB2,HTTP,MySQL]]></AUTHENTICATION>

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<DISSOLVABLE_AGENT_ENABLE>1</DISSOLVABLE_AGENT_ENABLE>
</DISSOLVABLE_AGENT>

<WINDOWS_SHARE_ENUMERATION_ENABLE>1</WINDOWS_SHARE_ENUMERATION_ENABLE>

<DISALLOW_REQUEST>1</DISALLOW_REQUEST>

<SCAN>
<BASIC_INFO_GATHERING_ON>all</BASIC_INFO_GATHERING_ON>
<TCP_PORTS>
<TCP_PORTS_STANDARD_SCAN>1</TCP_PORTS_STANDARD_SCAN>
</TCP_PORTS>

</SCAN>

<MAP>
</MAP>
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</TCP_PORTS>
<UDP_PORTS>
  <UDP_PORTS_STANDARD_SCAN>1</UDP_PORTS_STANDARD_SCAN>
  <UDP_PORTS_ADDITIONAL>
    <HAS_ADDITIONAL>1</HAS_ADDITIONAL>
    <ADDITIONAL_PORTS>9</ADDITIONAL_PORTS>
  </UDP_PORTS_ADDITIONAL>
</UDP_PORTS>
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  <DISABLE_DNS_TRAFFIC>1</DISABLE_DNS_TRAFFIC>
</MAP_OPTIONS>
<MAP_PERFORMANCE>
  <OVERALL_PERFORMANCE>Custom</OVERALL_PERFORMANCE>
  <MAP_PARALLEL>
    <EXTERNAL_SCANNERS>10</EXTERNAL_SCANNERS>
    <SCANNER_APPLIANCES>12</SCANNER_APPLIANCES>
    <NETBLOCK_SIZE>8192 IPs</NETBLOCK_SIZE>
  </MAP_PARALLEL>
  <PACKET_DELAY>Medium</PACKET_DELAY>
</MAP_PERFORMANCE>
<MAP_AUTHENTICATION>VMware</MAP_AUTHENTICATION>
</MAP>
<ADDITIONAL>
  <HOST_DISCOVERY>
    <TCP_PORTS>
      <STANDARD_SCAN>1</STANDARD_SCAN>
      <TCP_ADDITIONAL>
        <HAS_ADDITIONAL>1</HAS_ADDITIONAL>
        <ADDITIONAL_PORTS>1024</ADDITIONAL_PORTS>
      </TCP_ADDITIONAL>
    </TCP_PORTS>
    <UDP_PORTS>
      <CUSTOM_PORT><![CDATA[69,111]]></CUSTOM_PORT>
    </UDP_PORTS>
    <ICMP>1</ICMP>
  </HOST_DISCOVERY>
  <BLOCK_RESOURCES>
    <WATCHGUARD_DEFAULT_BLOCKED_PORTS>1</WATCHGUARD_DEFAULT_BLOCKED_PORTS>
    <ALL_REGISTERED_IPS>1</ALL_REGISTERED_IPS>
  </BLOCK_RESOURCES>
  <PACKET_OPTIONS>
    <IGNORE_FIREWALL_GENERATED_TCP_RST>1</IGNORE_FIREWALL_GENERATED_TCP_RST>
  </PACKET_OPTIONS>
</ADDITIONAL>
P_RST>
  <IGNORE_ALL_TCP_RST>1</IGNORE_ALL_TCP_RST>

<IGNORE_FIREWALL_GENERATED_TCP_SYN_ACK>1</IGNORE_FIREWALL_GENERATED_TCP_SYN_ACK>

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</PACKET_OPTIONS>
</ADDITIONAL>
</OPTION_PROFILE>
</OPTION_PROFILES>

**DTD**

<platform API server>/api/2.0/fo/subscription/option_profile/
option_profile_info.dtd

**Delete VM Option Profile**

/api/2.0/fo/subscription/option_profile/vm/?action=delete

**Input Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=delete</td>
<td>(Required)</td>
</tr>
<tr>
<td>id=[value]</td>
<td>(Required) The ID of the option profile.</td>
</tr>
</tbody>
</table>

**API request:**

curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X POST "action=delete&id=25121"
"http://qualysapi.qualys.com/api/2.0/fo/subscription/option_profile/vm/

**XML output:**

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "http://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-26T10:58:06Z</DATETIME>
    <TEXT>Option Profile Deleted Successfully</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>25121</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
Option Profiles for PCI

/api/2.0/fo/subscription/option_profile/pci/

Create, update, list and delete option profiles for PCI.

Permissions - All users will be able to list option profiles. A Manager will be able to create, update, and delete option profiles in the subscription, and a Unit Manager will be able to create, update, and delete option profiles for users in their business unit.

Create PCI Option Profile

/api/2.0/fo/subscription/option_profile/pci/?action=create

[POST]

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=create</td>
<td>(Required)</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required) A title for easy identification.</td>
</tr>
<tr>
<td>owner={value}</td>
<td>(Optional) The owner of the option profile(s), or the user who created the option profile.</td>
</tr>
<tr>
<td>global={0</td>
<td>1}</td>
</tr>
<tr>
<td>offline_scanner={0</td>
<td>1}</td>
</tr>
<tr>
<td>scan_parallel_scaling={0</td>
<td>1}</td>
</tr>
</tbody>
</table>
### Chapter 4 - Scan Configuration

#### Option Profiles for PCI

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scan</strong></td>
<td></td>
</tr>
<tr>
<td>scan_overall_performance= {high</td>
<td>normal</td>
</tr>
<tr>
<td>scan_external_scanners= {value}</td>
<td>(Optional) Specify the number of external scanners to be used for associated scans. This setting is available only if you have multiple external scanners in your subscription. For example, if you have 10 external scanners in your subscription, you can configure this setting to any number between 1 to 10.</td>
</tr>
<tr>
<td>scan_scanner_appliances= {value}</td>
<td>(Optional) Specify the number of scanner appliances to scan at the same time (per scan task). Launching several concurrent scans on the same scanner appliance has a multiplying effect on bandwidth usage and may exceed available scanner resources. Don’t have scanner appliances? Disregard the Scanner Appliance setting.</td>
</tr>
<tr>
<td>scan_total_process= {value}</td>
<td>(Optional) Specify the maximum number of processes to run at the same time per host. Note that the total number of processes includes the HTTP processes.</td>
</tr>
<tr>
<td>scan_http_process= {value}</td>
<td>(Optional) Specify the maximum number of HTTP processes to run at the same time.</td>
</tr>
<tr>
<td>scan_packet_delay= {minimum</td>
<td>short</td>
</tr>
<tr>
<td>scan_intensity= {normal</td>
<td>medium</td>
</tr>
<tr>
<td>scan_dead_hosts= {0</td>
<td>1}</td>
</tr>
</tbody>
</table>
### Parameter Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>close_vuln_on_dead_hosts=0/1</td>
<td>(Optional) Specify 1 to quickly close vulnerabilities for hosts that are not found alive after a set number of scans. When enabled, we'll mark existing tickets associated with dead hosts as Closed/Fixed and update the vulnerability status to Fixed.</td>
</tr>
<tr>
<td>not_found_alive_times=value</td>
<td>(Optional) Specify the number of times the host is not found alive after which the vulnerability should be closed. This setting is available only when close_vuln_on_dead_hosts=1.</td>
</tr>
<tr>
<td>purge_host_data=0/1</td>
<td>(Optional) Specify 1 to purge host data. This option is especially useful if you have systems that are regularly decommissioned or replaced. By specifying this option you're telling us you want to purge the host if we detect a change in the host's Operating System (OS) vendor at scan time, for example the OS changed from Linux to Windows or Debian to Ubuntu. We will not purge the host for an OS version change like Linux 2.8.13 to Linux 2.9.4.</td>
</tr>
<tr>
<td>additional_tcp_ports_additional=value1,value2</td>
<td>(Optional) Specify additional TCP ports to scan. You can specify up to 7 additional ports apart from the 13 standard scan ports used by default: 21-23, 25, 53, 80, 88, 110-111, 135, 139, 443, 445.</td>
</tr>
</tbody>
</table>

### API request:

```sh
curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X POST "action=create&title=jp_pci_333&global=1&offline_scanner=1&external_scanners_use=3&scan_parallel_scaling=1&scan_overall_performance=high&additional_tcp_ports_additional=80,35" "http://qualysapi.qualys.com/api/2.0/fo/subscription/option_profile/pci/"
```

### XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "http://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-26T13:04:21Z</DATETIME>
    <TEXT>Option profile successfully added.</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>32113</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```
Update PCI Option Profile

/api/2.0/fo/subscription/option_profile/pci/?action=update

[POST]

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=update</td>
<td>(Required)</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Required) The ID of the option profile.</td>
</tr>
</tbody>
</table>

For a list of optional parameters, see Input Parameters for Create PCI Option Profile.

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X POST
"action=update&id=31102&title=jp pci2"
"http://qualysapi.qualys.com/api/2.0/fo/subscription/option_profile/pci/"

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "http://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-10T10:32:50Z</DATETIME>
    <TEXT>Option profile successfully updated.</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>31102</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
PCI Option Profile List

/api/2.0/fo/subscription/option_profilePCI/?action=list

[GET] [POST]

Input Parameters

All option profiles are fetched if no parameters are given. To fetch a specific option profile, provide the “id” or “title” parameter with the option profile id or title of interest.

Optionally, you can filter the results by using optional parameters listed under Input Parameters for Create PCI Option Profile.

API request:

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X GET
"action=list"
"http://qualysapi.qualys.com/api/2.0/fo/subscription/option_profilePCI/
"'
```

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE OPTION_PROFILES SYSTEM
"http://qualysapi.qualys.com/api/2.0/fo/subscription/option_profilePCI/
option_profile_info.dtd">
<OPTION_PROFILES>
<OPTION_PROFILE>
<BASIC_INFO>
<ID>31102</ID>
<GROUP_NAME><![CDATA[jp_pci 11]]></GROUP_NAME>
<GROUP_TYPE>pci</GROUP_TYPE>
<User_ID><![CDATA[John Smith (jsmith_ap)]]></USER_ID>
<UNIT_ID>0</UNIT_ID>
<SUBSCRIPTION_ID>10421401</SUBSCRIPTION_ID>
<IS_GLOBAL>1</IS_GLOBAL>
<IS_OFFLINE_SYNCABLE>0</IS_OFFLINE_SYNCABLE>
<UPDATE_DATE>2018-04-10T10:32:50Z</UPDATE_DATE>
</BASIC_INFO>
<SCAN>
<SCAN_DEAD_HOSTS>0</SCAN_DEAD_HOSTS>
<PURGE_OLD_HOST_OS_CHANGED>0</PURGE_OLD_HOST_OS_CHANGED>
<PERFORMANCE>
<PARALLEL_SCALING>0</PARALLEL_SCALING>
<OVERALL_PERFORMANCE>high</OVERALL_PERFORMANCE>
<HOSTS_TO_SCAN>
<EXTERNAL_SCANNERS>20</EXTERNAL_SCANNERS>
<SCANNER_APPLIANCES>40</SCANNER_APPLIANCES>
</HOSTS_TO_SCAN>
<PROCESSES_TO_RUN>
```
<TOTAL PROCESSES>15</TOTAL PROCESSES>
<HTTP PROCESSES>15</HTTP PROCESSES>
</PROCESSES TO RUN>
<PACKET_DELAY>Short</PACKET_DELAY>
</PERFORMANCE>
</SCAN>
<ADDITIONAL>
<HOST_DISCOVERY>
<TCP_PORTS>
<STANDARD SCAN>1</STANDARD SCAN>
<TCP_ADDITIONAL>
<HAS_ADDITIONAL>1</HAS_ADDITIONAL>
<ADDITIONAL_PORTS>80,35</ADDITIONAL_PORTS>
</TCP_ADDITIONAL>
</TCP_PORTS>
</HOST_DISCOVERY>
</ADDITIONAL>
</OPTION PROFILE>
<OPTION PROFILE>
<BASIC_INFO>
<ID>32113</ID>
<GROUP_NAME><![CDATA[jp pci 333]]></GROUP_NAME>
<GROUP_TYPE>pci</GROUP_TYPE>
<User ID><![CDATA[John Smith (jsmith_ap)]></User ID>
<UNIT ID>0</UNIT ID>
<SUBSCRIPTION ID>10421401</SUBSCRIPTION ID>
<IS_GLOBAL>1</IS_GLOBAL>
<IS_OFFLINE_SYNCABLE>1</IS_OFFLINE_SYNCABLE>
<UPDATE_DATE>2018-04-10T10:32:50Z</UPDATE_DATE>
</BASIC_INFO>
<SCAN>
<SCAN_DEAD_HOSTS>0</SCAN_DEAD_HOSTS>
<PURGE_OLD_HOST_OS_CHANGED>0</PURGE_OLD_HOST_OS_CHANGED>
<PERFORMANCE>
<PARALLEL_SCALING>1</PARALLEL_SCALING>
<OVERALL_PERFORMANCE>High</OVERALL_PERFORMANCE>
<HOSTS TO SCAN>
<EXTERNAL SCANNERS>20</EXTERNAL SCANNERS>
<SCANNER_APPLIANCES>40</SCANNER_APPLIANCES>
</HOSTS TO SCAN>
<PROCESSES TO RUN>
<TOTAL PROCESSES>15</TOTAL PROCESSES>
<HTTP PROCESSES>15</HTTP PROCESSES>
</PROCESSES TO RUN>
<PACKET_DELAY>Short</PACKET_DELAY>
<PERFORMANCE/>
</SCAN>
</ADDITIONAL>

<HOST_DISCOVERY>
<TCP_PORTS>
  <STANDARD_SCAN>1</STANDARD_SCAN>
  <TCP_ADDITIONAL>
    <HAS_ADDITIONAL>1</HAS_ADDITIONAL>
    <ADDITIONAL_PORTS>80,35</ADDITIONAL_PORTS>
  </TCP_ADDITIONAL>
</TCP_PORTS>
</HOST_DISCOVERY>
</ADDITIONAL>
</OPTION_PROFILE>

<OPTION_PROFILE>
<BASIC_INFO>
  <ID>51471401</ID>
  <GROUP_NAME><![CDATA[pci op - 1]]></GROUP_NAME>
  <GROUP_TYPE>pci</GROUP_TYPE>
  <USER_ID><![CDATA[John Smith (jsmith_ap)]]></USER_ID>
  <UNIT_ID>0</UNIT_ID>
  <SUBSCRIPTION_ID>10421401</SUBSCRIPTION_ID>
  <IS_GLOBAL>0</IS_GLOBAL>
  <IS_OFFLINE_SYNCABLE>0</IS_OFFLINE_SYNCABLE>
  <UPDATE_DATE>2018-04-10T10:32:50Z</UPDATE_DATE>
</BASIC_INFO>

<SCAN>
  <SCAN_DEAD_HOSTS>1</SCAN_DEAD_HOSTS>
  <PURGE_OLD_HOST_OS_CHANGED>0</PURGE_OLD_HOST_OS_CHANGED>
  <PERFORMANCE>
    <PARALLEL_SCALING>1</PARALLEL_SCALING>
    <OVERALL_PERFORMANCE>High</OVERALL_PERFORMANCE>
    <HOSTS_TO_SCAN>
      <EXTERNAL_SCANNERS>20</EXTERNAL_SCANNERS>
      <SCANNER_APPLIANCES>40</SCANNER_APPLIANCES>
    </HOSTS_TO_SCAN>
    <PROCESSES_TO_RUN>
      <TOTAL_PROCESSES>15</TOTAL_PROCESSES>
      <HTTP_PROCESSES>15</HTTP_PROCESSES>
    </PROCESSES_TO_RUN>
    <PACKET_DELAY>Short</PACKET_DELAY>
    <PORT_SCANNING_AND_HOST_DISCOVERY>Normal</PORT_SCANNING_AND_HOST_DISCOVERY>
  </PERFORMANCE>
</SCAN>
### Additional Option Profiles for PCI

```xml
<ADDITIONAL>
  <HOST_DISCOVERY>
    <TCP_PORTS>
      <STANDARD_SCAN>1</STANDARD_SCAN>
      <TCP_ADDITIONAL>
        <HAS_ADDITIONAL>1</HAS_ADDITIONAL>
        <ADDITIONAL_PORTS>1024</ADDITIONAL_PORTS>
      </TCP_ADDITIONAL>
    </TCP_PORTS>
  </HOST_DISCOVERY>
</ADDITIONAL>
</OPTION_PROFILE>
</OPTION_PROFILES>
```

**DTD**

```xml
<platform API server>/api/2.0/fo/subscription/option_profile/
  option_profile_info.dtd
```

### Delete PCI Option Profile

```bash
/api/2.0/fo/subscription/option_profile/pci/?action=delete
[GET] [POST]
```

**Input Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=delete</td>
<td>(Required)</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Required) The ID of the option profile.</td>
</tr>
</tbody>
</table>

**API request:**

```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X POST
  "action=delete&id=51471401"
  "http://qualysapi.qualys.com/api/2.0/fo/subscription/option_profile/pci/
```

**XML output:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM
  "http://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-10T10:32:50Z</DATETIME>
    <TEXT>Option Profile Deleted Successfully</TEXT>
    <ITEM_LIST>
```

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Option Profiles for Compliance

/api/2.0/fo/subscription/option_profile/pc/

Create, update, list and delete option profiles for compliance scans.

Permissions - All users will be able to list option profiles. A Manager will be able to create, update, and delete option profiles in the subscription, and a Unit Manager will be able to create, update, and delete option profiles for users in their business unit.

Create PC Option Profile

/api/2.0/fo/subscription/option_profile/pc/?action=create

[POST]

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=create</td>
<td>(Required)</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required) The title for the option profile.</td>
</tr>
<tr>
<td>owner={value}</td>
<td>(Optional) The owner of the option profile(s), or the user who created the option profile.</td>
</tr>
<tr>
<td>global={0</td>
<td>1}</td>
</tr>
<tr>
<td>scan_parallel_scaling={0</td>
<td>1}</td>
</tr>
</tbody>
</table>
Chapter 4 - Scan Configuration
Option Profiles for Compliance

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scan</strong></td>
<td>(Required) The profile “normal” is recommended in most cases. The settings for scan_external_scanners, scan_scanner_appliances, scan_total_process, scan_http_process, scan_packet_delay, and scan_intensity change as per the specified profile. Normal - Well balanced between intensity and speed. High - Recommended only when scanning a single IP or a small number of IPs. Optimized for speed and shorter scan times. Low - Recommended if responsiveness for individual hosts and services is low. Optimized for low bandwidth network connections and highly utilized networks. May take longer to complete.</td>
</tr>
<tr>
<td>scan_overall_performance=</td>
<td>{high</td>
</tr>
<tr>
<td>scan_external_scanners=</td>
<td>(Optional) Specify the number of external scanners to be used for associated scans. This setting is available only if you have multiple external scanners in your subscription. For example, if you have 10 external scanners in your subscription, you can configure this setting to any number between 1 to 10.</td>
</tr>
<tr>
<td>scan_scanner_appliances=</td>
<td>(Optional) Specify the number of scanner appliances to scan at the same time (per scan task). Launching several concurrent scans on the same scanner appliance has a multiplying effect on bandwidth usage and may exceed available scanner resources. Don’t have scanner appliances? Disregard the Scanner Appliance setting.</td>
</tr>
<tr>
<td>scan_total_process=</td>
<td>{value}</td>
</tr>
<tr>
<td>scan_http_process=</td>
<td>(Optional) Specify the maximum number of HTTP processes to run at the same time per host. Note that the total number of processes includes the HTTP processes.</td>
</tr>
<tr>
<td>scan_packet_delay=</td>
<td>{minimum</td>
</tr>
<tr>
<td>scan_intensity=</td>
<td>{normal</td>
</tr>
<tr>
<td></td>
<td>(Optional) This setting determines the aggressiveness (parallelism) of port scanning and host discovery at the port level. Lowering the intensity level has the effect of serializing port scanning and host discovery. This is useful for certain network conditions like cascading firewalls and lower scan prioritization on the network. Tip - If you are scanning through a firewall we recommended you reduce the intensity level. Unauthenticated scans see more of a performance difference using this option.</td>
</tr>
</tbody>
</table>
### Parameter | Description
--- | ---
scan_by_policy={0|1} | (Optional) Specify 1 to enable scan by policy. The Scan by Policy option allows you to restrict your scans to the controls in specified policies. You can choose up to 20 policies, one policy at a time. Once you’ve specified a policy, all controls in that policy will be scanned including any special control types in the policy. This is regardless of the Control Types settings in the profile.
policy_names={value1,value2} | (Optional) Specify policy names to scan by policy.
policy_ids={value1,value2} | (Optional) Specify policy IDs to scan by policy.
auto_update_expected_value={0|1} | (Optional) Specify 1 to update the control expected value used for posture evaluation with the actual value returned by the scan.
fim_controls_enabled={0|1} | (Optional) Specify 1 to perform file integrity monitoring based on user defined file integrity checks. A file integrity check is a user defined control that checks for changes to a specific file. You should set auto_update_expected_value=1 in order to use this parameter.
custom_wmi_query_checks={0|1} | (Optional) Specify 1 to run Windows WMI query checks. When enabled, WMI query checks will be performed for user defined WMI Query Check controls.
enable_dissolvable_agent={0|1} | (Optional) Specify 1 to enable dissolvable agent. This is required for certain scan features like Windows Share Enumeration. How does it work? At scan time the Agent is installed on Windows devices to collect data, and once the scan is complete it removes itself completely from target systems.
enable_password_auditing={0|1} | (Optional) Specify 1 to check for service provided password auditing controls (control IDs 3893, 3894 and 3895). These controls are used to identify 1) user accounts with empty passwords, 2) user accounts with the password equal to the user name, and 3) user accounts with passwords equal to an entry in a user-defined password dictionary. This setting is available only if enable_dissolvable_agent=1.
custom_password_dictionary={value1,value2} | (Optional) Specify passwords in order to create a password dictionary. This is used when evaluating control ID 3895, which identifies user accounts where the password is equal to an entry in the password dictionary.
enable_windows_share Enumeration={0|1} | (Optional) Specify 1 to use Windows Share Enumeration to find and report details about Windows shares that are readable by everyone. This test is performed using QID 90635. Make sure 1) the Dissolvable Agent is enabled, 2) QID 90635 is included in the Vulnerability Detection section, and 3) a Windows authentication record is defined.
enable_windows_directory_search={0|1} | (Optional) Specify 1 if you’ve set up Windows Directory Search controls and want to include them in the scan. This custom control allows you to search for files/directories based on various criteria like file name and user access permissions.
### Chapter 4 - Scan Configuration

#### Option Profiles for Compliance

**Parameter** | **Description**
--- | ---
scan_ports={standard|targeted} | (Required) Specify “standard” to enable standard scan of TCP ports. See Appendix B - Ports used for scanning for a list of ports used for standard scan. Specify “targeted” to perform a targeted scan. Which ports are included in a targeted scan? For Unix hosts, these well known ports are scanned: 22 (SSH), 23 (telnet) and 513 (rlogin). Any one of these services is sufficient for authentication. If services (SSH, telnet, rlogin) are not running on these well known ports for the hosts you will be scanning, specify this option and define a custom ports list in the Unix authentication record. Note: The actual ports scanned also depends on the Ports setting in the Unix authentication record. For Windows hosts, the service scans a fixed set of required Windows ports (a service defined, internal list).

mssql_db_udc_restriction={0|1} | (Optional) Set value to 1 if you want to specify a limit on the number of rows to be returned per scan for custom MS SQL Database checks.

mssql_db_udc_limit={value} | (Optional) Provide a value to define the number of rows to be returned per scan (default is 256).

oracle_db_udc_restriction={0|1} | (Optional) Set value to 1 if you want to specify a limit on the number of rows to be returned per scan for custom Oracle Database checks.

oracle_db_udc_limit={value} | (Optional) Provide a value to define the number of rows to be returned per scan (default is 5000).

enable_auth_instance_discovery={0|1} | (Optional to create or update option profile record) Specify enable_auth_instance_discovery=1 to enable auto discover instances and system record creation for the chosen auth types. When unspecified (enable_auth_instance_discovery=0), we will not scan to auto discover instances. The parameters enable_auth_instance_discovery, scan_by_policy and include_system_auth are mutually exclusive and cannot be specified together in the same request. In UI, this parameter is a check box and referred to "Allow instance discovery..." in the System Authentication Records section in the Scan tab on the New/Edit Compliance Profile page.

auto_auth_types | (Optional to create or update option profile record) Specify the technologies for which you want to enable auto discover instances and system record creation. The valid values are: Apache Web Server, IBM WebSphere App Server and Jboss Server. Multiple technologies are specified as comma separated values. This parameter can only be specified if enable_auth_instance_discovery=1.
### Chapter 4 - Scan Configuration

#### Option Profiles for Compliance

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>`include_system_auth={0</td>
<td>1}`</td>
</tr>
<tr>
<td>`use_system_auth_on_duplicate={0</td>
<td>1}`</td>
</tr>
<tr>
<td>`use_user_auth_on_duplicate={0</td>
<td>1}`</td>
</tr>
</tbody>
</table>

#### Additional

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>`additional_tcp_ports={0</td>
<td>1}`</td>
</tr>
<tr>
<td>`additional_tcp_ports_standard_scan={0</td>
<td>1}`</td>
</tr>
<tr>
<td><code>additional_tcp_ports_additional={value1,value2}</code></td>
<td>(Optional) Specify additional TCP ports to scan. You can specify up to 20 ports including the standard scan ports.</td>
</tr>
<tr>
<td>`additional_udp_ports={0</td>
<td>1}`</td>
</tr>
<tr>
<td>`additional_udp_ports_type={standard</td>
<td>custom}`</td>
</tr>
<tr>
<td><code>additional_udp_ports_custom={value1,value2}</code></td>
<td>(Optional) Specify additional UDP ports to scan. You can specify up to 10 ports including the standard scan ports.</td>
</tr>
<tr>
<td>`icmp={0</td>
<td>1}`</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>blocked_resources={0</td>
<td>1}</td>
</tr>
<tr>
<td>protected_ports={default</td>
<td>custom}</td>
</tr>
<tr>
<td>protected_ports_custom={value1,value2}</td>
<td>(Optional) Specify a custom list of protected ports.</td>
</tr>
<tr>
<td>protected_ips={all</td>
<td>custom}</td>
</tr>
<tr>
<td>protected_ips_custom={value1,value2}</td>
<td>(Optional) Specify a custom list of IP addresses and ranges protected by your firewall/IDS.</td>
</tr>
<tr>
<td>ignore_rst_packets={0</td>
<td>1}</td>
</tr>
<tr>
<td>ignore_firewall_generated_syn_ack_packets={0</td>
<td>1}</td>
</tr>
<tr>
<td>not_send_ack_or_syn_ack_packets_during_host_discovery={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

API request:
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X POST
"action=create&title=pcjp&global=1&scan_parallel_scaling=1&scan_overall_performance=high&scan_by_policy=1&policy_names=jp2&auto_update_expected_value=1&scan_ports=standard&additional_tcp_ports=1&not_send_ack_or_syn_ack_packets_during_host_discovery=1"
"http://qualysapi.qualys.com/api/2.0/fo/subscription(option_profile=pc/"
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<DOCTYPE SIMPLE_RETURN SYSTEM
"http://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
    <RESPONSE>
        <DATETIME>2018-04-10T11:10:36Z</DATETIME>
        <TEXT>Compliance Option profile successfully added.</TEXT>
        <ITEM_LIST>
            <ITEM>
                <KEY>ID</KEY>
                <VALUE>39044</VALUE>
            </ITEM>
        </ITEM_LIST>
    </RESPONSE>
</SIMPLE_RETURN>
```
Database UDCs for MS MS SQL and Oracle

We have added parameters DATABASE_PREFERENCE_KEY, mssql_db_udc_restriction, mssql_db_udc_limit, oracle_db_udc_restriction, and oracle_db_udc_limit to the Options Profile API to help you set limit on number of rows returned per scan for the MS SQL and Oracle UDC. Default and maximum allowed limit for MS SQL is 256 rows and for Oracle is 5000 rows.

Sample - Create for Database UDC

Create with Database Preference Key and custom Limit set for MS SQL and Oracle

API request:

curl -u "username:password" -H "Content-type: text/xml" -X "POST" 
-d "action=create&title=API-PC-OP-
Oracle&scan_ports=targeted&oracle_db_udc_restriction=1&oracle_db_udc_limit=10&mssql_db_udc_restriction=1&mssql_db_udc_limit=250"
"https://qualysapi.qualys.com/api/2.0/fo/subscription/option_profile/pc/"
>CreateOptionProfile.xml

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2019-05-20T19:16:41Z</DATETIME>
    <TEXT>Compliance Option profile successfully added.</TEXT>
  </RESPONSE>
</SIMPLE_RETURN>
Update Compliance Option Profile

/api/2.0/fo/subscription/option_profile/pc/?action=update

[POST]

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=update</td>
<td>(Required)</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Required) The ID of the option profile.</td>
</tr>
</tbody>
</table>

For a list of optional parameters, see Input Parameters for Create PC Option Profile.

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X POST
"action=update&title=pc-jp&id=51491401" 
"http://qualysapi.qualys.com/api/2.0/fo/subscription/option_profile/pc/"

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "http://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-10T11:10:36Z</DATETIME>
    <TEXT>Compliance Option profile successfully updated.</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>51491401</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```

Sample - Update for Database UDC

Update Option Profile with Oracle Database Preference Key

API request:

curl -u "username:password" -H "Content-type: text/xml" -X "POST"
-d "action=update&id=1709710&title=API-PC-OP-Oracle-custom-limit&scan_ports=targeted&oracle_db_udc_restriction=1&oracle_db_udc_limit=100"
"https://qualysapi.qualys.com/api/2.0/fo/subscription/option_profile/pc/"
XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2019-05-20T06:45:00Z</DATETIME>
    <TEXT>Compliance Option profile successfully updated.</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>1709710</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```
Compliance Option Profile List

/api/2.0/fo/subscription/option_profile/pc/?action=list

[GET] [POST]

Input Parameters

All option profiles are fetched if no parameters are given. To fetch a specific option profile, provide the “id” or “title” parameter with the option profile id or title of interest. Optionally, you can filter the results by using optional parameters listed under Input Parameters for Create PC Option Profile.

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X GET
"action=list"
"http://qualysapi.qualys.com/api/2.0/fo/subscription/option_profile/pc/"

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE OPTION_PROFILES SYSTEM
"http://qualysapi.qualys.com/api/2.0/fo/subscription/option_profile_info.dtd">
<OPTION_PROFILES>
<OPTION_PROFILE>
<BASIC_INFO>
<ID>19026</ID>
<GROUP_NAME><![CDATA[Initial PC Options 2]]></GROUP_NAME>
<GROUP_TYPE>compliance</GROUP_TYPE>
<User_ID><![CDATA[John Smith (jsmith_ap)]></User_ID>
<UNIT_ID>0</UNIT_ID>
<SUBSCRIPTION_ID>10421401</SUBSCRIPTION_ID>
<IS_GLOBAL>1</IS_GLOBAL>
<UPDATE_DATE>2018-04-10T11:10:36Z</UPDATE_DATE>
</BASIC_INFO>
<SCAN>
<TARGETED_SCAN>1</TARGETED_SCAN>
</PORTS>
<PERFORMANCE>
<PARALLEL_SCALING>0</PARALLEL_SCALING>
<OVERALL_PERFORMANCE>Normal</OVERALL_PERFORMANCE>
<HOSTS_TO_SCAN>
<EXTERNAL_SCANNERS>10</EXTERNAL_SCANNERS>
<SCANNER_APPLIANCES>30</SCANNER_APPLIANCES>
</HOSTS_TO_SCAN>
<PROCESSES_TO_RUN>
<TOTAL_PROCESSES>10</TOTAL_PROCESSES>
<HTTP_PROCESSES>10</HTTP_PROCESSES>
</PROCESSES_TO_RUN>
<PACKET_DELAY>Medium</PACKET_DELAY>

<PORT_SCANNING_AND_HOST_DISCOVERY>Normal</PORT_SCANNING_AND_HOST_DISCOVERY>
</PERFORMANCE>
<DISSOLVABLE_AGENT>
<DISOLVABLE_AGENT_ENABLE>0</DISOLVABLE_AGENT_ENABLE>
</DISOLVABLE_AGENT>

<HAS_PASSWORD_AUDITING_ENABLE>0</HAS_PASSWORD_AUDITING_ENABLE>
</PASSWORD_AUDITING_ENABLE>

<WINDOWS_SHARE_ENUMERATION_ENABLE>0</WINDOWS_SHARE_ENUMERATION_ENABLE>
</WINDOWS_SHARE_ENUMERATION_ENABLE>

<WINDOWS_DIRECTORY_SEARCH_ENABLE>0</WINDOWS_DIRECTORY_SEARCH_ENABLE>
</WINDOWS_DIRECTORY_SEARCH_ENABLE>

</DISSOLVABLE_AGENT>

<FILE_INTEGRITY_MONITORING>
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</FILE_INTEGRITY_MONITORING>

<CONTROL_TYPES>
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<CUSTOM_WMI_QUERY_CHECKS>0</CUSTOM_WMI_QUERY_CHECKS>
</CONTROL_TYPES>
</SCAN>

<ADDITIONAL>

<HOST_DISCOVERY>
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<STANDARD_SCAN>1</STANDARD_SCAN>
</TCP_PORTS>
<UDP_PORTS>
<STANDARD_SCAN>1</STANDARD_SCAN>
</UDP_PORTS>
<ICMP>1</ICMP>
</HOST_DISCOVERY>

<PACKET_OPTIONS>
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<IGNORE_FIREWALLGENERATED_TCP_SYN_ACK>0</IGNORE_FIREWALL_GENERATE_D_TCP_SYN_ACK>
<NOT_SEND_TCP_ACK_OR_SYN_ACK_DURING_HOST_DISCOVERY>0</NOT_SEND_TCP_ACK_OR_SYN_ACK_DURING_HOST_DISCOVERY>
</PACKET_OPTIONS>
</ADDITIONAL>
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<BASIC_INFO>
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  <GROUP_NAME><![CDATA[pc 55]]></GROUP_NAME>
  <GROUP_TYPE>compliance</GROUP_TYPE>
  <USER_ID><![CDATA[John Smith (jsmith_ap)]></USER_ID>
  <UNIT_ID>0</UNIT_ID>
  <SUBSCRIPTION_ID>10421401</SUBSCRIPTION_ID>
  <IS_GLOBAL>0</IS_GLOBAL>
  <UPDATE_DATE>2018-04-10T11:10:36Z</UPDATE_DATE>
</BASIC_INFO>

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  </PORTS>
  <PERFORMANCE>
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    <OVERALL_PERFORMANCE>High</OVERALL_PERFORMANCE>
    <HOSTS_TO_SCAN>
      <EXTERNAL_SCANNERS>20</EXTERNAL_SCANNERS>
      <SCANNER_APPLIANCES>40</SCANNER_APPLIANCES>
    </HOSTS_TO_SCAN>
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      <HTTP_PROCESSES>15</HTTP_PROCESSES>
    </PROCESSES_TO_RUN>
    <PACKET_DELAY>Short</PACKET_DELAY>
  </PERFORMANCE>
  <SCAN_RESTRICTION>
    <SCAN_BY_POLICY>
      <ID>10472</ID>
      <TITLE><![CDATA[jp]]></TITLE>
    </SCAN_BY_POLICY>
  </SCAN_RESTRICTION>
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  </FILE_INTEGRITY_MONITORING>
</SCAN>
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  <HOST_DISCOVERY>
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    </TCP_PORTS>
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    </UDP_PORTS>
    <ICMP>1</ICMP>
  </HOST_DISCOVERY>
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  </BLOCK_RESOURCES>
  <PACKET_OPTIONS>
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  </PACKET_OPTIONS>
</ADDITIONAL>
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OPTION_PROFILE
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  <GROUP_NAME><![CDATA[pc op - 1]]></GROUP_NAME>
  <GROUP_TYPE>compliance</GROUP_TYPE>
  <USER_ID><![CDATA[John Smith (jsmith_ap)]></USER_ID>
  <UNIT_ID>0</UNIT_ID>
  <SUBSCRIPTION_ID>10421401</SUBSCRIPTION_ID>
  <IS_GLOBAL>0</IS_GLOBAL>
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  <PORTS>
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</PORTS>

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  <SCANNER_APPLIANCES>40</SCANNER_APPLIANCES>
</HOSTS_TO_SCAN>

<PROCESSES_TO_RUN>
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</PROCESSES_TO_RUN>

<PACKET_DELAY>Short</PACKET_DELAY>

<PORT_SCANNING_AND_HOST_DISCOVERY>Normal</PORT_SCANNING_AND_HOST_DISCOVERY>
</PERFORMANCE>

<SCAN_RESTRICTION>
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    <POLICY>
      <ID>14487</ID>
      <TITLE><![CDATA[jp2]]></TITLE>
    </POLICY>
  </SCAN_BY_POLICY>
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        <ADDITIONAL_PORTS>1</ADDITIONAL_PORTS>
      </TCP_ADDITIONAL>
    </TCP_PORTS>
    <UDP_PORTS>
      <STANDARD_SCAN>1</STANDARD_SCAN>
    </UDP_PORTS>
    <ICMP>1</ICMP>
  </HOST_DISCOVERY>
</ADDITIONAL>
<WATCHGUARD_DEFAULT_BLOCKED_PORTS>1</WATCHGUARD_DEFAULT_BLOCKED_PORTS>
   <ALL_REGISTERED_IPS>1</ALL_REGISTERED_IPS>
</BLOCK_RESOURCES>
<PACKET_OPTIONS>
<IGNORE_FIREWALL_GENERATED_TCP_RST>1</IGNORE_FIREWALL_GENERATED_TCP_RST>
<IGNORE_FIREWALL_GENERATED_TCP_SYN_ACK>1</IGNORE_FIREWALL_GENERATED_TCP_SYN_ACK>
<NOT_SEND_TCP_ACK_OR_SYN_ACK_DURING_HOST_DISCOVERY>1</NOT_SEND_TCP_ACK_OR_SYN_ACK_DURING_HOST_DISCOVERY>
</PACKET_OPTIONS>
</ADDITIONAL>
</OPTION_PROFILE>
</OPTION_PROFILE>

<BASIC_INFO>
   <ID>51491401</ID>
   <GROUP_NAME><![CDATA[pc op - 2]]></GROUP_NAME>
   <GROUP_TYPE>compliance</GROUP_TYPE>
   <USER_ID><![CDATA[John Smith (jsmith_ap)]></USER_ID>
   <UNIT_ID>0</UNIT_ID>
   <SUBSCRIPTION_ID>10421401</SUBSCRIPTION_ID>
   <IS_GLOBAL>0</IS_GLOBAL>
   <UPDATE_DATE>2018-04-10T11:10:36Z</UPDATE_DATE>
</BASIC_INFO>

<SCAN>
   <PORTS>
      <STANDARD_SCAN>1</STANDARD_SCAN>
   </PORTS>
   <PERFORMANCE>
      <PARALLEL_SCALING>0</PARALLEL_SCALING>
      <OVERALL_PERFORMANCE>Normal</OVERALL_PERFORMANCE>
      <HOSTS_TO_SCAN>
         <EXTERNAL_SCANNERS>10</EXTERNAL_SCANNERS>
         <SCANNER_APPLIANCES>30</SCANNER_APPLIANCES>
      </HOSTS_TO_SCAN>
      <PROCESSES_TO_RUN>
         <TOTAL_PROCESSES>10</TOTAL_PROCESSES>
         <HTTP_PROCESSES>10</HTTP_PROCESSES>
      </PROCESSES_TO_RUN>
      <PACKET_DELAY>Medium</PACKET_DELAY>
      <PORT_SCANNING_AND_HOST_DISCOVERY>Normal</PORT_SCANNING_AND_HOST_DISCOVERY>
   </PERFORMANCE>
</SCAN>
ISCOVERY>
   </PERFORMANCE>
   <SCAN_RESTRICTION>
   <SCAN_BY_POLICY>
      <POLICY>
         <ID>14661401</ID>
         <TITLE><![CDATA[policy - 2]]></TITLE>
      </POLICY>
      <POLICY>
         <ID>14651401</ID>
         <TITLE><![CDATA[policy - 1]]></TITLE>
      </POLICY>
   </SCAN_BY_POLICY>
   </SCAN_RESTRICTION>
   <FILE_INTEGRITY_MONITORING>
      <AUTO_UPDATEEXPECTED_VALUE>0</AUTO_UPDATEEXPECTED_VALUE>
   </FILE_INTEGRITY_MONITORING>
   </SCAN>
   <ADDITIONAL>
      <HOST_DISCOVERY>
         <TCP_PORTS>
            <STANDARD_SCAN>1</STANDARD_SCAN>
         </TCP_PORTS>
         <UDP_PORTS>
            <CUSTOM_PORT><![CDATA[37,53,68,69,111]]></CUSTOM_PORT>
         </UDP_PORTS>
         <ICMP>1</ICMP>
      </HOST_DISCOVERY>
      <BLOCK_RESOURCES>
         <CUSTOM_PORT_LIST><![CDATA[111]]></CUSTOM_PORT_LIST>
         <CUSTOM_IP_LIST><![CDATA[10.10.10.6]]></CUSTOM_IP_LIST>
      </BLOCK_RESOURCES>
      <PACKET_OPTIONS>
         <IGNORE_FIREWALL_GENERATED_TCP_RST>0</IGNORE_FIREWALL_GENERATED_TCP_RST>
         <IGNORE_FIREWALL_GENERATED_TCP_SYN_ACK>0</IGNORE_FIREWALL_GENERATED_TCP_SYN_ACK>
         <NOT_SEND_TCP_ACK_OR_SYN_ACK_DURING_HOST_DISCOVERY>0</NOT_SEND_TCP_ACK_OR_SYN_ACK_DURING_HOST_DISCOVERY>
      </PACKET_OPTIONS>
   </ADDITIONAL>
</OPTION_PROFILE>
</OPTION_PROFILES>
Sample - List for Database UDC

List the database preference key setting and it’s corresponding value in Option Profile for MS SQL and Oracle

**API request:**
```
curl -u "username:password" -H "Content-type: text/xml" \n-X -d \n"action=list&id=1710150" \n"https://qualysapi.qualys.com/api/2.0/fo/subscription/option_profile/pc/" \n>optionProfileList.xml
```

**XML output:**
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE OPTION_PROFILES SYSTEM \n"https://qualysapi.qualys.com/api/2.0/fo/subscription/option_profile/option_profile_info.dtd"> \n<OPTION_PROFILES> \n  <OPTION_PROFILE> \n    <BASIC_INFO> \n      <ID>1710150</ID> \n    </BASIC_INFO> \n    < DATABASE_PREFERENCE_KEY > \n      <MSSQL> \n        <DB_UDC_RESTRICTION>1</DB_UDC_RESTRICTION> \n        <DB_UDC_LIMIT>250</DB_UDC_LIMIT> \n      </MSSQL> \n      <ORACLE> \n        <DB_UDC_RESTRICTION>1</DB_UDC_RESTRICTION> \n        <DB_UDC_LIMIT>10</DB_UDC_LIMIT> \n      </ORACLE> \n    </ DATABASE_PREFERENCE_KEY > \n    <FILE_INTEGRITY_MONITORING> \n      <AUTO_UPDATEEXPECTED_VALUE>0</AUTO_UPDATEEXPECTED_VALUE> \n    </FILE_INTEGRITY_MONITORING> \n    <ADDITIONAL> \n    </ADDITIONAL> \n  </OPTION_PROFILE> \n</OPTION_PROFILES>
```

**DTD**
```
<platform API server>/api/2.0/fo/subscription/option_profile/option_profile_info.dtd
```

**Delete Compliance Option Profile**
```
/api/2.0/fo/subscription/option_profile/pc/?action=delete
```

[GET] [POST]
Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=delete</td>
<td>(Required)</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Required) The ID of the option profile.</td>
</tr>
</tbody>
</table>

**API request:**
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X POST "action=delete&id=51491401" "http://qualysapi.qualys.com/api/2.0/fo/subscription/option_profile/pc/
```

**XML output:**
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "http://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-10T11:10:36Z</DATETIME>
    <TEXT>Option Profile Deleted Successfully</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>51491401</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```
KnowledgeBase

/api/2.0/fo/knowledge_base/vuln/?action=list

[GET]  [POST]

Download a list of vulnerabilities from Qualys' KnowledgeBase. Several input parameters grant users control over which vulnerabilities to download and the amount of detail to download, and the XML output provides a rich information source for each vulnerability.

Qualys' Software-as-a-Service (SaaS) technology includes its KnowledgeBase, with the industry’s largest number of vulnerability signatures, that is continuously updated by Qualys’ Research and Development team. Qualys is fully dedicated to providing the most accurate security audits in the industry. Each day new and updated signatures are tested in Qualys’ own vulnerability labs and then published, making them available to Qualys customers.

Authorized Qualys users have the ability to download vulnerability data using the KnowledgeBase API. Please contact Qualys Support or your sales representative if you would like to obtain authorization for your subscription.

Permissions - Your subscription must be granted permission to run this API function. Please contact Qualys Support or your sales representative to receive this authorization.

<table>
<thead>
<tr>
<th>Role</th>
<th>Permissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager, Unit Manager, Scanner, Reader</td>
<td>Download vulnerability data from the KnowledgeBase.</td>
</tr>
<tr>
<td>Auditor</td>
<td>No permission to download vulnerability data from the KnowledgeBase.</td>
</tr>
</tbody>
</table>

Input Parameters

Several optional input parameters may be specified. When unspecified, the XML output includes all vulnerabilities in the KnowledgeBase, showing basic details for each vulnerability. Several optional parameters allow you to specify filters. When filter parameters are specified, these parameters are ANDed by the service to filter the data from the output.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request=</td>
<td>(Optional) Show (echo) the request’s input parameters (names and values) in the XML output. When unspecified, parameters are not included in the XML output. Specify 1 to view parameters in the XML output.</td>
</tr>
<tr>
<td>details=Basic</td>
<td>(Optional) Show the requested amount of information for each vulnerability in the XML output. A valid value is: Basic (default), All, or None. Basic includes basic elements plus CVSS Base and Temporal scores. All includes all vulnerability details, including the Basic details.</td>
</tr>
</tbody>
</table>
### Parameter | Description
--- | ---
ids={value}  | (Optional) Used to filter the XML output to include only vulnerabilities that have QID numbers matching the QID numbers you specify.
id_min={value}  | (Optional) Used to filter the XML output to show only vulnerabilities that have a QID number greater than or equal to a QID number you specify.
id_max={value}  | (Optional) Used to filter the XML output to show only vulnerabilities that have a QID number less than or equal to a QID number you specify.
is_patchable={0|1}  | (Optional) Used to filter the XML output to show only vulnerabilities that are patchable or not patchable. A vulnerability is considered patchable when a patch exists for it. When 1 is specified, only vulnerabilities that are patchable will be included in the output. When 0 is specified, only vulnerabilities that are not patchable will be included in the output. When unspecified, patchable and unpatchable vulnerabilities will be included in the output.
last_modified_after={date}  | (Optional) Used to filter the XML output to show only vulnerabilities last modified after a certain date and time. When specified vulnerabilities last modified by a user or by the service will be shown. The date/time is specified in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT).
last_modified_before={date}  | (Optional) Used to filter the XML output to show only vulnerabilities last modified before a certain date and time. When specified vulnerabilities last modified by a user or by the service will be shown. The date/time is specified in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT).
last_modified_by_user_after={date}  | (Optional) Used to filter the XML output to show only vulnerabilities last modified by a user after a certain date and time. The date/time is specified in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT).
last_modified_by_user_before={date}  | (Optional) Used to filter the XML output to show only vulnerabilities last modified by a user before a certain date and time. The date/time is specified in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT).
last_modified_by_service_after={date}  | (Optional) Used to filter the XML output to show only vulnerabilities last modified by the service after a certain date and time. The date/time is specified in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT).
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>last_modified_by_service_before={date}</td>
<td>(Optional) Used to filter the XML output to show only vulnerabilities last modified by the service before a certain date and time. The date/time is specified in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT).</td>
</tr>
<tr>
<td>published_after={date}</td>
<td>(Optional) Used to filter the XML output to show only vulnerabilities published after a certain date and time. The date/time is specified in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT).</td>
</tr>
<tr>
<td>published_before={date}</td>
<td>(Optional) Used to filter the XML output to show only vulnerabilities published before a certain date and time. The date/time is specified in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT).</td>
</tr>
<tr>
<td>discovery_method={value}</td>
<td>(Optional) Used to filter the XML output to show only vulnerabilities assigned a certain discovery method. A valid value is: Remote, Authenticated, RemoteOnly, AuthenticatedOnly, or RemoteAndAuthenticated. When “Authenticated” is specified, the service shows vulnerabilities that have at least one associated authentication type. Vulnerabilities that have at least one authentication type can be detected in two ways: 1) remotely without using authentication, and 2) using authentication.</td>
</tr>
<tr>
<td>discovery_auth_types={value}</td>
<td>(Optional) Used to filter the XML output to show only vulnerabilities having one or more authentication types. A valid value is: Windows, Oracle, Unix, SNMP, DB2, HTTP, PANOS, TOMCAT, MARIADB, MongoDB, WEBLOGIC, MySQL, VMware. Multiple values should be comma-separated.</td>
</tr>
<tr>
<td>show_pci_reasons={0</td>
<td>1}</td>
</tr>
<tr>
<td>show_supported_modules_info={0</td>
<td>1}</td>
</tr>
<tr>
<td>show_disabled_flag={0</td>
<td>1}</td>
</tr>
<tr>
<td>show_qid_change_log={0</td>
<td>1}</td>
</tr>
</tbody>
</table>
Samples

These sample requests work on Qualys US Platform 1 where the FQDN in the API server URL is qualysapi.qualys.com. Please be sure to replace the FQDN with the proper API server URL for your platform. For a partner platform, use the URL for your @customer platform API server.

Sample 1 - Request all vulnerabilities in the KnowledgeBase showing basic details:

```
curl -u "user:password" -H "X-Requested-With: Curl" -X "POST"
-d "action=list"
"https://qualysapi.qualys.com/api/2.0/fo/knowledge_base/vuln/" > output.txt
```

Sample 2 - Request patchable vulnerabilities that have QIDs 1-200 showing all details:

```
curl -u "user:password" -H "X-Requested-With: Curl" -X "POST"
-d "action=list&ids=1-200&is_patchable=1&details=All"
"https://qualysapi.qualys.com/api/2.0/fo/knowledge_base/vuln/" > output.txt
```

Sample 3 - Request vulnerabilities that were last modified by the service after July 20, 2011 and that have the “remote and authenticated” discovery method:

```
curl -u "user:password" -H "X-Requested-With: Curl" -X "POST"
-d "action=list&last_modified_by_service_after=2011-07-20
&discovery_method=RemoteAndAuthenticated"
"https://qualysapi.qualys.com/api/2.0/fo/knowledge_base/vuln/" > output.txt
```

DTD

```
<platform API server>/api/2.0/fo/knowledge_base/vuln/
knowledge_base_vuln_list_output.dtd
```
Editing Vulnerabilities

/api/2.0/fo/knowledge_base/vuln/

[POST]

Edit, reset and list the edited vulnerabilities in the Qualys Vulnerability KnowledgeBase.

Permissions - Managers have permissions to edit vulnerabilities and make API requests to edit a vulnerability, reset a vulnerability and list customized vulnerabilities.

Edit a vulnerability

You can change the severity level and/or add comments to Threat, Impact or Solution. Providing at least one optional parameter is mandatory.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=edit</td>
<td>(Required) POST method is required</td>
</tr>
<tr>
<td>qid={value}</td>
<td>(Required) QID of the vulnerability to be edited.</td>
</tr>
<tr>
<td>severity={value}</td>
<td>(Optional) Severity level between 1 to 5. Changing the severity level of a vulnerability impacts how the vulnerability appears in reports and how it is eventually prioritized for remediation. For example, by changing a vulnerability from a severity 2 to a severity 5, remediation tickets for the vulnerability could have a higher priority and shorter deadline for resolution.</td>
</tr>
<tr>
<td>disable={0</td>
<td>1}</td>
</tr>
<tr>
<td>threat_comment</td>
<td>(Optional) Threat comments in plain text.</td>
</tr>
<tr>
<td>impact_comment</td>
<td>(Optional) Impact comments in plain text.</td>
</tr>
<tr>
<td>solution_comment</td>
<td>(Optional) Solution comments in plain text.</td>
</tr>
</tbody>
</table>

Comments added for Threat, Impact, or Solution are appended to the service-provided descriptions in the vulnerability details.

API request:

```bash
```

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM
```
Reset a vulnerability
You can change the vulnerability settings back to original.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=reset</td>
<td>(Required) POST method is required</td>
</tr>
<tr>
<td>qid={value}</td>
<td>(Required) QID of the vulnerability to be reset.</td>
</tr>
</tbody>
</table>

**API request:**
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X POST
"https://qualysapi.qualys.com/api/2.0/fo/knowledge_base/vuln/
?action=reset&qid=27014"
```

**XML output:**
```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2017-03-02T08:55:11Z</DATETIME>
    <TEXT>Custom Vuln Data has been reset successfully</TEXT>
  </RESPONSE>
</SIMPLE_RETURN>
```

List customized vulnerabilities
You can list the vulnerabilities that are edited.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=custom</td>
<td>(Required) GET or POST method can be used.</td>
</tr>
</tbody>
</table>
API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X POST
"action=custom"
"https://qualysapi.qualys.com/api/2.0/fo/knowledge_base/vuln/"

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE KB_CUSTOM_VULN_LIST_OUTPUT SYSTEM
"https://qualysapi.qualys.com/api/2.0/fo/knowledge_base/vuln/kb_custom_vuln_list_output.dtd">
<KB_CUSTOM_VULN_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2017-03-02T08:47:52Z</DATETIME>
    <CUSTOM_VULN_LIST>
      <CUSTOM_VULN_DATA>
        <QID>
          <![CDATA[27014]]>
        </QID>
        <SEVERITY_LEVEL>5</SEVERITY_LEVEL>
        <ORIGINAL_SEVERITY_LEVEL>5</ORIGINAL_SEVERITY_LEVEL>
        <IS_DISABLED>1</IS_DISABLED>
        <UPDATED_DATETIME>
          <![CDATA[2017-03-02T05:58:40Z]]>
        </UPDATED_DATETIME>
        <UPDATED_BY>
          <![CDATA[mr_md]]>
        </UPDATED_BY>
        <THREAT_COMMENT>
          <![CDATA[threat123]]>
        </THREAT_COMMENT>
        <IMPACT_COMMENT>
          <![CDATA[impact123]]>
        </IMPACT_COMMENT>
        <SOLUTION_COMMENT>
          <![CDATA[solution123]]>
        </SOLUTION_COMMENT>
      </CUSTOM_VULN_DATA>
    </CUSTOM_VULN_LIST>
  </RESPONSE>
</KB_CUSTOM_VULN_LIST_OUTPUT>

DTD

<platform API server>/api/2.0/fo/knowledge_base/vuln/kb_custom_vuln_list_output.dtd
Static Search Lists

/api/2.0/fo/qid/search_list/static/

Create static search lists and get information about them.

Permissions - as below.

<table>
<thead>
<tr>
<th>User Role</th>
<th>Permissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager, Unit Manager, Scanner, Reader</td>
<td>Create, update, list and delete search lists.</td>
</tr>
<tr>
<td>Auditor</td>
<td>No permission to create, update, list and delete search lists.</td>
</tr>
</tbody>
</table>

**List static search lists**

**Input parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request=0</td>
<td>1 (Optional) Specify 1 to show input parameters in XML output.</td>
</tr>
<tr>
<td>ids=381</td>
<td>(Optional) One or more search list IDs to display. Multiple IDs are comma separated.</td>
</tr>
</tbody>
</table>

**Sample - List static search list**

**API request:**

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" "https://qualysapi.qualys.com/api/2.0/fo/qid/search_list/static/?action=list&ids=381"

**XML response:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE STATIC_SEARCH_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/qid/search_list/static/static_list_output.dtd">
<STATIC_SEARCH_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-06-06T06:20:03Z</DATETIME>
    <STATIC_LISTS>
      <STATIC_LIST>
        <ID>381</ID>
        <TITLE><![CDATA[static search list]]></TITLE>
        <GLOBAL>Yes</GLOBAL>
        <OWNER>acme_tb</OWNER>
        <CREATED><![CDATA[06/01/2018 at 15:18:42 (GMT+0530)]]]></CREATED>
      </STATIC_LIST>
    </STATIC_LISTS>
  </RESPONSE>
</STATIC_SEARCH_LIST_OUTPUT>
```
<MODIFIED_BY>acme_tb</MODIFIED_BY>
<MODIFIED>![CDATA[06/02/2018 at 15:18:42 (GMT+0530)]]</MODIFIED>

<QIDS>
<QID>1000<QID>
<QID>1001<QID>
</QIDS>

<!-- This list is used in the following option profiles //-->

<Option_Profiles>
<Option_Profile>
<ID>135<ID>
<TITLE>![CDATA[Initial Options]]</TITLE>
</Option_Profile>
</Option_Profiles>

<!-- This list is used in the following report templates //-->

<Report_Templates>
<Report_Template>
<ID>256<ID>
<TITLE>![CDATA[Scan Report Template]]</TITLE>
</Report_Template>
</Report_Templates>

<!-- This list is used in the following remediation policies. //-->

<Remediation_Policies>
<Remediation_Policy>
<ID>655<ID>
<TITLE>![CDATA[Remediation Policy 1]]</TITLE>
</Remediation_Policy>
</Remediation_Policies>

<!-- This search list is associated with following distribution groups. //-->

<Distribution_Groups>
<Distribution_Group>
<NAME>![CDATA[All]]</NAME>
</Distribution_Group>
</Distribution_Groups>

<!-- This is my first comment for this list]]>!-->

<Comments>![CDATA[This is my first comment for this list]]></Comments>
</Static_List>
</Static_Lists>
</Response>
</Search_List_Output>
Chapter 4 - Scan Configuration

Static Search Lists

**DTD**

<platform API server>/api/2.0/fo/qid/search_list/static/static_list_output.dtd

**Create static search lists**

**Input parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=create</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request=0</td>
<td>1]</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required) A user defined search list title. Maximum is 256 characters (ascii).</td>
</tr>
<tr>
<td>qids={num1, num2...}</td>
<td>(Required) QIDs to include in the search list. Ranges are allowed.</td>
</tr>
<tr>
<td>global=0</td>
<td>1]</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional) User defined comments.</td>
</tr>
</tbody>
</table>

**Sample - Create search list**

**API request:**

```
curl -u "USERNAME:PASSWD" -H "X-Requested-With: Curl" -X "POST" -d "action=create&title=My+Static+Search+List&qids=68518-68522,48000" "https://qualysapi.qualys.com/api/2.0/fo/qid/search_list/static/"
```

**XML response:**

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2015-09-01T21:32:40Z</DATETIME>
    <TEXT>New search list created successfully</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>136992</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```
Update static search list

Input parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=update</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request=[0</td>
<td>1]</td>
</tr>
<tr>
<td>id=[id]</td>
<td>(Required) The ID of the search list you want to update.</td>
</tr>
<tr>
<td>title=[value]</td>
<td>(Optional) The search list title. Maximum is 256 characters (ascii).</td>
</tr>
<tr>
<td>global=[0</td>
<td>1]</td>
</tr>
<tr>
<td>qids=(num1, num2...)</td>
<td>(Optional) QIDs/ranges to include in the search list. Multiple entries are comma separated. &quot;&quot;&quot;QIDs specified will replace all existing ones defined for the search list, if any. qids cannot be specified with add_qids or remove_qids in the same request.</td>
</tr>
<tr>
<td>add_qids=(num1, num2...)</td>
<td>(Optional) QIDs/ranges you want to add to the existing ones defined for the search list. When the same QIDs are passed using add_qids and remove_qids in the same request, the QIDs are added to the list. add_qids cannot be specified with qids in the same request.</td>
</tr>
<tr>
<td>remove_qids=(num1, num2...)</td>
<td>(Optional) QIDs/ranges you want to remove the existing ones defined for the search list. When the same QIDs are passed using add_qids and remove_qids in the same request, the QIDs are added to the list. remove_qids cannot be specified with qids in the same request.</td>
</tr>
<tr>
<td>comments=[value]</td>
<td>(Optional) User defined comments.</td>
</tr>
</tbody>
</table>

Sample - Update static search list

API request:
```
curl -u "USERNAME:PASSWD" -H "X-Requested-With: Curl" -X "POST" -d "action=update&id=136992&global=1&qids=68518-68522,48000-48004" "https://qualysapi.qualys.com/api/2.0/fo/qid/search_list/static/"
```

XML response:
```
<xml version="1.0" encoding="UTF-8" >
<!DOCTYPE SIMPLE_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
<RESPONSE>
  <DATETIME>2015-09-01T21:32:40Z</DATETIME>
  <TEXT>Search list updated successfully</TEXT>
  <ITEM_LIST>
```

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Delete static search list

Input parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=delete</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>id={id}</td>
<td>(Required) The ID of the search list you want to delete.</td>
</tr>
</tbody>
</table>

Sample - Delete static search list

API request:
```
curl -u "USERNAME:PASSWD" -H "X-Requested-With: Curl" -X "POST" -d "action=delete&id=136992" "https://qualysapi.qualys.com/api/2.0/fo/qid/search_list/static/
```

XML response:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2015-09-01T21:32:40Z</DATETIME>
    <TEXT>search list deleted successfully</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>136992</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```
Dynamic Search Lists

/api/2.0/fo/qid/search_list/dynamic/

Create dynamic search lists and get information about them.

Permissions - as described below

<table>
<thead>
<tr>
<th>User Role</th>
<th>Permissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager, Unit Manager, Scanner, Reader</td>
<td>Create, update, list and delete search lists.</td>
</tr>
<tr>
<td>Auditor</td>
<td>No permission to create, update, list and delete search lists.</td>
</tr>
</tbody>
</table>

List dynamic search lists

Input parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={id1,id2...}</td>
<td>(Optional) One or more search list IDs to display. Multiple IDs are comma separated.</td>
</tr>
<tr>
<td>show_qids={0</td>
<td>1}</td>
</tr>
<tr>
<td>show_option_profiles={0</td>
<td>1}</td>
</tr>
<tr>
<td>show_distribution_groups={0</td>
<td>1}</td>
</tr>
<tr>
<td>show_report_templates={0</td>
<td>1}</td>
</tr>
<tr>
<td>show_remediation_policies={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

Sample - List dynamic search list

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl"
"https://qualysapi.qualys.com/api/2.0/fo/qid/search_list/dynamic/?
action=list&ids=381"

XML response:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE DYNAMIC_SEARCH_LIST_OUTPUT SYSTEM
Chapter 4 - Scan Configuration
Dynamic Search Lists

"https://qualysapi.qualys.com/api/2.0/fo/qid/search_list/dynamic/dynamic_list_output.dtd">
<SEARCH_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2015-01-06T06:20:03Z</DATETIME>
    <DYNAMIC_LISTS>
      <DYNAMIC_LIST>
        <ID>381</ID>
        <TITLE<![CDATA[static search list]]></TITLE>
        <GLOBAL>Yes</GLOBAL>
        <OWNER>acme_tb</OWNER>
        <CREATED><![CDATA[07/27/2015 at 15:18:42 (GMT+0530)]]></CREATED>
        <MODIFIED_BY>acme_tb</MODIFIED_BY>
        <MODIFIED><![CDATA[07/27/2015 at 15:18:42 (GMT+0530)]]></MODIFIED>
        <QIDS>
          <QID>1000</QID>
          <QID>1001</QID>
        </QIDS>
        <CRITERIA>
          <VULNERABILITY_TITLE><![CDATA[NOT Title]]></VULNERABILITY_TITLE>
          <DISCOVERY_METHOD><![CDATA[Authenticated Only]]></DISCOVERY_METHOD>
          <AUTHENTICATION_TYPE><![CDATA[HTTP, Oracle, Unix]]></AUTHENTICATION_TYPE>
          <USER_CONFIGURATION><![CDATA[Disabled, Edited]]></USER_CONFIGURATION>
          <CATEGORY><![CDATA[NOT Backdoors and trojan horses, DNS and BIND]]></CATEGORY>
          <CONFIRMED_SEVERITY><![CDATA[1, 2]]></CONFIRMED_SEVERITY>
          <POTENTIAL_SEVERITY><![CDATA[2, 3]]></POTENTIAL_SEVERITY>
          <INFORMATION_SEVERITY><![CDATA[4, 5]]></INFORMATION_SEVERITY>
          <VENDOR><![CDATA[NOT 2brightsparks, 3com, 4d]]></VENDOR>
          <PRODUCT><![CDATA[NOT .net_framework]]></PRODUCT>
          <CVSS_BASE_SCORE><![CDATA[2]]></CVSS_BASE_SCORE>
          <CVSS_TEMPORAL_SCORE><![CDATA[3]]></CVSS_TEMPORAL_SCORE>
          <CVSS_ACCESS_VECTOR><![CDATA[Adjacent Network]]></CVSS_ACCESS_VECTOR>
          <PATCH_AVAILABLE><![CDATA[Yes, No]]></PATCH_AVAILABLE>
          <VIRTUAL_PATCH_AVAILABLE><![CDATA[Yes]]></VIRTUAL_PATCH_AVAILABLE>
        </CRITERIA>
      </DYNAMIC_LIST>
    </DYNAMIC_LISTS>
  </RESPONSE>
</SEARCH_LIST_OUTPUT>
<CVE_ID><![CDATA[NOT CVE]]></CVE_ID>
<EXPLOITABILITY><![CDATA[ExploitKits, Immunity - Dsquare]]></EXPLOITABILITY>
<ASSOCIATED_MALWARE><![CDATA[Trend Micro]]></ASSOCIATED_MALWARE>
<VENDOR_REFERENCE><![CDATA[NOT Linux]]></VENDOR_REFERENCE>
<BUGTRAQ_ID><![CDATA[NOT 15656]]></BUGTRAQ_ID>
<VULNERABILITYDETAILS><![CDATA[details]]></VULNERABILITYDETAILS>
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<TITLE><![CDATA[Remediation Policy 1]]></TITLE>

</REMEDICATION_POLICIES>

<!-- This search list is associated with following distribution groups. //-->

<DISTRIBUTION_GROUPS>

<DISTRIBUTION_GROUP>

<ID>226</ID>

<TITLE><![CDATA[All]]></TITLE>

</DISTRIBUTION_GROUP>

</DISTRIBUTION_GROUPS>

<COMMENTS><![CDATA[This is my first comment for this list]]></COMMENTS>

</DYNAMIC_LIST>

</DYNAMIC_LISTS>

</RESPONSE>

</SEARCH_LIST_OUTPUT>

**DTD**

<platform API server>/api/2.0/fo/qid/search_list/dynamic/dynamic_list_output.dtd

**Create dynamic search list**

**Input parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=create</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request=0</td>
<td>1</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required) A user defined search list title. Maximum is 256 characters (ascii).</td>
</tr>
<tr>
<td>global=0</td>
<td>1</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional) User defined comments.</td>
</tr>
<tr>
<td>[criteria]</td>
<td>(Required) User defined search criteria. See “Search criteria”</td>
</tr>
</tbody>
</table>

**Search criteria**

Use these parameters to define search criteria for dynamic search lists, using create and update requests. All parameters act as vulnerability filters.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>vuln_title={value}</td>
<td>Vulnerability title (string); to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>not_vuln_title=0</td>
<td>1</td>
</tr>
<tr>
<td>Parameter</td>
<td>Value</td>
</tr>
<tr>
<td>------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>discovery_methods=[value]</td>
<td>One or more discovery methods: Remote, Authenticated, Remote_Authenticated; by default all methods are included</td>
</tr>
<tr>
<td>auth_types=[value]</td>
<td>One or more of these authentication types: Windows, Unix, Oracle, SNMP, VMware, DB2, HTTP, MySQL, PANOS, TOMCAT, MARIADB, MongoDB, WEBLOGIC; multiple values are comma separated; to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>user_configuration=[value]</td>
<td>One or more of these user configuration values: disabled, custom; multiple values are comma separated; to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>categories=[value]</td>
<td>One or more vulnerability category names (strings); to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>not_categories=[0</td>
<td>1]</td>
</tr>
<tr>
<td>confirmed_severities=[value]</td>
<td>One or more confirmed vulnerability severities (1-5); multiple severities are comma separated; to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>potential_severities=[value]</td>
<td>One or more potential vulnerability severities (1-5); multiple severities are comma separated; to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>ig_severities=[value]</td>
<td>One or more information gathered severities (1-5); multiple severities are comma separated; to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>vendor_ids=[value]</td>
<td>One or more vendor IDs; multiple IDs are comma separated; to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>not_vendor_ids=[0</td>
<td>1]</td>
</tr>
<tr>
<td>products=[value]</td>
<td>Vendor product names; multiple names are comma separated; to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>not_products=[0</td>
<td>1]</td>
</tr>
<tr>
<td>patch_available=[value]</td>
<td>Vulnerabilities with patches: 0 (no), 1 (yes); by default all vulnerabilities with and without patches are included; multiple values are comma separated; to unset value use update request and set to empty value</td>
</tr>
</tbody>
</table>
## Dynamic Search Lists

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>virtual_patch_available={value}</td>
<td>Vulnerabilities with Trend Micro virtual patches: 0 (no), 1 (yes); by default vulnerabilities with and without these virtual patches are included; multiple values are comma separated; to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>cve_ids={value}</td>
<td>One or more CVE IDs; multiple IDs are comma separated; to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>not_cve_ids={0</td>
<td>1}</td>
</tr>
<tr>
<td>exploitability={value}</td>
<td>One or more vendors with exploitability info; multiple references are comma separated; to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>malware_associated={value}</td>
<td>One or more vendors with malware info; multiple references are comma separated; to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>vendor_refs={value}</td>
<td>One or more vendor references; multiple vendors are comma separated; to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>not_vendor_refs={0</td>
<td>1}</td>
</tr>
<tr>
<td>bugtraq_id={value}</td>
<td>Vulnerabilities with a Bugtraq ID number; to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>not_bugtraq_id={0</td>
<td>1}</td>
</tr>
<tr>
<td>vuln_details={value}</td>
<td>A string matching vulnerability details; to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>compliance_details={value}</td>
<td>A string matching compliance details; to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>supported_modules={value}</td>
<td>One or more of these Qualys modules: VM, CA-Windows Agent, CA-Linux Agent, WAS, WAF, MD; multiple values are comma separated; to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>compliance_types={value}</td>
<td>One or more compliance types: PCI, CobiT, HIPAA, GLBA, SOX; multiple values are comma separated; to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>qualys_top_lists={value}</td>
<td>One or more Qualys top lists: Internal_10, External_10; multiple values are comma separated; to unset value use update request and set to empty value</td>
</tr>
<tr>
<td>cpe={value}</td>
<td>(Optional) One or more CPE values: Operating System, Application, Hardware, None; multiple values are comma separated.</td>
</tr>
</tbody>
</table>
### Parameter | Value
---|---
qids_not_exploitable={0|1} | Set to 1 for vulnerabilities that are not exploitable due to configuration.
non_running_services={0|1} | Set to 1 for vulnerabilities on non running services.
sans_20={0|1} | Set to 1 for vulnerabilities in 2008 SANS 20 list
nac_nam={0|1} | Set to 1 for NAC/NAM vulnerabilities
vuln_provider={value} | Provider of the vulnerability if not Qualys; valid value is iDefense
cvss_base={value} | CVSS base score value (matches greater than or equal to this value); to unset value use update request and set to empty value
cvss_temp={value} | CVSS temporal score value (matches greater than or equal to this value); to unset value use update request and set to empty value
cvss_access_vector={value} | CVSS access vector, one of: Undefined, Local, Adjacent_Network, Network; to unset value use update request and set to empty value
cvss_base_operand={value} | Set the value to 1 to use the greater than equal to operand. Set the value to 2 to use the less than operand. You must always specify the “cvss_base” parameter along with the “cvss_base_operand” parameter in the API request.
cvss_temp_operand={value} | Set the value to 1 to use the greater than equal to operand. Set the value to 2 to use the less than operand. You must always specify the “cvss_temp” parameter along with the “cvss_temp_operand” parameter in the API request.
cvss3_base={value} | CVSS3 base score value assigned to the CVEs by NIST (matches greater than, less than, or equal to this value); to unset value use update request and set to empty value.
cvss3_temp={value} | CVSS3 temporal score value assigned to the CVEs by NIST (matches greater than, less than, or equal to this value); to unset value use update request and set to empty value.
### Dynamic Search Lists

#### User modified filters

The `user_modified*` parameters are mutually exclusive, only one of these can be passed per request.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>user_modified_date_between={value}</code></td>
<td>date range in format (mm/dd/yyyy-mm/dd/yyyy)</td>
</tr>
<tr>
<td>`user_modified_date_today={0</td>
<td>1}`</td>
</tr>
<tr>
<td><code>user_modified_date_in_previous={value}</code></td>
<td>one of: Year, Month, Week, Quarter</td>
</tr>
<tr>
<td><code>user_modified_date_within_last_days={value}</code></td>
<td>number of days: 1-9999</td>
</tr>
<tr>
<td>`not_user_modified={0</td>
<td>1}`</td>
</tr>
</tbody>
</table>

#### Service modified filters

These parameters are mutually exclusive, only one of these can be passed per request.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>service_modified_date_between={value}</code></td>
<td>date range in format (mm/dd/yyyy-mm/dd/yyyy)</td>
</tr>
<tr>
<td>`service_modified_date_today={0</td>
<td>1}`</td>
</tr>
<tr>
<td><code>service_modified_date_in_previous={value}</code></td>
<td>one of: Year, Month, Week, Quarter</td>
</tr>
<tr>
<td><code>service_modified_date_within_last_days={value}</code></td>
<td>number of days: 1-9999</td>
</tr>
<tr>
<td>`not_service_modified={0</td>
<td>1}`</td>
</tr>
</tbody>
</table>

---

**Parameter** | **Value**
---|---
`cvss3_base_operand={value}` | Set the value to 1 to use the greater than equal to operand. Set the value to 2 to use the less than operand. You must always specify the "cvss3_base" parameter along with the "cvss3_base_operand" parameter in the API request. |
`cvss3_temp_operand={value}` | Set the value to 1 to use the greater than equal to operand. Set the value to 2 to use the less than operand. You must always specify the "cvss3_temp" parameter along with the "cvss3_temp_operand" parameter in the API request. |
Published filters
These parameters are mutually exclusive, only one of these can be passed per request.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>published_date_between={value}</td>
<td>date range in format (mm/dd/yyyy-mm/dd/yyyy)</td>
</tr>
<tr>
<td>published_date_today={0</td>
<td>1}</td>
</tr>
<tr>
<td>published_date_in_previous={value}</td>
<td>one of: Year, Month, Week, Quarter</td>
</tr>
<tr>
<td>published_date_within_last_days={value}</td>
<td>number of days: 1-9999</td>
</tr>
<tr>
<td>not_published={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

Sample - Create dynamic search list
API request:
```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" -d "action=create&title=My+Dynamic+Search+List&global=1&published_date_within_last_days=7&patch_available=1" "https://qualysapi.qualys.com/api/2.0/fo/qid/search_list/dynamic/"
```
XML response:
```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2015-09-01T21:32:40Z</DATETIME>
    <TEXT>New search list created successfully</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>136992</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```

Sample - Create dynamic search list, CVSS scores
API request:
Request for CVSS2 base scores: greater than equal to 3, CVSS 2 temporal scores less than 2, CVSS3 base scores greater than or equal to 2, CVSS3 temporal scores less than 2.
```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl demo2" -d
```
"action=create&title=mytest_DL313&cvss_base=3&cvss_base_operand=1&cvss_temp=2&cvss_temp_operand=2&cvss3_base=2&cvss3_base_operand=1&cvss3_temp=2&cvss3_temp_operand=2"

"https://qualysapi.qualys.com/api/2.0/fo/qid/search_list/dynamic/"

Update dynamic search list

Input parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=update</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request=[0</td>
<td>1]</td>
</tr>
<tr>
<td>id={id}</td>
<td>(Required) The ID of the search list you want to update.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Optional) The search list title. Maximum is 256 characters (ascii).</td>
</tr>
<tr>
<td>global={0</td>
<td>1}</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional) User defined comments.</td>
</tr>
<tr>
<td>{criteria}</td>
<td>(Optional) See &quot;Search criteria&quot; Only criteria specified in an update request will overwrite existing criteria, if any. For example, if a search list has confirmed_severities=3,4 and you make an update request with confirmed_severities=5, the search list will be updated to confirmed_severities=5.</td>
</tr>
<tr>
<td>unset_user_modified_date={value}</td>
<td>(Optional) Set to empty value to unset the user modified date in the search list parameters.</td>
</tr>
<tr>
<td>unset_published_date={value}</td>
<td>(Optional) Set to empty value to unset the published date in the search list parameters.</td>
</tr>
<tr>
<td>unset_service_modified_date={value}</td>
<td>(Optional) Set to empty value to unset the service modified date in the search list parameters.</td>
</tr>
</tbody>
</table>

Sample - Update dynamic search list

API request:

curl -u "USERNAME:PASSWD" -H "X-Requested-With: Curl" -X "POST" -d "action=update&id=136992"
"https://qualysapi.qualys.com/api/2.0/fo/qid/search_list/dynamic/"

XML response:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2015-09-01T21:32:40Z</DATETIME>
  </RESPONSE>
</SIMPLE_RETURN>
<TEXT>Search list updated successfully</TEXT>

<ITEM_LIST>
  <ITEM>
    <KEY>ID</KEY>
    <VALUE>136992</VALUE>
  </ITEM>
</ITEM_LIST>
</RESPONSE>
</SIMPLE_RETURN>

Delete dynamic search list

Input parameters

Parameter | Description
--- | ---
action=delete | (Required)
echo_request={0|1} | (Optional) Specify 1 to show input parameters in XML output.
id={id} | (Required) The ID of the search list you want to delete.

Sample - Delete dynamic search list

API request:

```
curl -u "USERNAME:PASSWD" -H "X-Requested-With: Curl" -X "POST" -d "action=delete&id=123456"
   "https://qualysapi.qualys.com/api/2.0/fo/qid/search_list/dynamic/
```

XML response:

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2015-09-01T21:32:40Z</DATETIME>
    <TEXT>search list deleted successfully</TEXT>
  </RESPONSE>
</SIMPLE_RETURN>
```
Vendor IDs and References

/api/2.0/fo/vendor/?action=list_vendors
/api/2.0/fo/vendor/?action=list_vendor_references

List vendor IDs and names. This vendor information may be defined as part of dynamic search list query criteria.

Permissions - All users except Auditors have permission to run this API.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={value}</td>
<td>(Required) Set to &quot;list_vendors&quot; to list vendor IDs and names. Set to &quot;list_vendor_references&quot; to list vendor references for QIDs.</td>
</tr>
<tr>
<td>echo_request=0</td>
<td>(Optional) Specify 1 to show input parameters in XML output.</td>
</tr>
<tr>
<td>ids={id1,id2,...}</td>
<td>(Optional for action=list) One or more vendors IDs to list those vendors only.</td>
</tr>
<tr>
<td>qids={id1,id2,...}</td>
<td>(Optional for action=list_vendor_references) One or more QIDs to list vendors references for those QIDs only.</td>
</tr>
</tbody>
</table>

Sample - List vendor IDs and names

API request:


XML response:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE VENDOR_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/vendor/vendor_list_output.dtd">
<VENDOR_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2015-09-02T09:23:52Z</DATETIME>
    <VENDORS>
      <VENDOR>
        <ID>458</ID>
        <NAME><![CDATA[3com]]></NAME>
      </VENDOR>
      <VENDOR>
        <ID>1967</ID>
      </VENDOR>
  </VENDORS>
</RESPONSE>
</VENDOR_LIST_OUTPUT>
```
Chapter 4 - Scan Configuration
Vendor IDs and References

<NAME>
<![CDATA[2glux]]>
</NAME>
</VENDOR>
</VENDORS>
</RESPONSE>
</VENDOR_LIST_OUTPUT>

DTD
<!-- QUALYS VENDOR_LIST_OUTPUT DTD -->
<!ELEMENT VENDOR_LIST_OUTPUT (REQUEST?, RESPONSE)>
<!ELEMENT REQUEST (DATETIME, USER_LOGIN, RESOURCE, PARAM_LIST?, POST_DATA?)>
<!ELEMENT DATETIME (#PCDATA)>
<!ELEMENT USER_LOGIN (#PCDATA)>
<!ELEMENT RESOURCE (#PCDATA)>
<!ELEMENT PARAM_LIST (PARAM+)>
<!ELEMENT PARAM (KEY, VALUE)>
<!ELEMENT KEY (#PCDATA)>
<!ELEMENT VALUE (#PCDATA)>
<!-- if returned, POST_DATA will be urlencoded -->
<!ELEMENT POST_DATA (#PCDATA)>
<!ELEMENT RESPONSE (DATETIME, VENDORS?)>
<!ELEMENT VENDORS (VENDOR+)>
<!ELEMENT VENDOR (ID, NAME)>
<!ELEMENT ID (#PCDATA)>
<!ELEMENT NAME (#PCDATA)>
<!-- EOF -->

Sample - List vendor references for qids

API request:
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl"
"https://qualysapi.qualys.com/api/2.0/fo/vendor/?action=list_vendors&references"

XML response:
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE VENDOR_REFERENCE_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/vendor/vendor_reference_list_output.dtd">
<VENDOR_REFERENCE_LIST_OUTPUT>
Chapter 4 - Scan Configuration
Vendor IDs and References

<RESPONSE>
  <DATETIME>2015-09-02T09:27:34Z</DATETIME>
  <VENDOR_REFERENCES>
    <VENDOR_REFERENCE>
      <QID>195464</QID>
      <REFERENCE_INFO>
        <REFERENCE>
          <![CDATA[USN-2186-1]]>
        </REFERENCE>
        <URL>
        </URL>
      </REFERENCE_INFO>
    </VENDOR_REFERENCE>
    <VENDOR_REFERENCE>
      <QID>115844</QID>
      <REFERENCE_INFO>
        <REFERENCE>
          <![CDATA[RHSA-2008-0508]]>
        </REFERENCE>
        <URL>
          <![CDATA[http://rhn.redhat.com/errata/RHSA-2008-0508.html]]>
        </URL>
      </REFERENCE_INFO>
    </VENDOR_REFERENCE>
    <REFERENCE_INFO>
      <REFERENCE>
        <![CDATA[RHSA-2008-0519]]>
      </REFERENCE>
      <URL>
        <![CDATA[http://rhn.redhat.com/errata/RHSA-2008-0519.html]]>
      </URL>
    </REFERENCE_INFO>
  </VENDOR_REFERENCES>
...</RESPONSE>

DTD
<platform API server>/api/2.0/fo/vendor/vendor_reference_list_output.dtd
Chapter 5 - Scan Authentication

Create, edit, list, delete authentication records for authenticated (trusted) scanning of various technologies (i.e. Windows, Unix, Docker, Oracle, etc).

Permissions
User Permissions Summary
List Auth Records
List Authentication Records
List Authentication Records by Type
Auth Record types

Application Server Records
- Apache, MIIS, IBM Websphere, Tomcat
Docker Record
HTTP Record
IBM DB2 Record
InformixDB Record
JBoss Server record
MariaDB Record
MongoDB Record
MS SQL Record
MySQL Record
Oracle Record
Oracle Listener Record
Palo Alto Firewall Record
Oracle WebLogic Server Record
PostgreSQL Record
SNMP Record
Sybase Record
Unix Record
VMware Record
Windows Record
MS Exchange Server
User Permissions Summary

A summary is provided below. For complete details, see “Managing Authentication Records” in Qualys online help.

Maximum Records per request

A maximum of 1,000 authentication records can be processed per request. If the requested list identifies more than 1,000 authentication records, then the XML output includes the <WARNING> element and instructions for making another request for the next batch of records.

View Record List

<table>
<thead>
<tr>
<th>User Role</th>
<th>Permissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager</td>
<td>View all authentication records in subscription.</td>
</tr>
<tr>
<td>Unit Manager</td>
<td>View authentication records which contain hosts in the user's business unit.</td>
</tr>
<tr>
<td>Scanner</td>
<td>View authentication records which contain hosts in the user's assigned asset groups.</td>
</tr>
<tr>
<td>Auditor, Reader</td>
<td>No permissions.</td>
</tr>
</tbody>
</table>

Create Record

<table>
<thead>
<tr>
<th>User Role</th>
<th>Permissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager</td>
<td>Create authentication records for hosts in the subscription.</td>
</tr>
<tr>
<td>Unit Manager</td>
<td>Create authentication records for hosts in the user's business unit. The permission “create/edit authentication records” must be granted in the user’s account.</td>
</tr>
<tr>
<td>Auditor, Scanner, Reader</td>
<td>No permissions.</td>
</tr>
</tbody>
</table>

Update/Delete Record

<table>
<thead>
<tr>
<th>User Role</th>
<th>Permissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager</td>
<td>Update and delete authentication records.</td>
</tr>
<tr>
<td>Unit Manager</td>
<td>Update and delete authentication records. The permission “create/edit authentication records/vaults” must be granted in the user’s account. To edit a record, at least one host in the record must be in the user’s business unit. To delete a record, all hosts in the record must also be in the user’s business unit.</td>
</tr>
<tr>
<td>Auditor, Scanner, Reader</td>
<td>No permissions.</td>
</tr>
</tbody>
</table>
Chapter 5 - Scan Authentication

List Authentication Records

/api/2.0/fo/auth/?action=list

[GET]  [POST]

List all authentication records visible to the user for all technologies (i.e. Windows, Unix, Docker, etc).

A maximum of 1,000 authentication records can be processed per request. If the requested list identifies more than 1,000 authentication records, then the XML output includes the <WARNING> element and instructions for making another request for the next batch of records.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Optional) Show only authentication records which have a certain string in the record title.</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional) Show only authentication records which have a certain string in the record comments.</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Optional) Show only authentication records with certain IDs and/or ID ranges. Multiple entries are comma separated. One or more IDs/ranges may be specified. An ID range entry is specified with a hyphen (for example, 3000-3250). Valid IDs are required.</td>
</tr>
<tr>
<td>id_min={value}</td>
<td>(Optional) Show only authentication records which have a minimum ID value. A valid ID is required.</td>
</tr>
<tr>
<td>id_max={value}</td>
<td>(Optional) Show only authentication records which have a maximum ID value. A valid ID is required.</td>
</tr>
</tbody>
</table>

DTD for list records

<platform API server>/api/2.0/fo/auth/auth_records.dtd
Sample - List authentication records, multiple technologies

<AUTH_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2017-05-21T13:32:17Z</DATETIME>
    <AUTH_RECORDS>
      <AUTH_UNIX_RECORDS>
        <ID_SET>
          <ID_RANGE>17-41</ID_RANGE>
          <ID_RANGE>62-119</ID_RANGE>
        </ID_SET>
      </AUTH_UNIX_RECORDS>
      <AUTH_WINDOWS_RECORDS>
        <ID_SET>
          <ID_RANGE>1-6</ID_RANGE>
        </ID_SET>
      </AUTH_WINDOWS_RECORDS>
      <AUTH_ORACLE_RECORDS>
        <ID_SET>
          <ID>7</ID>
        </ID_SET>
      </AUTH_ORACLE_RECORDS>
      <AUTH_SNMP_RECORDS>
        <ID_SET>
          <ID>4114</ID>
          <ID_RANGE>4117-4121</ID_RANGE>
        </ID_SET>
      </AUTH_SNMP_RECORDS>
      <AUTH_IBM_DB2_RECORDS>
        <ID_SET>
          <ID>6</ID>
        </ID_SET>
      </AUTH_IBM_DB2_RECORDS>
    </AUTH_RECORDS>
  </RESPONSE>
</AUTH_LIST_OUTPUT>
List Authentication Records by Type

/api/2.0/fo/auth/<type>

(GET) [POST]

List authentication records visible to the user for a specific technology (i.e. Unix, Windows, Docker, Sybase etc).

$type$ will be a supported technology like: docker, http, ibm_db2, mongodb, ms_exchange, ms_sql, mysql, oracle, oracle_listener, oracle_weblogic, palo_alto_firewall, postgresql, snmp, sybase, unix (for Unix, Cisco, Checkpoint Firewall), vmware, windows. For application servers: apache, ms_iis, ibm_websphere, tomcat.

A maximum of 1,000 authentication records can be processed per request. If the requested list identifies more than 1,000 authentication records, then the XML output includes the <WARNING> element and instructions for making another request for the next batch of records.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Optional) how only authentication records which have a certain string in the record title.</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional) Show only authentication records which have a certain string in the record comments.</td>
</tr>
<tr>
<td>details={Basic</td>
<td>All</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Optional) Show only authentication records with certain IDs and/or ID ranges. Multiple entries are comma separated. One or more IDs/ranges may be specified. An ID range entry is specified with a hyphen (for example, 3000-3250). Valid IDs are required.</td>
</tr>
</tbody>
</table>
List Authentication Records by Type

Parameter | Description |
---|---|
id_min={value} | (Optional) Show only authentication records which have a minimum ID value. A valid ID is required. |
id_max={value} | (Optional) Show only authentication records which have a maximum ID value. A valid ID is required. |

DTD for list record type

<platform API server>/api/2.0/fo/auth/<type>/

where <type> is the authentication record type, such as unix, windows, oracle, etc.

Sample - List Unix and Cisco records

```xml
<AUTH_UNIX_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2017-05-21T13:32:17Z</DATETIME>
    <AUTH_UNIX_LIST>
      <AUTH_UNIX>
        <ID>678</ID>
        <TITLE<![CDATA[My Ubuntu credentials]]></TITLE>
        <USERNAME><![CDATA[bumbler]]></USERNAME>
        <ROOT_TOOL>Sudo</ROOT_TOOL>
        <CLEARTEXT_PASSWORD>0</CLEARTEXT_PASSWORD>
        <IP_SET>
          <IP_RANGE>10.10.10.168-10.10.10.195</IP_RANGE>
        </IP_SET>
        <CREATED>
          <DATETIME>2017-04-20T01:01:01</DATETIME>
          <BY>quays_es11</BY>
        </CREATED>
        <LAST_MODIFIED>
          <DATETIME>2017-04-20T01:01:01</DATETIME>
          <BY>quays_es11</BY>
        </LAST_MODIFIED>
      </AUTH_UNIX>
      ...
    </AUTH_UNIX_LIST>
    <WARNING_LIST>
      <WARNING>
        <CODE>1980</CODE>
        <TEXT>1000 record limit exceeded. Use URL to get next batch of records.</TEXT>
      </WARNING>
      <URL>https://qualysapi.qualys.com/api/2.0/fo/auth/?action=list&id_min=3457</URL>
    </WARNING_LIST>
  </RESPONSE>
</AUTH_UNIX_LIST_OUTPUT>
```
</WARNING>
</WARNING_LIST>
</GLOSSARY>
</USER_LIST>
</USER>
</USER_LIST>
</GLOSSARY>
</RESPONSE>
</AUTH_UNIX_LIST_OUTPUT>
Application Server Records

/api/2.0/fo/auth/{web app server}/

where {application server} is one of apache, ms_iis, ibm_websphere, tomcat

[POST]

Create, update, list and delete application server records for authenticated scans of web application servers. Application Server records are used to authenticate to various web app servers.

Apache server authentication - Instance discovery and auto record creation is now supported using Apache authentication records (UI and API). A single Apache record may be used when the same record configuration (Apache configuration file, Apache control command) is replicated across hosts in the record. Learn more about instance discovery and auto record creation in online help (log in to your Qualys account, go to Help > Online Help and search for Apache).

Supported servers

<table>
<thead>
<tr>
<th>API URL (/api/2.0/fo...)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/auth/apache/</td>
<td>Apache 2.2</td>
</tr>
<tr>
<td></td>
<td>- IBM HTTP Server 7.x (on Red Hat Linux 5/6)</td>
</tr>
<tr>
<td></td>
<td>- VMware vFabric Web Server 5.2 (on Red Hat Linux 5/6)</td>
</tr>
<tr>
<td></td>
<td>Compliance scans are supported (using PC)</td>
</tr>
<tr>
<td>/auth/apache/ms_iis</td>
<td>Microsoft Internet Information Services (IIS) 6.0, 7.x</td>
</tr>
<tr>
<td></td>
<td>Compliance scans are supported (using PC)</td>
</tr>
<tr>
<td>/auth/ibm_websphere/</td>
<td>IBM WebSphere Application Server 7.x, 8.x</td>
</tr>
<tr>
<td></td>
<td>Compliance scans are supported (using PC)</td>
</tr>
<tr>
<td>/auth/tomcat</td>
<td>Tomcat Server</td>
</tr>
<tr>
<td></td>
<td>- Apache Tomcat 6.x and 7.x</td>
</tr>
<tr>
<td></td>
<td>- VMware vFabric tc Server 2.9.x</td>
</tr>
<tr>
<td></td>
<td>- Pivotal tc Server 3.x</td>
</tr>
<tr>
<td></td>
<td>Vulnerability Compliance scans are supported (using VM, PC)</td>
</tr>
</tbody>
</table>
### Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Required to update or delete record) Record IDs to update/delete. Specify record IDs and/or ID ranges (for example, 1359-1407). Multiple entries are comma separated.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required for create) The title of the Server record. The title must be unique and may include a maximum of 255 characters (ascii).</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional) User defined notes about the Server record. The comments may include a maximum of 1999 characters (ascii); if comments have 2000 or more characters an error is returned and comments are not saved. Tags (such as &lt;script&gt;) cannot be included; if tags are included an error is returned and the request fails.</td>
</tr>
</tbody>
</table>

**Application Server**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>unix_apache_config_file={value}</td>
<td>(Required to create an Apache Web Server record; valid only for this record). The path to the Apache configuration file.</td>
</tr>
<tr>
<td>unix_apache_control_command={value}</td>
<td>(Required to create an Apache Web Server record; valid only for this record) The path to the Apache control command. For IBM HTTP Server, enter the path to the IBM HTTP Server &quot;bin&quot; directory or the specific location of &quot;apachectl&quot;. For VMware vFabric Web Server, enter the path to the VMware vFabric global &quot;bin&quot; directory or the specific location of &quot;httpdctl&quot; for a web server instance.</td>
</tr>
<tr>
<td>unix_install_dir={value}</td>
<td>(Required to create an IBM WebSphere App Server record; valid only for this record) The directory where the WebSphere application is installed.</td>
</tr>
<tr>
<td>installation_path={value}</td>
<td>(Required to create Tomcat Server record; valid only for this record) The directory where the tomcat server is installed.</td>
</tr>
</tbody>
</table>

Examples:
- /opt/apache-tomcat-7.0.57 (e.g. $CATALINA_HOME)
- /opt/vmware/vfabric-tc-server-standard
- /opt/pivotal/pivotal-tc-server-standard
### Parameter | Description
--- | ---
instance_path={value} | (Optional to create or update Tomcat Server record; valid only for this record) The directory where the tomcat server instance(s) are installed. You can specify a single tomcat instance (use with auto_discover_instances=0), or multiple instances (use with auto_discover_instances=1). Leave unspecified when the instance directory is the same as the installation directory or when your targets have different types of tomcat servers.

Examples:
/opt/apache-tomcat-7.0.57 (e.g. $CATALINA_BASE)
/opt/vmware/vfabric-tc-server-standard/tc1
/opt/pivotal/pivotal-tc-server-standard/tc1

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>auto_discover_instances={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

**Apache Server only**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>status={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>is_system_created={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

**Target Hosts**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ips={value}</td>
<td>(Required to create record) Add IP addresses of the hosts you want to scan using this record.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>add_ips={value}</td>
<td>(Optional and valid only to update record) Add IP address(es) to the IP list for an existing record. You may enter a combination of IPs and IP ranges. Multiple entries are comma separated.</td>
</tr>
</tbody>
</table>
Chapter 5 - Scan Authentication
Application Server Records

Sample - Create Apache record

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" 
-d "action=create&title=Apache+Record&unix_apache_config_file=/opt/IBM/HTTPServer/conf/httpd.conf1&unix_apache_control_command=/opt/IBM/HTTPServer/bin2&ips=10.10.25.25" 
"https://qualysapi.qualys.com/api/2.0/fo/auth/apache/

Sample - Update Apache record

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" 
-d "action=update&ids=1234&unix_apache_config_file=/opt/IBM/HTTPServer/conf/httpd.conf2" 
"https://qualysapi.qualys.com/api/2.0/fo/auth/apache/

DTDS for server records

<platform API server>/api/2.0/batch_return.dtd
<platform API server>/api/2.0/fo/auth/apache/auth_apache_list_output.dtd
<platform API server>/api/2.0/fo/auth/ms_iis/auth_ms_iis_list_output.dtd
<platform API server>/api/2.0/fo/auth/tomcat/auth_tomcat_list_output.dtd
<platform API server>/api/2.0/fo/auth/ibm_websphere/auth_ibm_websphere_list_output.dtd
<platform API server>/api/2.0/fo/auth/tomcat/auth_tomcat_list_output.dtd

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>remove_ips=(value)</td>
<td>(Optional and valid only to update record) IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated.</td>
</tr>
<tr>
<td>network_id=(value)</td>
<td>(Optional to create or update record, and valid when the networks feature is enabled) The network ID for the record.</td>
</tr>
</tbody>
</table>
Docker Record

/api/2.0/fo/auth/docker/

[POST]

Create, update, list and delete Docker records for compliance scans (using PC). This record is used to authenticate to a Docker daemon (version 1.9 to 1.12) running on a Linux host.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Required to update or delete record) Record IDs to update/delete. Specify record IDs and/or ID ranges (for example, 1359-1407). Multiple entries are comma separated.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required to create record) The record title.</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional) User defined comments.</td>
</tr>
<tr>
<td>docker_deamon_conf_file={value}</td>
<td>(Optional to create or update record) Location of the configuration file for the docker daemon.</td>
</tr>
<tr>
<td>docker_command={value}</td>
<td>(Optional) The docker command to connect to a local docker daemon.</td>
</tr>
</tbody>
</table>

Docker

<table>
<thead>
<tr>
<th>Target Hosts</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ips={value}</td>
<td>(Required to create record) IPs to be added to your docker record.</td>
</tr>
<tr>
<td>add_ips={value}</td>
<td>(Optional and valid only to update record) IPs to be added to an existing record. You may enter a combination of IPs and IP ranges. Multiple entries are comma separated.</td>
</tr>
<tr>
<td>remove_ips={value}</td>
<td>(Optional and valid to update record) IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated.</td>
</tr>
<tr>
<td>network_id={1</td>
<td>0}</td>
</tr>
</tbody>
</table>
Sample - Create Docker record

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl demo" -d "action=create&title=docker_sample&ips=10.10.30.159&docker_deamon_conf_file=/etc/docker/daemon.json&docker_command=/usr/bin/docker&echo_request=1" "https://qualysapi.qualys.com/api/2.0/fo/auth/docker/

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
<REQUEST>
<DATETIME>2018-03-09T06:09:46Z</DATETIME>
<USER_LOGIN>username</USER_LOGIN>
<RESOURCE>https://qualysapi.qualys.com/api/2.0/fo/auth/docker/</RESOURCE>
<PARAM_LIST>
<PARAM>
<KEY>action</KEY>
(VALUE)create</VALUE>
</PARAM>
<PARAM>
<KEY>title</KEY>
(VALUE)docker_sample</VALUE>
</PARAM>
<PARAM>
<KEY>ips</KEY>
(VALUE)10.10.30.159</VALUE>
</PARAM>
<PARAM>
<KEY>docker_deamon_conf_file</KEY>
(VALUE)/etc/docker/daemon.json</VALUE>
</PARAM>
<PARAM>
<KEY>docker_command</KEY>
(VALUE)/usr/bin/docker</VALUE>
</PARAM>
<PARAM>
<KEY>echo_request</KEY>
(VALUE)1</VALUE>
</PARAM>
</PARAM_LIST>
</REQUEST>
Sample - Update Docker Record

API request:
```
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-03-09T06:12:57Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Updated</TEXT>
        <ID_SET>
          <ID>72685</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```

DTDs for auth type “docker”
```
<platform API server>/api/2.0/batch_return.dtd
<platform API server>/api/2.0/fo/auth/docker/auth_docker_list_output.dtd
```
HTTP Record
/api/2.0/fo/auth/http/

[POST]

Create, update and delete HTTP records for authenticated scans of protected portions of web sites and devices, like printers and routers, that require HTTP protocol level authentication. Vulnerability scans are supported (using VM).

How it works - During a vulnerability scan, if we come across a web page that requires HTTP authentication then we’ll check to see if an HTTP record exists in your account with applicable credentials. If yes, we’ll use the credentials in the record to perform HTTP authentication. (Note this is not Form-based authentication.)

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={value}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional for create or update request) User-defined comments.</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Required to update or delete record) One or more HTTP record IDs.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required for a create request; Optional for an update request; otherwise invalid) The HTTP record title.</td>
</tr>
<tr>
<td>username={value}</td>
<td>(Required to create record, optional to update record) The user name to be used for authentication.</td>
</tr>
<tr>
<td>password={value}</td>
<td>(Required to create record, optional to update record) The password to be used for authentication.</td>
</tr>
<tr>
<td>vhost={value} - or - realm={value}</td>
<td>(Required to create record; optional to update record) Specify the protected device or web page you want to authenticate against. You can specify a virtual host (an FQDN such as vhost=bank.qualys.com) or the name of a realm (realm=My+Homepage).</td>
</tr>
<tr>
<td>ssl={0</td>
<td>1}</td>
</tr>
</tbody>
</table>
Sample - Create HTTP record, realm

API request:
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl" -d "action=create&username=jsmith&password=abc123&title=My+HTTP+Record+1&realm=My+Homepage"
"https://qualysapi.qualys.com/api/2.0/fo/auth/http/"
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-01-03T07:51:48Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          <ID>55111</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```

Create HTTP record, virtual host

API request:
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl" -d "action=create&username=jsmith&password=abc123&title=My+HTTP+Record+2&vhost=bank.us.corp1.com"
"https://qualysapi.qualys.com/api/2.0/fo/auth/http/"
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-01-03T08:02:44Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          <ID>55112</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```
Chapter 5 - Scan Authentication

HTTP Record

</ID_SET>
</BATCH>
</BATCH_LIST>
</RESPONSE>
</BATCH_RETURN

**DTDs for auth type “http”**

<platform API server>/api/2.0/batch_return.dtd
<platform API server>/api/2.0/fo/auth/http/auth_http_list_output.dtd
IBM DB2 Record

/api/2.0/fo/auth/ibm_db2/

[POST]

Create, update, list and delete IBM DB2 records for vulnerability and compliance scans (using VM, PC). This record is used for authenticated scanning of one or more DB2 instances on a single host. Want to scan multiple instances? See “Multiple DB2 Instances” in online help.

Requirement - You must set up target hosts per the Qualys User Guide.

Download Qualys User Guide - IBM DB2 Authentication (.zip)

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Required to update or delete record) Record IDs to update/delete. Specify record IDs and/or ID ranges (for example, 1359-1407). Multiple entries are comma separated.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required to create record) The title for the record. The title must be unique and may include a maximum of 255 characters (ascii).</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional) User defined notes about the record. Maximum of 1999 characters (ascii).</td>
</tr>
<tr>
<td>pc_only={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

Login Credentials

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>username={value}</td>
<td>(Required to create record, optional to update record) The user name for a DB2 database account. A maximum of 13 characters (ascii) may be specified.</td>
</tr>
<tr>
<td>password={value}</td>
<td>(Required to create record, optional to update record) The password for a DB2 database account. A maximum of 13 characters (ascii) may be specified.</td>
</tr>
<tr>
<td>database={value}</td>
<td>(Required to create record, optional to update record) The name of the DB2 database. A maximum of 8 characters (ascii) may be specified.</td>
</tr>
<tr>
<td>port={value}</td>
<td>(Required to create record, optional to update record) The port the database instance is running on.</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Target Hosts</strong></td>
<td></td>
</tr>
<tr>
<td>ips={value}</td>
<td>(Required to create record, optional to update record) Add IP addresses of the hosts you want to scan using this record. Overwrites (replaces) the IP address(es) in the IP list for an existing authentication record. The IPs you specify are added, and any existing IPs are removed. You may enter a combination of IPs and IP ranges.</td>
</tr>
<tr>
<td>add_ips={value}</td>
<td>(Optional to update record) Add IP address(es) to the IP list for an existing authentication record. You may enter a combination of IPs and IP ranges.</td>
</tr>
<tr>
<td>remove_ips={value}</td>
<td>(Optional and valid to update record) IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated.</td>
</tr>
<tr>
<td>network_id={value}</td>
<td>(Optional and valid when the networks feature is enabled) The network ID for the record.</td>
</tr>
<tr>
<td><strong>OS Parameters</strong></td>
<td></td>
</tr>
<tr>
<td>win_db2dir={value}</td>
<td>The path to the DB2 runtime library if you want the service to perform OS-dependent compliance checks. This is the location where DB2 has been installed on the server. Maximum of 255 characters.</td>
</tr>
<tr>
<td>unix_db2dir={value}</td>
<td></td>
</tr>
<tr>
<td>win_prilogfile={value}</td>
<td>The path to the primary archive location if you want the service to perform OS-dependent compliance checks. This is the directory where the primary log files are located. Maximum of 255 characters.</td>
</tr>
<tr>
<td>unix_prilogfile={value}</td>
<td></td>
</tr>
<tr>
<td>win_seclogfile={value}</td>
<td>The path to the secondary archive location if you want the service to perform OS-dependent compliance checks. Maximum of 255 characters. This parameter specifies the number of secondary log files that are created and used for recovery log files (only as needed). It is set by the DB2 logsecond parameter.</td>
</tr>
<tr>
<td>unix_seclogfile={value}</td>
<td></td>
</tr>
</tbody>
</table>
Multiple DB2 Instances

The service has the ability to authenticate to multiple DB2 instances on a single host during scanning. For a vulnerability scan, an instance “uniqueness” is defined by an IP address and port. For a compliance scan, an instance “uniqueness” is defined by an IP address, port and database name. The setting for “pc_only” has an impact on how the services determines the uniqueness of a DB2 instance.

Let’s say you want to define these DB2 records in your account.

<table>
<thead>
<tr>
<th>Record</th>
<th>IP Address</th>
<th>Port</th>
<th>Database Name</th>
<th>pc_only=0/1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record 1</td>
<td>10.10.31.178</td>
<td>5000</td>
<td>SAMPLE</td>
<td>pc_only=0</td>
</tr>
<tr>
<td>Record 2</td>
<td>10.10.30.159</td>
<td>5000</td>
<td>TOOLS</td>
<td>pc_only=0</td>
</tr>
<tr>
<td>Record 3</td>
<td>10.10.30.159</td>
<td>5000</td>
<td>SAMPLE</td>
<td>pc_only=1</td>
</tr>
</tbody>
</table>

Record 1 and Record 2 will be used for vulnerability scans and compliance scans. You’ll notice Records 2 and 3 have the same IP address and port but different database names - this is allowed because Record 3 is used for compliance scans only.
**DB2 Paths**
When specifying the path to configuration files, these special characters are not allowed:

For Windows:
```
; & | # % ? ! * ` ( ) [ ] " ' > < = ^ /
```

For Unix:
```
; & | # % ? ! * ` ( ) [ ] " ' > < = ^ \n```

**DTDs for auth type “ibm_db2”**

```
<platform API server>/api/2.0/batch_return.dtd
<platform API server>/api/2.0/fo/auth/ibm_db2/auth_ibm_db2_list_output.dtd
```
InformixDB Record

/api/2.0/fo/auth/informixdb/

[POST]

Create, update, list and delete InformixDB authentication records. Compliance scans are supported (using PC).

- Unix authentication is required for compliance scans using the PC app. Make sure the IP addresses you define in your InformixDB records are also defined in Unix records.

- We strongly recommend you create one or more dedicated user accounts to be used solely by the Qualys Cloud Platform to authenticate to InformixDB instances.

**Input Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Required to update or delete record) Record IDs to update/delete. Specify record IDs and/or ID ranges (for example, 1359-1407). Multiple entries are comma separated.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required to create record) A title for the record. The title must be unique. Maximum 255 characters (ascii).</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional to create or update record) User defined comments. Maximum of 1999 characters.</td>
</tr>
</tbody>
</table>

**InformixDB**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
</table>
| ssl_verify={0|1}   | (Optional to create or update record, and valid for server that supports SSL) Specify 1 for a complete SSL certificate validation.  
- If ssl_verify=0, the Qualys scanners authenticate with Informix Servers that don’t use SSL or InformixDB servers that use SSL. However, in the SSL case, the server SSL certificate verification will be skipped.  
- If unspecified (or ssl_verify=1), the Qualys scanners will only send a login request after verifying that a connection to the InformixDB server uses SSL, the server SSL certificate is valid and matches the scanned host. |
| hosts={value}      | (Optional to create or update record) A list of FQDNs for the hosts that correspond to all host IP addresses on which a custom SSL certificate signed by a trusted root CA is installed. Multiple hosts are comma separated. |
| database_name={value} | (Required to create record, optional to update record) The database name to authenticate to. Specify a valid InformixDB database name. Maximum 255 characters. |
### Chapter 5 - Scan Authentication

#### InformixDB Record

**Sample - Create InformixDB record (with basic login and without ssl_verify)**

**API request:**

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl sample" -d "action=create&title=my-informixdb-record&username=informix-admin&password=test123&ips=10.10.10.11&comments=informix-basic-ipv4&unix_config_dir=/opt/informix&port=1526&ssl_verify=0&unix_on_config_dir=/opt/Informix/etc/onconfig.demo&unix_sql_host_dir=/opt/Informix/etc/sqlhosts.demo&database_name=dbname&login_type=basic"
```

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>port={value}</td>
<td>(Required to create record, optional to update record) The port the database name is running on. Valid range is 1-65535. The standard port for InformixDB is 1526.</td>
</tr>
<tr>
<td>unix_config_dir={value}</td>
<td>(Optional to create or update record) The path to the Unix informixdb installation directory. Access to this directory is required to run certain checks on Unix hosts.</td>
</tr>
<tr>
<td>unix_on_config_dir={value}</td>
<td>(Optional to create or update record) The absolute path to the Unix file that contains configuration parameters of the database server.</td>
</tr>
<tr>
<td>unix_sql_host_dir={value}</td>
<td>(Optional to create or update record) The absolute path to the Unix file that contains database connectivity information.</td>
</tr>
<tr>
<td>login_type={basic}</td>
<td>(Optional) The login type is basic by default. We are not supporting vault based authentication.</td>
</tr>
<tr>
<td>username={value}</td>
<td>(Required to create record, optional to update record) The username to be used for authentication to InformixDB server.</td>
</tr>
<tr>
<td>password={value}</td>
<td>(Required to create record, optional to update record) The password to be used for authentication to InformixDB server.</td>
</tr>
<tr>
<td>ips={value}</td>
<td>(Required to create record) The IP address(es) the server will log into using the record’s credentials. Multiple entries are comma separated. (Optional to update record) IPs specified will overwrite existing IPs in the record, and existing IPs will be removed.</td>
</tr>
<tr>
<td>add_ips={value}</td>
<td>(Optional to update record) Add IPs to the IPs list for this record. Multiple IPs/ranges are comma separated.</td>
</tr>
<tr>
<td>remove_ips={value}</td>
<td>(Optional to update record) IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated. This parameter and the ips parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>network_id={value}</td>
<td>(Optional and valid when the networks feature is enabled) The network ID for the record.</td>
</tr>
</tbody>
</table>
"https://qualysapi.qualys.com/api/2.0/fo/auth/informixdb/

**XML output:**

```xml
<BATCH_RETURN>
  <?xml version="1.0" encoding="UTF-8" ?>
  <!DOCTYPE BATCH Return SYSTEM 
  "http://qualysapi.qualys.com/api/2.0/batch return.dtd">
  <BATCH_RETURN>
    <RESPONSE>
      <DATETIME>2019-01-30T15:45:05Z</DATETIME>
      <BATCH_LIST>
        <BATCH>
          <TEXT>Successfully Created</TEXT>
          <ID_SET>
            <ID>43025</ID>
          </ID_SET>
        </BATCH>
      </BATCH_LIST>
    </RESPONSE>
  </BATCH_RETURN>
```

**Sample - Create InformixDB record (with ssl_verify)**

**API request:**

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl sample" -d "action=create&title=my-informixdb-record&username=informix-admin&password=test123&ips=10.10.10.11&comments=informix-basic-ipv4&unix_config_dir=/opt/informix/&port=1526&ssl_verify=1&unix_on_config_dir=/opt/Informix/etc/onconfig.demo&unix_sql_host_dir=/opt/Informix/etc/sqlhosts.demo&database_name=dbname&login_type=basic&hosts=mlinformixdb32e.s2012r2.qualys.com,mlinformixdb32e.s2008r2.qualys.com" "https://qualysapi.qualys.com/api/2.0/fo/auth/informixdb/"
```

**XML output:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM 
"http://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2019-01-30T15:47:01Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          <ID>43026</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```
Sample - List InformixDB record

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -d "action=list&details=Basic" "https://qualysapi.qualys.com/api/2.0/fo/auth/informixdb/

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE AUTH_INFORMIXDB_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/fo/auth/informixdb/auth_informixdb_list_output.dtd">
<AUTH_INFORMIXDB_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2019-01-30T15:19:02Z</DATETIME>
    <AUTH_INFORMIXDB_LIST>
      <AUTH_INFORMIXDB>
        <ID>40034</ID>
        <TITLE><![CDATA[InformixDB1]]></TITLE>
        <USERNAME><![CDATA[root]]></USERNAME>
        <DATABASE><![CDATA[informixdb]]></DATABASE>
        ...
      </AUTH_INFORMIXDB>
    </AUTH_INFORMIXDB_LIST>
  </RESPONSE>
</AUTH_INFORMIXDB_LIST_OUTPUT>

Sample - Update InformixDB record

API request:


XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "http://qualysapi.qualys.com/api/2.0/batch_return.dtd">
Sample - Delete InformixDB record

API request:
```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl sample" -d "action=delete&ids=43023,43024" "https://qualysapi.qualys.com/api/2.0/fo/auth/informixdb/
```

XML output:
```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "http://10.114.69.159:46445/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2019-01-30T15:41:46Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Deleted</TEXT>
        <ID_SET>
          <ID_RANGE>43023-43024</ID_RANGE>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```

DTDs for auth type “informixdb”
```
<platform API server>/api/2.0/batch_return.dtd
<platform API server>/api/2.0/fo/auth/informixdb/auth_informixdb_list_output.dtd
```
**JBoss Server record**

/\api/2.0/fo/auth/jboss/

[POST]

Create, update, list and delete JBoss Server records for vulnerability and compliance scans (using VM, PC). Supports Windows and Unix platforms.

Supported technologies:
Windows - WildFly/JBoss EAP
Unix - WildFly/JBoss EAP

**Input Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Required) Specify a single or comma separated valid JBoss type auth record ID(s).</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required to create record) A title for the record. The title must be unique.</td>
</tr>
<tr>
<td>comment={value}</td>
<td>(Optional to create or update record) User defined comments.</td>
</tr>
<tr>
<td>windows_working_mode=</td>
<td>(Optional) Input values should be standalone_mode or domain_controller_mode.</td>
</tr>
<tr>
<td>windows_home_path={}</td>
<td>Required if windows working mode is selected.</td>
</tr>
<tr>
<td>windows_base_path={}</td>
<td>Required if windows working mode is selected.</td>
</tr>
<tr>
<td>windows_conf_dir_path={}</td>
<td>Required if windows working mode is selected.</td>
</tr>
<tr>
<td>windows_conf_file_path={}</td>
<td>Required if windows working mode is selected.</td>
</tr>
<tr>
<td>windows_conf_host_file_path={}</td>
<td>Required if selected Windows working mode is domain controller.</td>
</tr>
<tr>
<td>unix_working_mode={}</td>
<td>(Optional) Input values should be standalone_mode or domain_controller_mode.</td>
</tr>
<tr>
<td>unix_home_path={}</td>
<td>Required if Unix working mode is selected.</td>
</tr>
</tbody>
</table>
Sample - Create JBoss Server record

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X POST
"action=create&title=jbos_rec&windows_working_mode=standalone_mode
&windows_base_path=c:\&windows_home_path=c:\&windows_conf_file_path=c:\&windows_conf_dir_path=c:\&comment=record
creation&ips=10.10.10.224"
"https://qualysapi.qualys.com/api/2.0/fo/auth/jboss/"

XML output:

<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-08-03T10:42:32Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          <ID>296004</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
Sample - List JBoss Server record

**API request:**
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -d 
"action=list&ids=296004"
"https://qualysapi.qualys.com/api/2.0/fo/auth/jboss/
```

**XML output:**
```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE AUTH_JBOSS_LIST_OUTPUT SYSTEM
"https://qualysapi.qualys.com/api/2.0/fo/auth/jboss/auth_jboss_list_output.dtd">
<AUTH_JBOSS_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-08-03T10:44:39Z</DATETIME>
    <AUTH_JBOSS_LIST>
      <AUTH_JBOSS>
        <ID>296004</ID>
        <TITLE><![CDATA[jboss_record]]></TITLE>
        <IP_SET>
          <IP>10.10.10.224</IP>
        </IP_SET>
        <WINDOWS>
          <HOME_PATH><![CDATA[c:\]]></HOME_PATH>
          <DOMAIN_MODE><![CDATA[true]]></DOMAIN_MODE>
          <BASE_PATH><![CDATA[c:\]]></BASE_PATH>
          <CONF_DIR_PATH><![CDATA[c:\]]></CONF_DIR_PATH>
          <CONF_FILE_PATH><![CDATA[c:\]]></CONF_FILE_PATH>
          <CONF_HOST_FILE_PATH><![CDATA[c:\]]></CONF_HOST_FILE_PATH>
        </WINDOWS>
        <NETWORK_ID>0</NETWORK_ID>
        <CREATED>
          <DATETIME>2018-08-03T10:42:32Z</DATETIME>
          <BY>abc_pk</BY>
        </CREATED>
        <LAST_MODIFIED>
          <DATETIME>2018-08-03T10:43:58Z</DATETIME>
        </LAST_MODIFIED>
        <COMMENTS><![CDATA[record creation]]></COMMENTS>
      </AUTH_JBOSS>
    </AUTH_JBOSS_LIST>
  </RESPONSE>
</AUTH_JBOSS_LIST_OUTPUT>
```
Sample record configurations
We have sample JBoss record configurations in our online help. Log in to your Qualys account and select Help > Online Help and search for JBoss.

DTDs for auth type “jboss”
<platform API server>/api/2.0/batch_return.dtd
<platform API server>/api/2.0/fo/auth/jboss/auth_jboss_list_output.dtd
MariaDB Record

/api/2.0/fo/auth/mariadb/

[POST]

Create, update, list and delete MariaDB authentication records. Compliance scans are supported (using PC).

**Input Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Required to update or delete record) Record IDs to update/delete. Specify record IDs and/or ID ranges (for example, 1359-1407). Multiple entries are comma separated.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required to create record) A title for the record. The title must be unique. Maximum 255 characters (ascii).</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional to create or update record) User defined comments. Maximum of 1999 characters.</td>
</tr>
<tr>
<td>ssl_verify={0</td>
<td>1}</td>
</tr>
<tr>
<td></td>
<td>- If unspecified (or ssl_verify=0), Qualys scanners authenticate with MySQL Servers that don’t use SSL or MariaDB servers that use SSL. However, in the SSL case, the server SSL certificate verification will be skipped.</td>
</tr>
<tr>
<td></td>
<td>- If ssl_verify=1, the Qualys scanners will only send a login request after verifying that a connection the MariaDB server uses SSL, the server SSL certificate is valid and matches the scanned host.</td>
</tr>
<tr>
<td>hosts={value}</td>
<td>(Optional to create or update record) A list of FQDNs for the hosts that correspond to all host IP addresses on which a custom SSL certificate signed by a trusted root CA is installed. Multiple hosts are comma separated.</td>
</tr>
<tr>
<td>database={value}</td>
<td>(Required to create record, optional to update record) The database name to authenticate to. Specify a valid MariaDB database name.</td>
</tr>
<tr>
<td>port={value}</td>
<td>(Required to create record, optional to update record) The port the database name is running on. The default is 3306.</td>
</tr>
</tbody>
</table>
### Parameter Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>windows_config_file={value}</td>
<td><em>(Optional to create or update record)</em> The path to the Windows mariadb config file. Access to this config file is required to run certain checks on Windows hosts. Note: You must include one or both of these parameters in a create request: windows_config_file and unix_config_file.</td>
</tr>
<tr>
<td>unix_config_file={value}</td>
<td><em>(Optional to create or update record)</em> The path to the Unix mariadb config file. Access to this config file is required to run certain checks on Unix hosts. Note: You must include one or both of these parameters in a create request: windows_config_file and unix_config_file.</td>
</tr>
<tr>
<td>client_cert={value}</td>
<td><em>(Optional to create or update record)</em> PEM-encoded X.509 certificate. Specify if certificate authentication is required by your server to establish an SSL connection.</td>
</tr>
<tr>
<td>client_key={value}</td>
<td><em>(Optional to create or update record)</em> PEM-encoded RSA private key. Specify if certificate authentication is required by your server to establish an SSL connection.</td>
</tr>
</tbody>
</table>

### Login credentials

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>login_type={basic</td>
<td>vault}</td>
</tr>
<tr>
<td>username={value}</td>
<td><em>(Required to create record, optional to update record)</em> The username to be used for authentication to MariaDB server.</td>
</tr>
<tr>
<td>password={value}</td>
<td><em>(Required to create record, optional to update record)</em> The password to be used for authentication to MariaDB server.</td>
</tr>
</tbody>
</table>

### Vault

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>vault_type={value}</td>
<td><em>(Required to create record when login_type=vault)</em> The vault type to be used for authentication.</td>
</tr>
<tr>
<td>vault_id={value}</td>
<td><em>(Required to create record when login_type=vault and you want to retrieve private key from vault)</em> The vault ID where you want to retrieve the private key from. Certain vaults support this capability.</td>
</tr>
<tr>
<td>{vault parameters}</td>
<td><em>(Required to create record when login_type=vault)</em> Vault specific parameters required depend on the vault type you’ve selected. See the API v2 User Guide for vault parameters.</td>
</tr>
</tbody>
</table>

### Target Hosts

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ips={value}</td>
<td><em>(Required to create record)</em> The IP address(es) the server will log into using the record’s credentials. Multiple entries are comma separated. <em>(Optional to update record)</em> IPs specified will overwrite existing IPs in the record, and existing IPs will be removed.</td>
</tr>
<tr>
<td>add_ips={value}</td>
<td><em>(Optional to update record)</em> Add IPs to the IPs list for this record. Multiple IPs/ranges are comma separated.</td>
</tr>
</tbody>
</table>
Chapter 5 - Scan Authentication

MariaDB Record

Sample - Create MariaDB record (with basic login)

API request:
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl sample" -d "action=create&title=MariaDB_Auth1&username=root&password=abc123&ips=10.10.31.86&echo_request=0&unix_config_file=/etc/my.cnf&port=22&database=mariadb" "https://qualysapi.qualys.com/api/2.0/fo/auth/mariadb/"
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-07-17T21:56:47Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          <ID>284866</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```

Sample - List MariaDB records

Use the new MariaDB Authentication Record List API (/api/2.0/fo/auth/mariadb/?action=list) to list MariaDB records.

API request:
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -d "action=list" "https://qualysapi.qualys.com/api/2.0/fo/auth/mariadb/"
```
XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE AUTH_MARIADB_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/auth/mariadb/auth_mariadb_list_output.dtd">

<AUTH_MARIADB_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-07-17T21:57:32Z</DATETIME>
    <AUTH_MARIADB_LIST>
      <AUTH_MARIADB>
        <ID>284866</ID>
        <TITLE><![CDATA[MariaDB_Auth1]]></TITLE>
        <USERNAME><![CDATA[root]]></USERNAME>
        <DATABASE><![CDATA[mariadb]]></DATABASE>
        <PORT>22</PORT>
        <IP_SET>
          <IP>10.10.31.86</IP>
        </IP_SET>
        <LOGIN_TYPE><![CDATA[basic]]></LOGIN_TYPE>
        <SSL_VERIFY>false</SSL_VERIFY>
        <UNIX_CONF_FILE><![CDATA[/etc/my.cnf]]></UNIX_CONF_FILE>
        <NETWORK_ID>0</NETWORK_ID>
        <CREATED>
          <DATETIME>2018-07-17T21:56:47Z</DATETIME>
          <BY>seenu_yn</BY>
        </CREATED>
        <LAST_MODIFIED>
          <DATETIME>2018-07-17T21:56:47Z</DATETIME>
        </LAST_MODIFIED>
      </AUTH_MARIADB>
    </AUTH_MARIADB_LIST>
  </RESPONSE>
</AUTH_MARIADB_LIST_OUTPUT>
```

DTDs for auth type “mariadb”

<platform API server>/api/2.0/batch_return.dtd
<platform API server>/api/2.0/fo/auth/mariadb/auth_mariadb_list_output.dtd
Chapter 5 - Scan Authentication

MongoDB Record
/api/2.0/fo/auth/mongodb/

[POST]

Create, update, list and delete MongoDB records for authenticated scans of MongoDB instances running on Unix. Vulnerability and compliance scans are supported (using VM, PC).

- Technologies supported: MongoDB 3.x
- Unix authentication is required for compliance scans using the PC app. Make sure the IP addresses you define in your MongoDB records are also defined in Unix records.
- We strongly recommend you create one or more dedicated user accounts to be used solely by the Qualys Cloud Platform to authenticate to MongoDB instances.

Requirement - You must configure authentication credentials on target hosts.

Download Qualys User Guide - MongoDB Authentication (.pdf)

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required to create record) A title for the record. The title must be unique. Maximum 255 characters (ascii).</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional) User defined comments. Maximum of 1999 characters.</td>
</tr>
<tr>
<td>ids={id1,id2,...}</td>
<td>(Required to update or delete record) Record IDs to update/delete. Specify record IDs and/or ID ranges (for example, 1359-1407). Multiple entries are comma separated.</td>
</tr>
</tbody>
</table>

Target Hosts

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ips={value}</td>
<td>(Required to create record, optional to update record) Add IP addresses of the hosts you want to scan using this record. Overwrites (replaces) the IP address(es) in the IP list for an existing authentication record. The IPs you specify are added, and any existing IPs are removed. You may enter a combination of IPs and IP ranges.</td>
</tr>
</tbody>
</table>
### Parameter Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>add_ips={value}</td>
<td>(Optional to update record) Add IP address(es) to the IP list for an existing authentication record. You may enter a combination of IPs and IP ranges.</td>
</tr>
<tr>
<td>remove_ips={value}</td>
<td>(Optional to update record) IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated.</td>
</tr>
<tr>
<td>network_id={value}</td>
<td>(Optional to create or update record, and valid when the networks feature is enabled) The network ID for the record.</td>
</tr>
</tbody>
</table>

### MongoDB

- **unix_conf_file={value}**  
  (Required for create request) The full path to the MongoDB configuration file on your Unix assets (IP addresses). The file must be in the same location on all assets for this record. Maximum 255 characters (ascii).

### Login credentials

- **login_type={basic|vault|pkcert}**  
  (Optional) The login type is basic by default. You can choose vault (for vault based authentication) or pkcert (for certificate based authentication).

### Vault

- **vault_type={value}**  
  (Required to create record when login_type=vault) The vault type to be used for authentication. See Vault Support matrix.
Chapter 5 - Scan Authentication

MongoDB Record

Sample - Create MongoDB record - basic login

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl sample" -d "action=create&title=API-mongodb-basic-login&username=joe_user&password=12345abc&ips=10.20.32.239&comments=mongo-basic-login&unix_conf_path=/etc/mongod3.conf&port=28020&ssl_verify=0&database_name=admin" "https://qualysapi.qualys.com/api/2.0/fo/auth/mongodb/" > file.xml

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-12T22:43:27Z</DATETIME>
    <BATCH_LIST>
      <BATCH>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>vault_id={value}</td>
<td>(Required to create record when login_type=vault and you want to retrieve private key from vault) The vault ID where you want to retrieve the private key from. Certain vaults support this capability.</td>
</tr>
<tr>
<td>{vault parameters}</td>
<td>(Required to create record when login_type=vault) Vault specific parameters required depend on the vault type you've selected. See Vault Definition</td>
</tr>
<tr>
<td>private_key_vault_id={value}</td>
<td>(Required to create record when login_type=vault and you want to retrieve passphrase from vault) The vault ID where you want to retrieve the passphrase from. Certain vaults support this capability. See Vault Support matrix</td>
</tr>
<tr>
<td>passphrase_vault_id={value}</td>
<td>(For create request, required when login_type=vault and you want to retrieve passphrase from vault) The vault ID where you want to retrieve the passphrase from. Certain vaults support this capability. See Vault Support matrix</td>
</tr>
<tr>
<td>private_key={value}</td>
<td>(For create request, required when login_type=pkcert) The private key to be used for authentication. Certain vaults support this capability. See Vault Support matrix</td>
</tr>
<tr>
<td>passphrase={value}</td>
<td>(For create request, required when login_type=pkcert and passphrase_vault_id is not specified) The private key passphrase value of an encrypted private key. Maximum 255 characters (ascii). Certain vaults support this capability. See Vault Support matrix</td>
</tr>
<tr>
<td>certificate={value}</td>
<td>(For create request, optional when login_type=pkcert) The passphrase X.509 certificate content.</td>
</tr>
</tbody>
</table>

Sample - Create MongoDB record - basic login

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl sample" -d "action=create&title=API-mongodb-basic-login&username=joe_user&password=12345abc&ips=10.20.32.239&comments=mongo-basic-login&unix_conf_path=/etc/mongod3.conf&port=28020&ssl_verify=0&database_name=admin" "https://qualysapi.qualys.com/api/2.0/fo/auth/mongodb/" > file.xml

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-12T22:43:27Z</DATETIME>
    <BATCH_LIST>
      <BATCH>

<table>
<thead>
<tr>
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<tr>
<td>vault_id={value}</td>
<td>(Required to create record when login_type=vault and you want to retrieve private key from vault) The vault ID where you want to retrieve the private key from. Certain vaults support this capability.</td>
</tr>
<tr>
<td>{vault parameters}</td>
<td>(Required to create record when login_type=vault) Vault specific parameters required depend on the vault type you've selected. See Vault Definition</td>
</tr>
<tr>
<td>private_key_vault_id={value}</td>
<td>(Required to create record when login_type=vault and you want to retrieve passphrase from vault) The vault ID where you want to retrieve the passphrase from. Certain vaults support this capability. See Vault Support matrix</td>
</tr>
<tr>
<td>passphrase_vault_id={value}</td>
<td>(For create request, required when login_type=vault and you want to retrieve passphrase from vault) The vault ID where you want to retrieve the passphrase from. Certain vaults support this capability. See Vault Support matrix</td>
</tr>
<tr>
<td>private_key={value}</td>
<td>(For create request, required when login_type=pkcert) The private key to be used for authentication. Certain vaults support this capability. See Vault Support matrix</td>
</tr>
<tr>
<td>passphrase={value}</td>
<td>(For create request, required when login_type=pkcert and passphrase_vault_id is not specified) The private key passphrase value of an encrypted private key. Maximum 255 characters (ascii). Certain vaults support this capability. See Vault Support matrix</td>
</tr>
<tr>
<td>certificate={value}</td>
<td>(For create request, optional when login_type=pkcert) The passphrase X.509 certificate content.</td>
</tr>
</tbody>
</table>

Sample - Create MongoDB record - basic login

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl sample" -d "action=create&title=API-mongodb-basic-login&username=joe_user&password=12345abc&ips=10.20.32.239&comments=mongo-basic-login&unix_conf_path=/etc/mongod3.conf&port=28020&ssl_verify=0&database_name=admin" "https://qualysapi.qualys.com/api/2.0/fo/auth/mongodb/" > file.xml

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-12T22:43:27Z</DATETIME>
    <BATCH_LIST>
      <BATCH>

<table>
<thead>
<tr>
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<tr>
<td>vault_id={value}</td>
<td>(Required to create record when login_type=vault and you want to retrieve private key from vault) The vault ID where you want to retrieve the private key from. Certain vaults support this capability.</td>
</tr>
<tr>
<td>{vault parameters}</td>
<td>(Required to create record when login_type=vault) Vault specific parameters required depend on the vault type you've selected. See Vault Definition</td>
</tr>
<tr>
<td>private_key_vault_id={value}</td>
<td>(Required to create record when login_type=vault and you want to retrieve passphrase from vault) The vault ID where you want to retrieve the passphrase from. Certain vaults support this capability. See Vault Support matrix</td>
</tr>
<tr>
<td>passphrase_vault_id={value}</td>
<td>(For create request, required when login_type=vault and you want to retrieve passphrase from vault) The vault ID where you want to retrieve the passphrase from. Certain vaults support this capability. See Vault Support matrix</td>
</tr>
<tr>
<td>private_key={value}</td>
<td>(For create request, required when login_type=pkcert) The private key to be used for authentication. Certain vaults support this capability. See Vault Support matrix</td>
</tr>
<tr>
<td>passphrase={value}</td>
<td>(For create request, required when login_type=pkcert and passphrase_vault_id is not specified) The private key passphrase value of an encrypted private key. Maximum 255 characters (ascii). Certain vaults support this capability. See Vault Support matrix</td>
</tr>
<tr>
<td>certificate={value}</td>
<td>(For create request, optional when login_type=pkcert) The passphrase X.509 certificate content.</td>
</tr>
</tbody>
</table>
Sample - Create MongoDB record, using SSL

**API request:**
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl Sample" -d "action=create&title=API-mongo-basic-login-with-ssl-verify1_hosts&username=mongo-admin&password=test123&ips=10.20.32.239&comments=mongo-basic-login-ssl_hosts&unix_conf_path=/opt/mongodb&port=27018&ssl_verify=1&hosts=abc123.s2012r2.lab.acme.com,abc123.s2008r2.lab.acme.com" "https://qualysapi.qualys.com/api/2.0/fo/auth/mongodb/" > file.xml

**XML output:**
```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-03-12T22:45:06Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          <ID>125710</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```

Sample - Create MongoDB record, using vault

**API request:**
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl Sample" -d "action=create&title=API-mongo-vault-CA_Access&ips=10.20.32.239&comments=mongo-CA-Access-vault_login&unix_conf_path=/opt/mongodb4.conf&port=27010&login_type=vault&vault_type=CA Access Control&vault_id=166657&end_point_name=name&end_point_type=type&end_point_container=container&username=joe_user"
Sample - List MongoDB records

API request:
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl Sample" -d "action=list&details=All" "https://qualysapi.qualys.com/api/2.0/fo/auth/mongodb/" > file.xml
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE AUTH_MONGODB_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/auth/mongodb/auth_mongodb_list_output.dtd">
<AUTH_MONGODB_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2017-09-12T22:42:45Z</DATETIME>
    <AUTH_MONGODB_LIST>
      <AUTH_MONGODB>
        <ID>125693</ID>
        <TITLE><![CDATA[API-mongo-basic-login]]></TITLE>
        <USERNAME><![CDATA[mongo-admin-name]]></USERNAME>
        <DATABASE><![CDATA[db-admin-name]]></DATABASE>
        <PORT>28020</PORT>
        <UNIX_CONFIGURATION_FILE><![CDATA[/opt/mongodb/updated]]></UNIX_CONFIGURATION_FILE>
      </AUTH_MONGODB>
      <AUTH_MONGODB>
        <ID>125693</ID>
        <TITLE><![CDATA[API-mongo-basic-login]]></TITLE>
        <USERNAME><![CDATA[mongo-admin-name]]></USERNAME>
        <DATABASE><![CDATA[db-admin-name]]></DATABASE>
        <PORT>28020</PORT>
        <UNIX_CONFIGURATION_FILE><![CDATA[/opt/mongodb/updated]]></UNIX_CONFIGURATION_FILE>
      </AUTH_MONGODB>
    </AUTH_MONGODB_LIST>
  </RESPONSE>
</AUTH_MONGODB_LIST_OUTPUT>
```
<IP>10.20.32.239</IP>
</IP_SET>
<LOGIN_TYPE><![CDATA[basic]]></LOGIN_TYPE>
<NETWORK_ID>0</NETWORK_ID>
<CREATED>
    <DATETIME>2017-09-12T20:22:09Z</DATETIME>
</CREATED>

DTDs for auth type "mongodb"

<platform API server>/api/2.0/batch_return.dtd
<platform API server>/api/2.0/fo/auth/mongodb/auth_mongodb_list_output.dtd
MS Exchange Server

/api/2.0/fo/auth/ms_exchange/

[POST]

Create, update, list and delete MS Exchange Server authentication records. Compliance scans are supported (using PC).

**Input Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Required to update or delete record) Record IDs to update/delete. Specify record IDs and/or ID ranges (for example, 1359-1407). Multiple entries are comma separated.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required to create record) A title for the record. The title must be unique. Maximum 255 characters (ascii).</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional to create or update record) User defined comments. Maximum of 1999 characters.</td>
</tr>
<tr>
<td>ips={value}</td>
<td>(Required to create record) The IP address(es) the server will log into using the record’s credentials. Multiple entries are comma separated.</td>
</tr>
<tr>
<td>add_ips={value}</td>
<td>(Optional to update record) Add IPs to the IPs list for this record. Multiple IPs/ranges are comma separated.</td>
</tr>
<tr>
<td>remove_ips={value}</td>
<td>(Optional to update record) IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated.</td>
</tr>
<tr>
<td>network_id={value}</td>
<td>(Optional and valid when the networks feature is enabled) The network ID for the record.</td>
</tr>
</tbody>
</table>

**Target Hosts**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>add_ips={value}</td>
<td>(Optional to update record) Add IPs to the IPs list for this record. Multiple IPs/ranges are comma separated.</td>
</tr>
<tr>
<td>remove_ips={value}</td>
<td>(Optional to update record) IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated.</td>
</tr>
</tbody>
</table>

**Sample - Create MS Exchange Server record**

API request:

```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl sample" -d
```
XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2019-03-20T08:26:54Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          <ID>49029</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```

Sample - List MS Exchange Server records

Use the new MS Exchange Server Authentication Record List API (/api/2.0/fo/auth/ms_exchange/?action=list) to list MS Exchange Server records.

API request:

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -d "action=list&details=Basic"
"https://qualysapi.qualys.com/api/2.0/fo/auth/ms_exchange/
```

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE AUTH_MS_EXCHANGE_LIST_OUTPUT SYSTEM
"https://qualysapi.qualys.com/api/2.0/fo/auth/ms_exchange/auth_ms_exchange_list_output.dtd">
<AUTH_MS_EXCHANGE_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2019-03-20T07:26:38Z</DATETIME>
    <AUTH_MS_EXCHANGE_LIST>
      <AUTH_MS_EXCHANGE>
        <ID>48050</ID>
        <TITLE><![CDATA[msexchange01]]></TITLE>
      </AUTH_MS_EXCHANGE>
    </AUTH_MS_EXCHANGE_LIST>
  </RESPONSE>
</AUTH_MS_EXCHANGE_LIST_OUTPUT>
```
Chapter 5 - Scan Authentication

MS Exchange Server

...<AUTH_MS_EXCHANGE>
  <ID>49026</ID>
  <TITLE>
    <![CDATA[apicreate]]>
  </TITLE>
  <IP_SET>
    <IP>10.10.10.13</IP>
  </IP_SET>
  <NETWORK_ID>0</NETWORK_ID>
  <CREATED>
    <DATETIME>2019-03-19T11:46:23Z</DATETIME>
    <BY>quays_sp1</BY>
  </CREATED>
  <LAST_MODIFIED>
    <DATETIME>2019-03-19T11:56:57Z</DATETIME>
  </LAST_MODIFIED>
  <COMMENTS>
    <![CDATA[editapicomment]]>
  </COMMENTS>
</AUTH_MS_EXCHANGE>

DTDs for auth type “ms_exchange”

<platform API server>/api/2.0/batch_return.dtd
<platform API server>/api/2.0/fo/auth/ms_exchange/auth_ms_exchange_list_output.dtd
Sample: Update MS Exchange Server record

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl sample" -d "action=update&ids=49029&title=forupdate&comments=editwapicomment&ips=10.10.10.11" "https://qualysapi.qualys.com/api/2.0/fo/auth/ms_exchange/"

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2019-03-20T08:29:48Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Updated</TEXT>
        <ID_SET>
          <ID>49029</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```

Sample: Delete MS Exchange Server record (single)

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl sample" -d "action=delete&ids=49026" "https://qualysapi.qualys.com/api/2.0/fo/auth/ms_exchange/"

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2019-03-20T07:56:00Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Deleted</TEXT>
        <ID_SET>
          <ID>49026</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```
Sample: Delete MS Exchange Server records (bulk)

API request:

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl sample" -d
"action=delete&ids=49028,49029"
"https://qualysapi.qualys.com/api/2.0/fo/auth/ms_exchange/
```

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<!DOCTYPE BATCH_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2019-03-20T08:31:35Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Deleted</TEXT>
        <ID_SET>
          <ID_RANGE>49028-49029</ID_RANGE>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```
MS SQL Record

/api/2.0/fo/auth/ms_sql/

[POST]

Create, update, list and delete MS SQL Server authentication records. Compliance scans are supported (using PC).

Requirement - You must configure authentication credentials on target hosts.

Download Qualys User Guide - MS SQL Server 2000 Authentication (.pdf)
Download Qualys User Guide - MS SQL Server 2005-2017 Authentication (.pdf)

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Required to update or delete record) Record IDs to update/delete. Specify record IDs and/or ID ranges (for example, 1359-1407). Multiple entries are comma separated.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required to create record) A title for the record. The title must be unique. Maximum 255 characters (ascii).</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional) User defined comments. Maximum 1999 characters.</td>
</tr>
</tbody>
</table>

Login credentials

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>username={value}</td>
<td>(Required to create record, optional to update record) The user account to be used for authentication. May include 1-128 characters.</td>
</tr>
<tr>
<td>password={value}</td>
<td>(Required to create record, optional to update record) The password corresponding to the user account defined in the record for authentication. May include 1-128 characters.</td>
</tr>
<tr>
<td>db_local={0</td>
<td>1}</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>windows_domain={value}</td>
<td>(Required when db_local=0, otherwise invalid) The domain name where the login credentials are stored when the login credentials are for a Microsoft Windows operating system account that is associated with a MS SQL Server database account. The domain name may include 1-256 characters (ascii). For an update request when the credentials for the record are for a Microsoft Windows account (db_local=0) and you want to change the record to use credentials for a MS SQL Server account (db_local=1) note the following. You must set windows_domain=&quot;&quot; (the empty string) to clear the current parameter setting.</td>
</tr>
<tr>
<td>instance={value}</td>
<td>(Optional to create or update record) The name of the database instance to be scanned. This is the instance name assigned to the TCP/IP port. Important: This is not the host name that is assigned to the MS SQL Server instance name (see “MS SQL Server Instance Name” in the Qualys online help for information). The instance name may include a maximum of 128 characters (ascii). For a create request if the instance parameter is unspecified, the instance name is set to “MSSQLSERVER”. These parameters are mutually exclusive: instance and auto_discover_instances=1.</td>
</tr>
<tr>
<td>auto_discover_instances=</td>
<td>Set auto_discover_instances=1 and we’ll find all MS SQL Server instance names on each host. Note Windows authentication is required in order for us to auto discover instance names - be sure you set up Windows authentication records for your hosts running MS SQL Server. These parameters are mutually exclusive: instance and auto_discover_instances=1.</td>
</tr>
<tr>
<td>{0</td>
<td>1}</td>
</tr>
<tr>
<td>database={value}</td>
<td>(Optional to create or update record) The database name of the database to be scanned. The database name may contain a maximum of 128 characters. For a create request if the database name is unspecified, the database name is set to “master”.</td>
</tr>
<tr>
<td>auto_discover_databases=</td>
<td>Set auto_discover_databases=1 and we’ll find all MS SQL Server database names on each host. These parameters are mutually exclusive: database and auto_discover_databases=1.</td>
</tr>
<tr>
<td>{0</td>
<td>1}</td>
</tr>
</tbody>
</table>
### Chapter 5 - Scan Authentication

#### MS SQL Record

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>port={value}</td>
<td>(Required to create record, optional to update record) The port number assigned to the database instance to be scanned.</td>
</tr>
<tr>
<td></td>
<td>To create a record you must specify one of these parameters: port or auto_discover_ports=1. These parameters are mutually exclusive.</td>
</tr>
<tr>
<td>auto_discover_ports={0</td>
<td>1}</td>
</tr>
<tr>
<td></td>
<td>To create a record you must specify one of these parameters: port or auto_discover_ports=1. These parameters are mutually exclusive.</td>
</tr>
</tbody>
</table>

#### Target Hosts

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ips={value}</td>
<td>You may enter a combination of IPs and IP ranges to identify compliance hosts. Multiple entries are comma separated. (Optional to update record) Overwrites (replaces) the IP list for the authentication record. The IPs you specify are added and any existing IPs are removed. For create request, it is required to specify either this parameter or member_domain parameter. For update request, this parameter and the add_ips or remove_ips or member_domain parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>add_ips={value}</td>
<td>(Optional to update record) You may enter a combination of IPs and IP ranges to identify compliance hosts. Multiple entries are comma separated. This parameter is used to update an existing IP list in an existing authentication record. Specifies one or more IP addresses to add to the IP list for the authentication record. This parameter and the ips or member_domain parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>remove_ips={value}</td>
<td>(Optional for update request only) IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated. This parameter and the ips or member_domain parameter cannot be specified in the same request.</td>
</tr>
</tbody>
</table>
### Sample - List record for Windows using member domain

**API request:**
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl" -d "action=list&echo_request=1&ids=13907" "https://qualysapi.qualys.com/api/2.0/fo/auth/ms_sql/
```

**XML output:**
```xml
<?xml version="1.0" encoding="UTF-8" >
<!DOCTYPE AUTH_MS_SQL_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/auth/ms_sql/auth_ms_sql_list_output.dtd">
<AUTH_MS_SQL_LIST_OUTPUT>
  <REQUEST>
    <DATETIME>2017-09-20T05:34:37Z</DATETIME>
    <USER_LOGIN>user_john</USER_LOGIN>
    <RESOURCE>
      https://qualysapi.qualys.com/api/2.0/fo/auth/ms_sql/
    </RESOURCE>
    <PARAM_LIST>
    </PARAM_LIST>
  </REQUEST>
</AUTH_MS_SQL_LIST_OUTPUT>
```
<KEY>action</KEY>
  <VALUE>list</VALUE>
</PARAM>
<PARAM>
  <KEY>echo_request</KEY>
  <VALUE>1</VALUE>
</PARAM>
<PARAM>
  <KEY>ids</KEY>
  <VALUE>13907</VALUE>
</PARAM>
</PARAM_LIST>
</REQUEST>
</RESPONSE>

<DATETIME>2017-09-20T05:34:37Z</DATETIME>
<AUTH_MS_SQL_LIST>
  <AUTH_MS_SQL>
    <ID>13907</ID>
    <TITLE><![CDATA[mssqlvt4]]></TITLE>
    <USERNAME><![CDATA[administrator]]></USERNAME>
    <NTLM_V2>1</NTLM_V2>
    <KERBEROS>1</KERBEROS>
    <INSTANCE><![CDATA[MSSQLSERVER]]></INSTANCE>
    <DATABASE><![CDATA[master]]></DATABASE>
    <PORT>8012</PORT>
    <DB_LOCAL>1</DB_LOCAL>
    <MEMBER_DOMAIN><![CDATA[sitedomain.com]]></MEMBER_DOMAIN>
    <NETWORK_ID>0</NETWORK_ID>
    <CREATED>
      <DATETIME>2017-09-20T05:26:31Z</DATETIME>
      <BY>user_john</BY>
    </CREATED>
    <LAST_MODIFIED>
      <DATETIME>2017-09-20T05:26:31Z</DATETIME>
    </LAST_MODIFIED>
    <COMMENTS><![CDATA[authcreated]]></COMMENTS>
  </AUTH_MS_SQL>
</AUTH_MS_SQL_LIST>
</RESPONSE>
</AUTH_MS_SQL_LIST_OUTPUT>
Sample - Create record for Windows using member domain

API request:
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl" -d "action=create&title=mssqlvt1&username=administrator&password=abc123&db_local=1&port=8012&member_domain=sitedomain.com&echo_request=1&comments=authcreated&instance=MSSQLSERVER&database=master" "https://qualysapi.qualys.com/api/2.0/fo/auth/ms_sql/
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <REQUEST>
    <DATETIME>2018-03-20T05:26:31Z</DATETIME>
    <USER_LOGIN>user_john</USER_LOGIN>
    <RESOURCE>https://qualysapi.qualys.com/api/2.0/fo/auth/ms_sql/</RESOURCE>
    <PARAM_LIST>
      <PARAM>
        <KEY>action</KEY>
        <VALUE>create</VALUE>
      </PARAM>
      <PARAM>
        <KEY>title</KEY>
        <VALUE>mssqlvt4</VALUE>
      </PARAM>
      <PARAM>
        <KEY>username</KEY>
        <VALUE>administrator</VALUE>
      </PARAM>
      <PARAM>
        <KEY>password</KEY>
        <VALUE>abc123</VALUE>
      </PARAM>
      <PARAM>
        <KEY>db_local</KEY>
        <VALUE>1</VALUE>
      </PARAM>
      <PARAM>
        <KEY>port</KEY>
        <VALUE>8012</VALUE>
      </PARAM>
    </PARAM_LIST>
  </REQUEST>
</BATCH_RETURN>
```
<KEY>member_domain</KEY>
<VALUE>sitedomain.com</VALUE>
</PARAM>
<PARAM>
  <KEY>echo_request</KEY>
  <VALUE>1</VALUE>
</PARAM>
<PARAM>
  <KEY>comments</KEY>
  <VALUE>authcreated</VALUE>
</PARAM>
<PARAM>
  <KEY>instance</KEY>
  <VALUE>MSSQLSERVER</VALUE>
</PARAM>
<PARAM>
  <KEY>database</KEY>
  <VALUE>master</VALUE>
</PARAM>
</PARAM_LIST>
</REQUEST>
</RESPONSE>
<RESPONSE>
  <DATETIME>2018-03-20T05:26:31Z</DATETIME>
  <BATCH_LIST>
    <BATCH>
      <TEXT>Successfully Created</TEXT>
      <ID_SET>
        <ID>13907</ID>
      </ID_SET>
    </BATCH>
  </BATCH_LIST>
</RESPONSE>
</BATCH_RETURN>

**Sample - Update record for Windows using member domain**

**API request:**
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl" -d "action=update&echo_request=1&ids=13907&member_domain=webdomain.com"
"https://qualysapi.qualys.com/api/2.0/fo/auth/ms_sql/"
```

**XML output:**
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM
...
"https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <REQUEST>
    <DATETIME>2018-03-20T05:37:13Z</DATETIME>
    <USER_LOGIN>user_john</USER_LOGIN>
    <RESOURCE>https://qualysapi.qualys.com/api/2.0/fo/auth/ms_sql/</RESOURCE>
    <PARAM_LIST>
      <PARAM>
        <KEY>action</KEY>
        <VALUE>update</VALUE>
      </PARAM>
      <PARAM>
        <KEY>echo_request</KEY>
        <VALUE>1</VALUE>
      </PARAM>
      <PARAM>
        <KEY>ids</KEY>
        <VALUE>13907</VALUE>
      </PARAM>
      <PARAM>
        <KEY>member_domain</KEY>
        <VALUE>webdomain.com</VALUE>
      </PARAM>
    </PARAM_LIST>
  </REQUEST>
  <RESPONSE>
    <DATETIME>2018-03-20T05:37:13Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Updated</TEXT>
        <ID_SET><ID>13907</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>

**DTDs for auth type "ms_sql"**

<platform API server>/api/2.0/batch_return.dtd
<platform API server>/api/2.0/fo/auth/ms_sql/auth_ms_sql_list_output.dtd
MySQL Record

/api/2.0/fo/auth/mysql/

[POST]

Create, update, list and delete MySQL records for authenticated scans of MySQL Server instances. Vulnerability and compliance scans are supported (using VM, PC).

Requirement - You must configure authentication credentials on target hosts.

Download Qualys User Guide - MySQL Authentication (.zip)

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Required to update or delete record) Record IDs to update/delete. Specify record IDs and/or ID ranges (for example, 1359-1407). Multiple entries are comma separated.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required to create record) A title for the record. The title must be unique. Maximum 255 characters (ascii).</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional to create or update record) User defined comments. Maximum of 1999 characters.</td>
</tr>
<tr>
<td>ssl_verify={0</td>
<td>1}</td>
</tr>
<tr>
<td></td>
<td>- If unspecified (or ssl_verify=0), Qualys scanners authenticate with MySQL Servers that don't use SSL or MySQL servers that use SSL. However, in the SSL case, the server SSL certificate verification will be skipped.</td>
</tr>
<tr>
<td></td>
<td>- If ssl_verify=1, the Qualys scanners will only send a login request after verifying that a connection the MySQL server uses SSL, the server SSL certificate is valid and matches the scanned host.</td>
</tr>
<tr>
<td>hosts={value}</td>
<td>(Optional to create or update record) A list of FQDNs for the hosts that correspond to all host IP addresses on which a custom SSL certificate signed by a trusted root CA is installed. Multiple hosts are comma separated.</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>database={value}</td>
<td>(Required to create, optional to update record) The database name to authenticate to. Specify a valid MySQL database name.</td>
</tr>
<tr>
<td>port={value}</td>
<td>(Required to create, optional to update record) The port the database name is running on.</td>
</tr>
<tr>
<td>windows_config_file={value}</td>
<td>(Optional to create or update record) The path to the Windows MySQL config file. Access to this config file is required to run certain checks on Windows hosts. Note: You must specify either windows_config_file or unix_config_file depending on the host OS.</td>
</tr>
<tr>
<td>unix_config_file={value}</td>
<td>(Optional) Name of the client (Consultant type subscriptions). Note: You must specify either windows_config_file or unix_config_file depending on the host OS.</td>
</tr>
<tr>
<td>client_cert={value}</td>
<td>(Optional to create or update record) PEM-encoded X.509 certificate. Specify if certificate authentication is required by your server to establish an SSL connection.</td>
</tr>
<tr>
<td>client_key={value}</td>
<td>(Optional to create or update record) PEM-encoded RSA private key. Specify if certificate authentication is required by your server to establish an SSL connection.</td>
</tr>
<tr>
<td>Login credentials</td>
<td></td>
</tr>
<tr>
<td>login_type={basic</td>
<td>vault}</td>
</tr>
<tr>
<td>username={value}</td>
<td>(Required to create record, optional to update record) The IP address(es) the server will log into using the record’s credentials. Multiple entries are comma separated.</td>
</tr>
<tr>
<td>password={value}</td>
<td>(Required to create record, optional to update record) The password to be used for authentication to MySQL server.</td>
</tr>
<tr>
<td>Vault</td>
<td></td>
</tr>
<tr>
<td>vault_type={value}</td>
<td>(Required only when action=create and login_type=vault) The vault to be used for authentication. See Vault Support matrix.</td>
</tr>
<tr>
<td>vault_id={value}</td>
<td>(Required only when action=create and login_type=vault) The ID of the vault you want to use.</td>
</tr>
<tr>
<td>{vault parameters}</td>
<td>(Required only when action=create and login_type=vault) Vault specific parameters required depend on the vault type you’ve selected. See Vault Definition.</td>
</tr>
<tr>
<td>Target Hosts</td>
<td></td>
</tr>
</tbody>
</table>
### MySQL Record

You'll see vault information in the XML output when you list MySQL authentication records with vaults.

**API request:**

```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl" -d "action=list&ids=284212" "https://qualysapi.qualys.com/api/2.0/fo/auth/mysql/"
```

**XML output:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE AUTH_MYSQL_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/auth/mysql/auth_mysql_list_output.dtd">
<AUTH_MYSQL_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-07-17T17:09:18Z</DATETIME>
    <AUTH_MYSQL_LIST>
      <AUTH_MYSQL>
        <ID>284212</ID>
        <TITLE><![CDATA[api-Thycotic Secret Server_tss]]></TITLE>
        <USERNAME><![CDATA[test_tss]]></USERNAME>
        <DATABASE><![CDATA[mysql]]></DATABASE>
        <PORT>22</PORT>
        <HOSTS>
          <HOST><![CDATA[www.test.com]]></HOST>
        </HOSTS>
      </AUTH_MYSQL>
    </AUTH_MYSQL_LIST>
  </RESPONSE>
</AUTH_MYSQL_LIST_OUTPUT>
```

### Parameter Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ips={value}</td>
<td>(Required to create record) The IP address(es) the server will log into using the record’s credentials. Multiple entries are comma separated.</td>
</tr>
<tr>
<td></td>
<td>(Optional to update record) IPs specified will overwrite existing IPs in the record, and existing IPs will be removed.</td>
</tr>
<tr>
<td>add_ips={value}</td>
<td>(Optional to update record) Add IPs to the IPs list for this record. Multiple IPs/ranges are comma separated.</td>
</tr>
<tr>
<td>remove_ips={value}</td>
<td>(Optional to update record) IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated.</td>
</tr>
<tr>
<td></td>
<td>This parameter and the ips or member_domain parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>network_id={value}</td>
<td>(Optional and valid when the networks feature is enabled) The network ID for the record.</td>
</tr>
</tbody>
</table>

### Sample - List MySQL record

You'll see vault information in the XML output when you list MySQL authentication records with vaults.

**API request:**

```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl" -d "action=list&ids=284212" "https://qualysapi.qualys.com/api/2.0/fo/auth/mysql/"
```

**XML output:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE AUTH_MYSQL_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/auth/mysql/auth_mysql_list_output.dtd">
<AUTH_MYSQL_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-07-17T17:09:18Z</DATETIME>
    <AUTH_MYSQL_LIST>
      <AUTH_MYSQL>
        <ID>284212</ID>
        <TITLE><![CDATA[api-Thycotic Secret Server_tss]]></TITLE>
        <USERNAME><![CDATA[test_tss]]></USERNAME>
        <DATABASE><![CDATA[mysql]]></DATABASE>
        <PORT>22</PORT>
        <HOSTS>
          <HOST><![CDATA[www.test.com]]></HOST>
        </HOSTS>
      </AUTH_MYSQL>
    </AUTH_MYSQL_LIST>
  </RESPONSE>
</AUTH_MYSQL_LIST_OUTPUT>
```
Sample - Create new MySQL record

API request:
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" -d "action=create&title=NewMySQLRecord&username=USERNAME&password=PASSWORD&ips=10.10.31.84&echo_request=1&windows_config_file=c:\mysql\my.ini&port=22&database=mysql" "https://qualysapi.qualys.com/api/2.0/fo/auth/mysql/
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-07-27T17:02:23Z</DATETIME>
  </RESPONSE>
</BATCH_RETURN>
```
Sample - Create MySQL record, using vault

API request:

```bash
```

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-07-27T17:14:57Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          <ID>291735</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```
Sample - Update MySQL record

API request:
```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" -d "action=update&ids=137296922&password=NEWPASSWORD" "https://qualysapi.qualys.com/api/2.0/fo/auth/mysql/"
```

XML output:
```xml
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-01-23T17:14:28Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Updated</TEXT>
        <ID_SET>
          <ID>137296922</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```

Sample - Update vault details in MySQL record

API request:
```bash
```

XML output:
```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          <ID>284212</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```
DTDs for auth type "mysql"
<platform API server>/api/2.0/batch_return.dtd
<platform API server>/api/2.0/fo/auth/mysql/auth_mysql_list_output.dtd
Chapter 5 - Scan Authentication
Oracle Record

/api/2.0/fo/auth/oracle/

[POST]

Create, update, list and delete Oracle records for authenticated scans of Oracle instances. Vulnerability and compliance scans are supported (using VM, PC).

How it works - During scanning we’ll authenticate to one or more instances on a single host using all Oracle records in your account. For compliance scans, you can scan multiple Oracle instances on a single host and port combination. Looking for more help? Search for “Oracle Use Cases” in Qualys online help.

Requirement - You must configure login credentials on target hosts before scanning.

Download Qualys User Guide - Oracle Authentication for VM Scans (.zip)
Download Qualys User Guide - Oracle Authentication for Compliance Scans (.zip)

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=[action]</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request=[0</td>
<td>1]</td>
</tr>
<tr>
<td>ids=[value]</td>
<td>(Required to update or delete record) Record IDs to update/delete. Specify record IDs and/or ID ranges (for example, 1359-1407). Multiple entries are comma separated.</td>
</tr>
<tr>
<td>title=[value]</td>
<td>(Required to create record, optional to update record) A title for the record. The title must be unique. Maximum 255 characters (ascii).</td>
</tr>
<tr>
<td>comments=[value]</td>
<td>(Optional to create or update record) User defined comments. Maximum of 1999 characters.</td>
</tr>
</tbody>
</table>

Login credentials

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>username=[value]</td>
<td>(Required to create record, optional to update record) The user account to be used for authentication to the Oracle database. The username may include 1-31 characters (ascii).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>password=[value]</td>
<td>(Required to create record, optional to update record) The password corresponding to the user account defined in the record for authentication. The password may include 1-31 characters (ascii).</td>
</tr>
</tbody>
</table>
### Chapter 5 - Scan Authentication

**Oracle Record**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
</table>
| sid={value}   | (Optional to create or update record) The Oracle System ID (SID) that identifies the database instance to be authenticated to. To create a record sid or servicename is required.  
The parameters sid and servicename cannot be specified in the same request. |
| servicename={value} | (Optional to create or update record) The Oracle service name that identifies the database instance to be authenticated to. A maximum of 30 characters may be specified.  
The parameters sid and servicename cannot be specified in the same request. |
| port={value} | (Optional to create record) The port number that the Oracle database instance is running on. When not specified, the “All Ports” option is used and the scanning engine will authenticate to the database instance on each port that the Oracle service is detected on. Ports used for Oracle authentication  
These parameters are mutually exclusive: instance and auto_discover_instances=1. |
| pc_only={0|1} | (Optional to create record, valid when the compliance module is enabled) Specify 1 to perform compliance scans on multiple instances running on host and port combinations in this record. This parameter must be specified if this Oracle record has some host and port combination, which is already defined in another record.  
Note, however, when pc_only=1 is specified, the record will be used for compliance scans only. When not specified, the record will be used for vulnerability scans and compliance scans. |

### Target Hosts

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
</table>
| ips={value}   | (Required to create record) The IP address(es) the server will log into using the record’s credentials. Multiple entries are comma separated.  
(Optional to update record) IPs specified will overwrite existing IPs in the record, and existing IPs will be removed.  
This parameter and the add_ips parameter or the remove_ips parameter cannot be specified in the same request. |
### Parameter Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>add_ips={value}</td>
<td>(Optional to update record) Add IPs and/or ranges to the IPs list for this record. Multiple IPs/ranges are comma separated.</td>
</tr>
<tr>
<td></td>
<td>This parameter and the ips parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>remove_ips={value}</td>
<td>(Optional to update record) IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated.</td>
</tr>
<tr>
<td></td>
<td>This parameter and the ips parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>network_id={value}</td>
<td>(Optional and valid when the networks feature is enabled) The network ID for the record.</td>
</tr>
</tbody>
</table>

#### OS Parameters Windows

OS Parameters are used for compliance scans only.

**perform_windows_os_checks**={0|1}  
(Optional) Specify 1 to perform OS-dependent compliance checks for the Oracle technology during Windows authenticated compliance scans. These checks are assigned to the control category "Database Settings" in the sub-category "DB OS-dependent Controls".

**win_ora_home_name={value}**  
(Required if perform_windows_os_checks=1 is specified; otherwise invalid)  
The Windows Oracle Home name. Example: OraHome1

**win_ora_home_path={value}**  
(Required if perform_windows_os_checks=1 is specified; otherwise invalid)  
The Windows Oracle Home path. Example: c:\Program Files\Oracle\10

**win_init_ora_path={value}**  
(Required if perform_windows_os_checks=1 is specified; otherwise invalid)  
The pathname to the Windows init(SID).ora file. Example: c:\Program Files\oracle\dbs\initORA10.ora

**win_spfile_ora_path={value}**  
(Required if perform_windows_os_checks=1 is specified; otherwise invalid)  
The pathname to the Windows spfile(SID).ora file. Example: c:\Program Files\oracle\network\admin\spfileORA10.ora

**win_listener_ora_path={value}**  
(Required if perform_windows_os_checks=1 is specified; otherwise invalid)  
The pathname to the Window listener.ora file. Example: c:\Program Files\oracle\network\admin\listener.ora

**win_sqlnet_ora_path={value}**  
(Required if perform_windows_os_checks=1 is specified; otherwise invalid)  
The pathname to the Windows sqlnet.ora file. Example: c:\Program Files\oracle\network\admin\sqlnet.ora
## Chapter 5 - Scan Authentication

### OS Parameters Unix

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>win_tnsnames_ora_path=</td>
<td>(Required if perform_windows_os_checks=1 is specified; otherwise invalid) The pathname to the Windows tnsnames.ora file. Example: c:\ProgramFiles\oracle\network\admin\tnsnames.ora</td>
</tr>
<tr>
<td>unix_ora_home_path=</td>
<td>(Required if perform_unix_os_checks=1 and/or perform_unix_opatch_checks=1 is specified; otherwise invalid) The Unix Oracle Home path. Example: /usr/opt/oracle/10</td>
</tr>
<tr>
<td>unix_init_ora_path=</td>
<td>(Required if perform_unix_os_checks=1 and/or perform_unix_opatch_checks=1 is specified; otherwise invalid) The pathname to the Unix init(SID).ora file. Example: /usr/opt/oracle/dbs/initORA10.ora</td>
</tr>
<tr>
<td>unix_spfile_ora_path=</td>
<td>(Required if perform_unix_os_checks=1 and/or perform_unix_opatch_checks=1 is specified; otherwise invalid) The pathname to the Unix spfile(SID).ora file. Example: /usr/opt/oracle/network/admin/spfileORA10.ora</td>
</tr>
<tr>
<td>unix_listener_ora_path=</td>
<td>(Required if perform_unix_os_checks=1 and/or perform_unix_opatch_checks=1 is specified; otherwise invalid) The pathname to the Unix listener.ora file. Example: /usr/opt/oracle/network/admin/listener.ora</td>
</tr>
<tr>
<td>unix_sqlnet_ora_path=</td>
<td>(Required if perform_unix_os_checks=1 and/or perform_unix_opatch_checks=1 is specified; otherwise invalid) The pathname to the Unix sqlnet.ora file. Example: /usr/opt/oracle/network/admin/sqlnet.ora</td>
</tr>
</tbody>
</table>

**OS Parameters Unix**

- **perform_unix_os_checks=**
  - 0
  - 1
  (Optional) Specify 1 to perform OS-dependent compliance checks for the Oracle technology during Unix authenticated compliance scans. These checks are assigned to the control category “Database Settings” in the sub-category “DB OS-dependent Controls”.

- **perform_unix_opatch_checks=**
  - 0
  - 1
  (Optional) Specify 1 to perform OPatch checks using the OPatch binary to return a list of all installed patches for the Oracle instance.

In a case where perform_unix_os_checks=1 is specified and perform_unix_opatch_checks=0 is specified (or this parameter is not specified), the service checks for patch information from the Oracle database directly; information in the database may not be accurate so the list of installed patches returned by the service also may not be accurate.
Chapter 5 - Scan Authentication

Oracle Record

Ports used for Oracle authentication

The “All Ports” option is used when the port parameter is not specified (the default). You may only create one Oracle record with this setting for each host. When All Ports is defined the scanning engine uses the credentials in the record to attempt authentication to the database instance (SID or service name) when a port-specific record does not exist. The scanning engine will authenticate to the database instance on each port the Oracle service is detected on.

A single port is used when the port parameter is specified (e.g. port=1521). The same port number cannot be entered in multiple Oracle records for the same host, unless the compliance module is enabled and pc_only=1 is specified.

How it works - When the scanning engine detects an Oracle instance on a host, it first checks to see if you have an authentication record with the database instance and port specified. If you have a port-specific record, then it uses the credentials in that record to attempt authentication to the database instance. If a port-specific record does not exist (or if authentication fails), then the scanning engine checks to see if you have an authentication record set to “All Ports” for the host and uses the credentials in that record to attempt authentication to the database instance.

DTDs for auth type “oracle”

<platform API server>/api/2.0/batch_return.dtd
<platform API server>/api/2.0/fo/auth/oracle/auth_oracle_list_output.dtd

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
</table>
| unix_tnsnames_ora_path=\{value\} | (Required if perform_unix_os_checks=1 and/or perform_unix_opatch_checks=1 is specified; otherwise invalid)  
                       The pathname to the Unix tnsnames.ora file.  
                       Example: /usr/opt/oracle/network/admin/tnsnames.ora |
| unix_invptrloc=\{value\}     | (Optional) if perform_unix_opatch Checks=1 is specified; otherwise invalid)  
                       The pathname to the Unix oraInst.loc file. Use this parameter to identify a custom inventory for patches.  
                       Example: /usr/opt/oracle/network/admin/oraInst.loc |
Oracle Listener Record

/api/2.0/fo/auth/oracle_listener/

[POST]

Create, update, list and delete Oracle Listener records for authenticated scans of Oracle Listener databases. Vulnerability scans are supported (using VM).

Oracle Listener records are used to connect to Oracle TNS Listeners in order to enumerate information about databases behind the Oracle Listeners. When authentication is successful and databases behind the Listener are discovered, the QID 19225 “Retrieved Oracle Database Name” is returned in the scan results. This is an information gathered check that lists the names of the databases discovered behind the Listener. This information is useful if you want to create Oracle authentication records on those databases and need the Oracle System IDs (SIDs).

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Required to update or delete record) Record IDs to update/delete. Specify record IDs and/or ID ranges (for example, 1359-1407). Multiple entries are comma separated.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required to create record, optional to update record) A title for the record. The title must be unique. Maximum 255 characters (ascii).</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional to create or update record) User defined comments. Maximum of 1999 characters.</td>
</tr>
<tr>
<td>password={value}</td>
<td>(Required to create record, optional to update record) Specifies a password for authentication to target hosts. If more than one Listener is detected on the same host, then the same password is attempted on each Listener. The password may include 1-31 characters (ascii).</td>
</tr>
</tbody>
</table>
### Chapter 5 - Scan Authentication

**Oracle Listener Record**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target Hosts</strong></td>
<td></td>
</tr>
<tr>
<td>ips={value}</td>
<td>(Required to create record) The IP address(es) the server will log into using the record’s credentials. Multiple entries are comma separated.</td>
</tr>
<tr>
<td></td>
<td>(Optional to update record) IPs specified will overwrite existing IPs in the record, and existing IPs will be removed. This parameter and the add_ips parameter or the remove_ips parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>add_ips={value}</td>
<td>(Optional to update record) Add IPs and/or ranges to the IPs list for this record. Multiple IPs/ranges are comma separated. This parameter and the ips parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>remove_ips={value}</td>
<td>(Optional to update record) IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated. This parameter and the ips parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>network_id={value}</td>
<td>(Optional to create or update record, and valid when the networks feature is enabled) The network ID for the record.</td>
</tr>
</tbody>
</table>

**DTDs for auth type “oracle_listener”**

```xml
<platform API server>/api/2.0/batch_return.dtd
<platform API server>/api/2.0/fo/auth/oracle_listener/auth_oracle_listener_list_output.dtd
```
Oracle WebLogic Server Record
/api/2.0/fo/auth/oracle_weblogic/

[POST]

Create, update, list and delete Oracle WebLogic records for authenticated scans of Oracle WebLogic Server instances. Vulnerability and compliance scans are supported (using VM, PC).

What you’ll need:
- We support these technologies: Oracle WebLogic Server 11g and Oracle WebLogic Server 12c
- Unix authentication is required so you’ll need a Unix record for each host running an Oracle WebLogic Server

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Required for update request; invalid for create request) The IDs of the Oracle WebLogic Server authentication records that you want to update. Multiple IDs are comma separated</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required to create record) A title for the record. The title must be unique. Maximum 255 characters (ascii).</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional to create or update record) User defined comments. Maximum of 1999 characters.</td>
</tr>
<tr>
<td>installation_path={value}</td>
<td>(Required to create record, optional to update record) The directory where the Oracle WebLogic Server is installed (i.e. Home directory). Example: /u01/app/oracle/middleware</td>
</tr>
<tr>
<td>auto_discover={0</td>
<td>1}</td>
</tr>
</tbody>
</table>
### Chapter 5 - Scan Authentication

**Oracle WebLogic Server Record**

**Sample - Create WebLogic record, no auto discover**

**API request:**

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" -d "action=create&installation_path=/u01/app/oracle&auto_discover=0&domain=www.qualys.com&ips=10.10.10.23&title=WEB_ORA_CREATE" "https://qualysapi.qualys.com/api/2.0/fo/auth/oracle_weblogic/"
```

**XML output:**

```xml
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
```

### Parameter | Description
--- | ---
domain={value} | (Optional) A single Oracle WebLogic Server domain name. Example: website

The domain parameter must be specified with `auto_discover=0` in the same request.

**Target Hosts**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ips={value}</td>
<td>(Required to create record) The IP address(es) the server will log into using the record’s credentials. Multiple entries are comma separated. (Optional to update record) IPs specified will overwrite existing IPs in the record, and existing IPs will be removed. This parameter and the add_ips parameter or the remove_ips parameter cannot be specified in the same request.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>add_ips={value}</td>
<td>(Optional to update record) Add IPs and/or ranges to the IPs list for this record. Multiple IPs/ranges are comma separated. This parameter and the ips parameter cannot be specified in the same request.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>remove_ips={value}</td>
<td>(Optional to update record) IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated. This parameter and the ips parameter cannot be specified in the same request.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>network_id={value}</td>
<td>(Optional to create or update record, and valid when the networks feature is enabled) The network ID for the record.</td>
</tr>
</tbody>
</table>
Chapter 5 - Scan Authentication
Oracle WebLogic Server Record

<RESPONSE>
  <DATETIME>2018-03-10T13:30:49Z</DATETIME>
  <BATCH_LIST>
    <BATCH>
      <TEXT>Successfully Created</TEXT>
      <ID_SET>
        <ID>2707632279</ID>
      </ID_SET>
    </BATCH>
  </BATCH_LIST>
</RESPONSE>

Sample - Create WebLogic record, with auto discover

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" 
-d "action=create&installation_path=/u01/app/oracle&auto_discover=1&ips=10.10.10.23&title=ABC_ORA" 
'https://qualysapi.qualys.com/api/2.0/fo/auth/oracle_weblogic/

XML output:

<!DOCTYPE BATCH_RETURN SYSTEM 
"https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-03-10T13:42:46Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          <ID>2707642279</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>

DTDs for auth type “oracle_weblogic”

<platform API server>/api/2.0/batch_return.dtd

<platform API server>/api/2.0/fo/auth/oracle_weblogic/
auth_oracle_weblogic_list_output.dtd
Palo Alto Firewall Record

/api/2.0/fo/auth/palo_alto_firewall/

[POST]

Create, update, list and delete Palo Alto Firewall records for authenticated scans of Palo Alto Firewall instances. Vulnerability and compliance scans are supported (using VM, PC).

Requirements:

- The user account you provide for authentication must either have the predefined role “Superuser (read-only)” or a custom role with these XML API privileges enabled: Configuration and Operational Requests.

- We use the PANOS XML API to retrieve system information from Palo Alto Firewall on port 443 so this port must be open.

Tip - We strongly recommend you create one or more dedicated user accounts to be used solely by the Qualys Cloud Platform to authenticate to Palo Alto Firewall instances.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Required to update or delete record) Record IDs to update/delete. Specify record IDs and/or ID ranges (for example, 1359-1407). Multiple entries are comma separated.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required to create record) A title for the record. The title must be unique. Maximum 255 characters (ascii).</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional to create or update record) User defined comments. Maximum of 1999 characters.</td>
</tr>
</tbody>
</table>

Login credentials

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>username={value}</td>
<td>(Required to create record, optional to update record) The username of the account to be used for authentication. If password is specified this is the username of a Palo Alto Firewall account. If login_type=vault is specified, this is the username of a vault account. Maximum 255 characters (ascii).</td>
</tr>
<tr>
<td>password={value}</td>
<td>(To create record password or login_type=vault is required) The password of the Palo Alto Firewall account to be used for authentication. Maximum 100 characters (ascii).</td>
</tr>
</tbody>
</table>

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### Chapter 5 - Scan Authentication

#### Palo Alto Firewall Record

**Sample - Create Palo Alto Firewall record**

**API request:**

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl Sample" -d "action=create&title=palo-4&ips=10.10.10.10&login_type=basic&username=root&password=123123" "https://qualysapi.qualys.com/api/2.0/fo/auth/palo_alto_firewall/"
```

**XML output:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-01-14T06:29:41Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          ...  
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```

---

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>login_type=vault</td>
<td>(To create record password or login_type=vault is required) Set to vault if a third party vault will be used to retrieve password. Vault parameters need to be provided in the record. See Chapter 9 - Networks</td>
</tr>
</tbody>
</table>

**Target Hosts**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ips={value}</td>
<td>(Required to create record) The IP address(es) the server will log into using the record’s credentials. Multiple entries are comma separated.</td>
</tr>
<tr>
<td></td>
<td>(Optional to update record) IPs specified will overwrite existing IPs in the record, and existing IPs will be removed.</td>
</tr>
<tr>
<td></td>
<td>This parameter and the add_ips parameter or the remove_ips parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>add_ips={value}</td>
<td>(Optional to update record) Add IPs and/or ranges to the IPs list for this record. Multiple IPs/ranges are comma separated.</td>
</tr>
<tr>
<td></td>
<td>This parameter and the ips parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>remove_ips={value}</td>
<td>(Optional to update record) IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated.</td>
</tr>
<tr>
<td></td>
<td>This parameter and the ips parameter cannot be specified in the same request.</td>
</tr>
</tbody>
</table>
Sample - Create Palo Alto Firewall record, using vault

**API request:**
```bash
```

**XML output:**
```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-01-16T06:22:01Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          <ID>125726</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```
Sample - List Palo Alto Firewall records

API request:
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl Sample" -d "action=list" "https://qualysapi.qualys.com/api/2.0/fo/auth/palo_alto_firewall/?action=list&ids=125727"

XML output:
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE AUTH_PALO_ALTO_FIREWALL_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/auth/palo_alto_firewall/auth_palo_alto_firewall_list_output.dtd">
<AUTH_PALO_ALTO_FIREWALL_LIST_OUTPUT>
<RSPONSE>
  <DATETIME>2017-09-13T06:30:32Z</DATETIME>
  <AUTH_PALO_ALTO_FIREWALL_LIST>
    <AUTH_PALO_ALTO_FIREWALL>
      <ID>125727</ID>
      <TITLE><![CDATA[palo-4]]></TITLE>
      <USERNAME><![CDATA[root]]></USERNAME>
      <SSL_VERIFY><![CDATA[1]]></SSL_VERIFY>
      <IP_SET>
        <IP>10.10.10.10</IP>
      </IP_SET>
      <LOGIN_TYPE><![CDATA[basic]]></LOGIN_TYPE>
      <CREATED>
        <DATETIME>2017-09-13T06:29:41Z</DATETIME>
      </CREATED>
    </AUTH_PALO_ALTO_FIREWALL>
  </AUTH_PALO_ALTO_FIREWALL_LIST>
</RESPONSE>
...

DTDs for auth type “palo_alto_firewall”
<platform API server>/api/2.0/batch_return.dtd
<platform API server>/api/2.0/fo/auth/palo_alto_firewall/auth_palo_alto_firewall_list_output.dtd
Chapter 5 - Scan Authentication

PostgreSQL Record

/api/2.0/fo/auth/postgresql/

[POST]

Create, update, list and delete PostgreSQL records for authenticated scans of PostgreSQL Version 9.0 instances running on Unix. Compliance scans are supported (using PC).

Requirement - You must configure login credentials on target hosts before scanning.

Qualys User Guide - PostgreSQL Authentication (.zip)

Tip - We strongly recommend you create one or more dedicated user accounts to be used solely by the Qualys Cloud Platform to authenticate to PostgreSQL database instances.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Required to update or delete record) Record IDs to update/delete. Specify record IDs and/or ID ranges (for example, 1359-1407). Multiple entries are comma separated.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required to create record) A title for the record. The title must be unique. Maximum 255 characters (ascii).</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional to create or update record) User defined comments. Maximum of 1999 characters.</td>
</tr>
<tr>
<td>postgresql_unix_conf_file={value}</td>
<td>(Required for create request) The full path to the PostgreSQL configuration file on your Unix assets (IP addresses). The file must be in the same location on all assets for this record.</td>
</tr>
<tr>
<td>postgresql_db_name={value}</td>
<td>(Required for create request) The database instance you want to authenticate to.</td>
</tr>
<tr>
<td>port={value}</td>
<td>(Optional) The port where the database instance is running. Default is 5432.</td>
</tr>
<tr>
<td>hosts={value}</td>
<td>(Required if ssl_verify=1) A list of FQDNs for all host IP addresses on which a custom SSL certificate signed by a trusted root CA is installed.</td>
</tr>
<tr>
<td>ssl_verify={0</td>
<td>1}</td>
</tr>
</tbody>
</table>
### Chapter 5 - Scan Authentication

### PostgreSQL Record

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Login credentials</strong></td>
<td></td>
</tr>
<tr>
<td>username={value}</td>
<td>(Required for create request) The username of the account to be used for authentication. If password is specified this is the username of a PostgreSQL account. If login_type=vault is specified, this is the username of a vault account. Maximum 255 characters (ascii).</td>
</tr>
<tr>
<td>password={value}</td>
<td>(For create request, password or login_type=vault is required) The password of the PostgreSQL account to be used for authentication. Maximum 100 characters (ascii).</td>
</tr>
<tr>
<td>login_type=vault</td>
<td>(To create record password or login_type=vault is required) Set to vault if a third party vault will be used to retrieve password. Vault parameters need to be provided in the record. See Vault Definition</td>
</tr>
</tbody>
</table>

| **Keys, Passphrase**   |                                                                             |
| client_key_type=\{value\} | (Optional) Client key type basic (default) or vault.                       |
| client_key=\{value\}    | (Optional if client_key_type=basic) Client key content, if private key not in vault. |
| client_key_vault_type=\{value\} | (Required if client_key_type=vault) The third party vault to be used to retrieve the private key. Certain vaults support this capability. See Vault Support matrix |
| client_key_vault_id=\{value\} | (Required if client_key_type=vault) The ID of the vault to get the private key from. |
| passphrase_type=\{value\} | (Optional) Passphrase type can be basic (default) or vault.                 |
| passphrase=\{value\}    | (Optional if passphrase_type=base\) The passphrase value.                  |
| client_cert=\{value\}  | (Optional if passphrase_type=basic) The passphrase certificate content.    |
| passphrase_vault_type=\{value\} | (Required if passphrase_type=vault) The vault where the private key passphrase is stored. For example CA Access Control, CyberArk AIM, Thycotic Secret Server. |
| passphrase_vault_id=\{value\} | (Required if passphrase_type=vault) The ID of the vault to get the passphrase from. |
Chapter 5 - Scan Authentication

PostgreSQL Record

Sample - Create PostgreSQL record

API request:
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl sample" -d "action=create&title=API_POSTGRE_2&username=root&password=abc123&pgsql_db_name=presql&ips=10.10.10.35&pgsql_unix_conf_path=/etc&network_id=4002"
"https://qualysapi.qualys.com/api/2.0/fo/auth/postgresql/" > file.xml
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-03-27T20:17:42Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```

Target Hosts

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ips={value}</td>
<td>(Required to create record) The IP address(es) the server will log into using the record’s credentials. Multiple entries are comma separated. (Optional to update record) IPs specified will overwrite existing IPs in the record, and existing IPs will be removed. This parameter and the add_ips parameter or the remove_ips parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>add_ips={value}</td>
<td>(Optional to update record) Add IPs and/or ranges to the IPs list for this record. Multiple IPs/ranges are comma separated. This parameter and the ips parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>remove_ips={value}</td>
<td>(Optional to update record) IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated. This parameter and the ips parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>network_id={value}</td>
<td>(Optional to create or update record, and valid when the networks feature is enabled) The network ID for the record.</td>
</tr>
</tbody>
</table>

Sample - Create PostgreSQL record
Sample - Update PostgreSQL record

**API request:**

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl Sample" -d "action=update&ids=84307&add_ips=10.10.10.40-10.10.10.42" 
"https://qualysapi.qualys.com/api/2.0/fo/auth/postgresql/" > file.xml

**XML output:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-10T21:01:57Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Updated</TEXT>
        <ID_SET>
          <ID>78782</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```

Sample - List PostgreSQL records

**API request:**

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl Sample" -d "action=list&details=All" 
"https://qualysapi.qualys.com/api/2.0/fo/auth/postgresql/" > file.xml

**XML output:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE AUTH_POSTGRESQL_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/auth/postgresql/auth_post..."ратARGVARCH="1.0" encoding="UTF-8" ?>
<!DOCTYPE AUTH_POSTGRESQL_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/auth/postgresql/auth_post..."ратARGVARCH="1.0" encoding="UTF-8" ?>
```
Chapter 5 - Scan Authentication

PostgreSQL Record

gresql_list_output.dtd">
<AUTH_POSTGRESQL_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-04-24T22:01:50Z</DATETIME>
  </AUTH_POSTGRESQL_LIST>
  <AUTH_POSTGRESQL_LIST>
    <AUTH_POSTGRESQL>
      <ID>79518</ID>
      <TITLE><![CDATA[PostgesQL1]]></TITLE>
      <USERNAME><![CDATA[acme_as1]]></USERNAME>
      <DATABASE><![CDATA[mydb1]]></DATABASE>
      <PORT>5432</PORT>
      <SSL_VERIFY><![CDATA[0]]></SSL_VERIFY>
      <IP_SET>
        <IP>10.10.10.45</IP>
      </IP_SET>
      <UNIX_CONF_FILE><![CDATA[/var/lib/pgsql/9.3/data/postgresql.conf]]></UNIX_CONF_FILE>
      <NETWORK_ID>0</NETWORK_ID>
      <CREATED>
        <DATETIME>2018-04-13T23:42:50Z</DATETIME>
        <BY>acme_as1</BY>
      </CREATED>
      <LAST_MODIFIED>
        <DATETIME>2018-04-20T23:35:42Z</DATETIME>
      </LAST_MODIFIED>
      <COMMENTS><![CDATA[my comments]]></COMMENTS>
    </AUTH_POSTGRESQL>
    <AUTH_POSTGRESQL>
      <ID>82110</ID>
      <TITLE><![CDATA[POstgreSQL2]]></TITLE>
      <USERNAME><![CDATA[acme_as1]]></USERNAME>
      <DATABASE><![CDATA[mydb2]]></DATABASE>
      <PORT>5432</PORT>
      <SSL_VERIFY><![CDATA[1]]></SSL_VERIFY>
      <HOSTS>
        <HOST><![CDATA[cent-31-107.ml2k8.qualys.com]]></HOST>
      </HOSTS>
      <IP_SET>
        <IP>10.20.31.107</IP>
      </IP_SET>
      <UNIX_CONF_FILE><![CDATA[/var/lib/pgsql/9.3/data/postgresql.conf]]></UNIX_CONF_FILE>
      <NETWORK_ID>0</NETWORK_ID>
      <CREATED>
        <DATETIME>2018-04-20T20:12:48Z</DATETIME>
        <BY>acme_as1</BY>
      </CREATED>
      <LAST_MODIFIED>
        <DATETIME>2018-04-20T23:35:42Z</DATETIME>
      </LAST_MODIFIED>
      <COMMENTS><![CDATA[my comments]]></COMMENTS>
    </AUTH_POSTGRESQL>
  </AUTH_POSTGRESQL_LIST>
</AUTH_POSTGRESQL_LIST_OUTPUT>
DTDs for auth type “postgresql”

<platform API server>/api/2.0/batch_return.dtd
<platform API server>/api/2.0/fo/auth/postgresql/auth_postgresql_list_output.dtd
**SNMP Record**

/api/2.0/fo/auth/snmp/

[POST]

Create, update, list and delete SNMP records for authenticated scans of SNMP enabled devices. Supported are vulnerability and compliance scans (using VM, PC). Supported versions are SNMPv1, SNMPv2 and SNMPv3.

**Input Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Required to update or delete record) Record IDs to update/delete. Specify record IDs and/or ID ranges (for example, 1359-1407). Multiple entries are comma separated.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required to create record) A title for the record. The title must be unique. Maximum 255 characters (ascii).</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional to create or update record) User defined comments. Maximum of 1999 characters.</td>
</tr>
<tr>
<td>version={v1</td>
<td>v2c</td>
</tr>
</tbody>
</table>

**Login credentials**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>community_strings={value}</td>
<td>(Optional and valid using SNMPv1 and SNMPv2c) The SNMP community strings to be used for authentication to target hosts. Multiple entries are comma separated. The service attempts authentication using several common default community strings. When community_strings is specified, the user-provided community strings are used for authentication before the default community strings.</td>
</tr>
</tbody>
</table>
### SNMP Record

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>username={value}</td>
<td>(Optional and valid using SNMPv3) The user account for authentication to target hosts. A maximum of 128 characters may be specified. These three parameters are used to specify authentication: username, password and auth_alg. If creating a record and authentication will be used, it is required that all three parameters are specified together. If updating a record to change the username, the username specified will replace the existing username in the record. If updating a record to remove authentication, specify an empty value for all three parameters.</td>
</tr>
<tr>
<td>password={value}</td>
<td>(Optional and valid using SNMPv3) The password for authentication to target hosts. Maximum of 128 characters.. These three parameters are used to specify authentication: username, password and auth_alg. If creating a record and authentication will be used, it is required that all three parameters are specified together. If updating a record to change the password, the password specified will replace the existing password in the record. If updating a record to remove authentication, specify an empty value for all three parameters.</td>
</tr>
<tr>
<td>auth_alg={MD5</td>
<td>SHA1}</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>encrypt_password={value}</td>
<td>(Optional and valid using SNMPv3) The password if privacy (data encryption) is to be used for SNMP communication. Maximum of 128 characters. \nThese two parameters are used to specify privacy: encrypt_password and priv_alg. \nIf creating a record and privacy will be used, it is required that both parameters are specified together. If updating a record to change the password, the password specified will replace the existing password in the record. If updating a record to remove privacy, specify an empty value for both parameters.</td>
</tr>
<tr>
<td>priv_alg={DES</td>
<td>AES}</td>
</tr>
<tr>
<td>security_engine_id={value}</td>
<td>(Optional and valid using SNMPv3) The security engine ID when a security engine is part of the target host configuration. A valid ID is required. A maximum of 128 characters may be specified. \nIf a security engine ID is part of the target host configuration, the parameter security_engine_id must be defined for the record in order for authentication to be successful. \nIf the security engine ID is not defined (and is required by the target host for all SNMP requests), then the SNMP service may not be detected on the target host and authentication will fail.</td>
</tr>
<tr>
<td>context_engine_id={value}</td>
<td>(Optional and valid using SNMPv3) The context engine ID used in scoped PDUs when a context is part of the target host configuration. A valid ID is required. A maximum of 128 characters may be specified. \nIf an SNMP context is part of the target host configuration, the parameters context_engine_id and/or context must be defined for the record in order for the scanning engine to retrieve context-sensitive information from the target host.</td>
</tr>
</tbody>
</table>
Chapter 5 - Scan Authentication

SNMP Record

Sample - Create SNMP record, using SNMPv3

API request:

```bash
curl -H "X-Requested-With: Curl Sample" -d "action=create&title=My+Record&version=v3&username=..." -b "QualysSession=a3863e31b486417f81eea7f8881f3142; path=/api; secure" "https://qualysapi.qualys.com/api/2.0/fo/auth/snmp/
```

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>context={value}</td>
<td>(Optional and valid using SNMPv3) The context name used in scoped PDUs when a context is part of the target host configuration. A maximum of 128 characters may be specified. If an SNMP context is part of the target host configuration, the parameters context_engine_id and/or context must be defined for the record in order for the scanning engine to retrieve context-sensitive information from the target host.</td>
</tr>
<tr>
<td>ips={value}</td>
<td>(Required to create record) The IP address(es) the server will log into using the record’s credentials. Multiple entries are comma separated. (Optional to update record) IPs specified will overwrite existing IPs in the record, and existing IPs will be removed. This parameter and the add_ips parameter or the remove_ips parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>add_ips={value}</td>
<td>(Optional to update record) Add IPs and/or ranges to the IPs list for this record. Multiple IPs/ranges are comma separated. This parameter and the ips parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>remove_ips={value}</td>
<td>(Optional to update record) IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated. This parameter and the ips parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>network_id={value}</td>
<td>(Optional to create or update record, and valid when the networks feature is enabled) The network ID for the record.</td>
</tr>
</tbody>
</table>
**XML output:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-02-27T06:22:01Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          <ID>125726</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```

**Sample - Update an SNMP record**

Change the user name and password for authentication and the target IPs.

```bash
curl -H "X-Requested-With: Curl Sample" -d "action=update&ids=65319&username=user2&password=password2&ips=10.10.10.5-10.10.10.6"
-b "QualysSession=a3863e31b486417f81eea7f8881f3142; path=/api; secure" "https://qualysapi.qualys.com/api/2.0/fo/auth/snmp/
```

**DTDs for auth type "snmp"**

- `<platform API server>/api/2.0/batch_return.dtd`
- `<platform API server>/api/2.0/fo/auth/snmp/auth_snmp_list_output.dtd`
Sybase Record

/api/2.0/fo/auth/sybase/

[POST]

Create, update, list and delete Sybase records for authenticating to Sybase Adaptive Server Enterprise (ASE) instances. Compliance scans are supported (using PC).

Requirement - You must configure login credentials on target hosts before scanning.

Download Qualys User Guide - Sybase Authentication (.zip)

Tip - We strongly recommend you create one or more dedicated user accounts to be used solely by the Qualys Cloud Platform to authenticate to Sybase database instances.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Required to update or delete record) Record IDs to update/delete. Specify record IDs and/or ID ranges (for example, 1359-1407). Multiple entries are comma separated.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required to create record) A title for the record. The title must be unique. Maximum 255 characters (ascii).</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional to create or update record) User defined comments. Maximum of 1999 characters.</td>
</tr>
<tr>
<td>port={value}</td>
<td>(Required to create record) The port the Sybase database is on.</td>
</tr>
<tr>
<td>database={value}</td>
<td>(Optional to create and update record) The name of the Sybase database you want to authenticate to.</td>
</tr>
</tbody>
</table>
**Parameter** | **Description**
--- | ---
auto_discover_databases= 0|1 | Specify auto_discover_databases=1 and we will find all Sybase database instances on the target host. This means you no longer have to create a separate Sybase record for each database name. Create one record with Auto Discover Databases enabled to authenticate to multiple databases on the same host.  
Note you must either enter a database name (with existing database parameter) OR use the Auto Discover option.  
When unspecified (auto_discover_databases=0), we will not auto discover database instances and look for the database name that you have entered in the database parameter.

install_dir={value} | (Required for create request if this record will be used for scanning Unix hosts) The database installation directory for scanning Unix hosts.

**Login credentials**

username={value} | (Required to create record, optional to update record) The username of the account to be used for authentication. If password is specified this is the username of a Sybase account. If login_type=vault is specified, this is the username of a vault account. Maximum 255 characters (ascii).

password={value} | (To create record password or login_type=vault is required) The password of the Sybase account to be used for authentication. Maximum 100 characters (ascii).

password_encryption = 0|1 | (Optional to create or update record) Enable this option when your Sybase database instance requires an encrypted password for successful login. If password encryption is required and you do not enable this option then authentication will fail.  
When set to 1, password encryption is enabled in the Sybase record. When set to 0 (the default), password encryption is not enabled.

login_type=vault | (To create record password or login_type=vault is required) Set to vault if a third party vault will be used to retrieve password. Vault parameters need to be provided in the record. See Vault Definition

**Target Hosts**
Sample - Create Sybase Record

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl Sample" -d "action=create&title=sybase_record&network_id=19015&username=acme_ac12&password=password&port=444&database=sybaseDB1&ips=10.10.24.12,10.10.24.13,10.10.24.15&installation_dir=/dir123&comments=This%20Sybase%20comments" "https://qualysapi.qualys.com/api/2.0/fo/auth/sybase/" > file.xml

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">  
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-10T20:52:31Z</DATETIME>

Parameter | Description
--- | ---
ips={value} | (Required to create record) The IP address(es) the server will log into using the record’s credentials. Multiple entries are comma separated.

(Optional to update record) IPs specified will overwrite existing IPs in the record, and existing IPs will be removed.

This parameter and the add_ips parameter or the remove_ips parameter cannot be specified in the same request.

add_ips={value} | (Optional to update record) Add IPs and/or ranges to the IPs list for this record. Multiple IPs/ranges are comma separated.

This parameter and the ips parameter cannot be specified in the same request.

remove_ips={value} | (Optional to update record) IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated.

This parameter and the ips parameter cannot be specified in the same request.

network_id={value} | (Optional to create or update record, and valid when the networks feature is enabled) The network ID for the record.
Sample - Create Sybase Record, with vault

**API request:**
```
```

**XML output:**
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-18T18:54:36Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          <ID>88888</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```

Sample - Create Sybase Record to enable password encryption and auto discovery

**API request:**
```
```

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-18T18:54:36Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          <ID>88888</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```
XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM
"http://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2019-04-18T15:45:05Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          <ID>43025</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```

Sample - Update Sybase Record

**API request:**
```
```

Sample - List Sybase records

**API request:**
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl Sample" -d "action=list&details=All" "https://qualysapi.qualys.com/api/2.0/fo/auth/sybase/" > file.xml
```

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE AUTH_SYBASE_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/auth/sybase/auth_sybase_list_output.dtd">
<AUTH_SYBASE_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2017-04-10T21:32:21Z</DATETIME>
    <AUTH_SYBASE_LIST>
      <AUTH_SYBASE>
        <ID>78177</ID>
        <TITLE><![CDATA[api_syb_basic_2IPs_NW2]]></TITLE>
      </AUTH_SYBASE>
    </AUTH_SYBASE_LIST>
  </RESPONSE>
</AUTH_SYBASE_LIST_OUTPUT>
```
Chapter 5 - Scan Authentication

Sybase Record

<USERNAME><![CDATA[api_user1]]></USERNAME>
<DATABASE><![CDATA[api_sybDB1]]></DATABASE>
<PORT>444</PORT>

/IP_SET>
    <IP_RANGE>10.10.24.12-10.10.24.13</IP_RANGE>
</IP_SET>

<NETWORK_ID>19019</NETWORK_ID>

<CREATED>
    <DATETIME>2017-04-08T00:17:17Z</DATETIME>
    <BY>enter_ss</BY>
</CREATED>

<LAST_MODIFIED>
    <DATETIME>2017-04-08T00:17:17Z</DATETIME>
</LAST_MODIFIED>

</AUTH_SYBASE>

<AUTH_SYBASE>

    <ID>78186</ID>
    <TITLE><![CDATA[api_syb_basic_2IPs_Global]]></TITLE>
    <USERNAME><![CDATA[api_user1]]></USERNAME>
    <DATABASE><![CDATA[api_sybDB1]]></DATABASE>
    <PORT>444</PORT>

/IP_SET>
    <IP_RANGE>10.10.24.12-10.10.24.13</IP_RANGE>
</IP_SET>

<NETWORK_ID>0</NETWORK_ID>

<CREATED>
    <DATETIME>2017-04-08T01:10:04Z</DATETIME>
    <BY>enter_ss</BY>
</CREATED>

<LAST_MODIFIED>
    <DATETIME>2017-04-08T01:10:04Z</DATETIME>
</LAST_MODIFIED>

</AUTH_SYBASE>

...

DTDs for auth type "sybase"

<platform API server>/api/2.0/batch_return.dtd
<platform API server>/api/2.0/fo/auth/sybase/auth_sybase_list_output.dtd
### Unix Record

/api/2.0/fo/auth/unix/

[POST]

Create, update, list and delete Unix records for authenticated scans of hosts running on Unix, Cisco and Checkpoint Firewall. Vulnerability and compliance scans are supported on Unix and Cisco systems (using VM, PC). Compliance scans are supported on Checkpoint Firewall systems (using PC).

Download Qualys User Guide - Unix Authentication (pdf)

#### Input Parameters

Parameters: Request | Login credentials| Unix only | Target Hosts

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>sub_type={cisco</td>
<td>checkpoint_firewall}</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Required to update or delete record) Record IDs to update/delete. Specify record IDs and/or ID ranges (for example, 1359-1407). Multiple entries are comma separated.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required to create record) A title for the record. The title must be unique. Maximum 255 characters (ascii).</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional to create or update record) User defined comments. Maximum of 1999 characters.</td>
</tr>
<tr>
<td>port={value}</td>
<td>(Optional and valid for compliance scans only) Custom ports to be used to perform authenticated compliance assessment (control testing). Ports Used For Unix Compliance Scans</td>
</tr>
</tbody>
</table>

#### Login credentials

- **username={value}** (Required to create record, optional to update record) The username of the account to be used for authentication. If login_type=vault is specified, this is the username of a vault account. Maximum 255 characters (ascii).
- **password={value}** (To create record password or login_type=vault is required) The password of the PostgreSQL account to be used for authentication when a vault will not be used. The password may include 1-31 characters (ascii).
### Parameter Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>login_type={basic</td>
<td>vault}</td>
</tr>
<tr>
<td>cleartext_password={0</td>
<td>1}</td>
</tr>
<tr>
<td>skip_password={0</td>
<td>1}</td>
</tr>
<tr>
<td>enable_password={value}</td>
<td>(Optional and valid only for Cisco sub-type) The password required for executing the &quot;enable&quot; command on the target hosts. The password may include 1-31 characters (ascii). Note: The pooled credentials feature is not supported if the &quot;enable&quot; command requires a password and it is specified using the enable_password parameter.</td>
</tr>
<tr>
<td>expert_password={value}</td>
<td>(Optional and valid only for Checkpoint Firewall sub-type) The password required for executing the &quot;expert&quot; command on the target hosts. The password may include 1-31 characters (ascii).</td>
</tr>
<tr>
<td>[XML File]</td>
<td>(Optional and valid only for Unix record, i.e. not supported for Cisco or Checkpoint Firewall sub-type) XML file where you define private-key certificates and root delegations. These are defined using this DTD: &lt;platform API server&gt;/api/2.0/fo/auth/unix/unix_auth_params.dtd</td>
</tr>
<tr>
<td>use_agentless_tracking={0</td>
<td>1}</td>
</tr>
</tbody>
</table>
### Parameter

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>agentless_tracking_path=</code></td>
<td>(Required if <code>use_agentless_tracking</code>=1 for Unix record, i.e. not supported for Cisco or Checkpoint Firewall sub-type)</td>
</tr>
<tr>
<td><code>{value}</code></td>
<td>The pathname where you would like the service to store the host ID file on each host. This is required to enable Agentless Tracking for Unix.</td>
</tr>
<tr>
<td><code>ips=</code></td>
<td>(Required to create record) The IP address(es) the server will log into using the record’s credentials. Multiple entries are comma separated.</td>
</tr>
<tr>
<td><code>{value}</code></td>
<td>(Optional to update record) IPs specified will overwrite existing IPs in the record, and existing IPs will be removed.</td>
</tr>
<tr>
<td></td>
<td>This parameter and the <code>add_ips</code> parameter or the <code>remove_ips</code> parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td><code>add_ips=</code></td>
<td>(Optional to update record) Add IPs and/or ranges to the IPs list for this record. Multiple IPs/ranges are comma separated.</td>
</tr>
<tr>
<td><code>{value}</code></td>
<td>This parameter and the <code>ips</code> parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td><code>remove_ips=</code></td>
<td>(Optional to update record) IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated.</td>
</tr>
<tr>
<td><code>{value}</code></td>
<td>This parameter and the <code>ips</code> parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td><code>network_id=</code></td>
<td>(Optional to create or update record, and valid when the networks feature is enabled) The network ID for the record.</td>
</tr>
</tbody>
</table>

### Target Hosts

- `ips=`: The IP address(es) the server will log into using the record’s credentials. Multiple entries are comma separated.
- `add_ips=`: Add IPs and/or ranges to the IPs list for this record. Multiple IPs/ranges are comma separated.
- `remove_ips=`: IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated.

### Ports Used For Unix Compliance Scans

The actual ports used for compliance scanning (Unix, Cisco, Checkpoint Firewall) depends on scan settings in 1) compliance option profile, and 2) Unix authentication record as indicated.

<table>
<thead>
<tr>
<th>Compliance Option Profile</th>
<th>Authentication Record</th>
<th>Ports Scanned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Scan</td>
<td>UI; Well Known Ports API: no &quot;port&quot; parameter</td>
<td>~ 1900 Ports (includes Ports 22, 23, 513)</td>
</tr>
<tr>
<td>Standard Scan</td>
<td>UI: Custom Ports API: &quot;port&quot; parameter</td>
<td>~ 1900 Ports + Custom Ports in record</td>
</tr>
</tbody>
</table>
Chapter 5 - Scan Authentication

Unix Record

Sample - Create Unix record, with password
Applies to record type Unix, Cisco and Checkpoint Firewall

API request:
```
curl -H "X-Requested-With: curl" -u "USERNAME:PASSWORD"
"https://qualysapi.qualys.com/api/2.0/fo/auth/unix/?action=create&
title=Unix&username=root&password=crazy8!&ips=10.10.36.63"
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-18T18:54:36Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          <ID>12345</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```

Sample - Create Unix record, root delegation tools and vault
Applies to record type Unix only (not sub-types)

API request:
```
curl -H "X-Requested-With: curl" -H "Content-type:text/xml" -u "USERNAME:PASSWORD"
"https://qualysapi.qualys.com/api/2.0/fo/auth/unix/action=create&t
itle=Unix&vault&username=Qualys&ips=10.113.195.152&port=5857&login
type=vault&vault_type=LiebermanERPM&vault_id=10873203&auto_discov
er_system_name=0&system_name_single_host=a&custom_system_type=custom&system_type=custom"
```
add_params.xml

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<UNIX_AUTH_PARAMS>
  <ROOT_TOOLS>
    <ROOT_TOOL>
      <STANDARD_TYPE type="pimsu"/>
      <PASSWORD_INFO type="vault">
        <DIGITAL_VAULT>
          <VAULT_USERNAME><![CDATA[root]]></VAULT_USERNAME>
          <VAULT_TYPE>Thycotic Secret Server</VAULT_TYPE>
          <VAULT_ID>25026922</VAULT_ID>
          <SECRET_NAME><![CDATA[super_secret_name]]></SECRET_NAME>
        </DIGITAL_VAULT>
      </PASSWORD_INFO>
    </ROOT_TOOL>
    <ROOT_TOOL>
      <CUSTOM_TYPE><![CDATA[test]]></CUSTOM_TYPE>
      <PASSWORD_INFO type="basic">
        <PASSWORD><![CDATA[password]]></PASSWORD>
      </PASSWORD_INFO>
    </ROOT_TOOL>
  </ROOT_TOOLS>
  <PRIVATE_KEY_CERTIFICATES>
    <PRIVATE_KEY_CERTIFICATE>
      <PRIVATE_KEY_INFO type="vault">
        <DIGITAL_VAULT>
          <VAULT_TYPE>CyberArk AIM</VAULT_TYPE>
          <VAULT_ID>25026922</VAULT_ID>
          <FOLDER><![CDATA[folder]]></FOLDER>
          <FILE><![CDATA[file]]></FILE>
        </DIGITAL_VAULT>
        <PASSPHRASE_INFO type="basic">
          <PASSPHRASE><![CDATA[passphrase]]></PASSPHRASE>
        </PASSPHRASE_INFO>
      </PRIVATE_KEY_INFO>
    </PRIVATE_KEY_CERTIFICATE>
    <PRIVATE_KEY_CERTIFICATE>
      <PRIVATE_KEY_INFO type="basic">
        <PRIVATE_KEY type="rsa">
          <![CDATA[-----BEGIN RSA PRIVATE KEY-----
Proc-Type: 4,ENCRYPTED
DEK-Info: AES-128-CBC,F9A653E2D12E019357B349B6EEE068B1
]]>
```
Chapter 5 - Scan Authentication
Unix Record

FiLgH0c0rR3mC0cBPsiyqqaTPNY7GeqKRmSBwGNr2NTAc0sK1s0Y/WkMDW6QD
dLZNiGB0CFag94z0yMiCjyrdpayACAOWfiH5w8VixxHF16Vxx5b6foLBE40FOYAI
psdm1HvCfSfaNzdPf1Unb0erwijdijJwYlV78529e1E+2+dZiemi90ihb0R35NB60
TLe83UVezp/09Z2Pf0oqPPnHngfw4Gxp/SUupwojES9fCQE+BW4MWWHU8Kt2yt7
....
-----END RSA PRIVATE KEY-----]]></PRIVATE_KEY>
</PRIVATE_KEY_INFO>

<PASSPHRASE_INFO type="vault">
<DIGITAL_VAULT>
<VAULT_USERNAME><![CDATA[PASSPHRASE_USERNAME]]></VAULT_USERNAME>
<VAULT_TYPE>Quest Vault</VAULT_TYPE>
<VAULT_ID>35046922</VAULT_ID>
</DIGITAL_VAULT>
</PASSPHRASE_INFO>
<SYSTEM_NAME><![CDATA[quest_system_name]]></SYSTEM_NAME>
</DIGITAL_VAULT>

</CERTIFICATE type="openssh">
<![CDATA[ssh-rsa-cert-v01@openssh.com
AAAAAHNzaC1yc2Et2Y2YdC12MDFAb3BbnNzaC5jb20AAAAgwR4bJSiBtJ1ogCAQUF
3yZ26io2WYfnB1oEsQ45RKhqLgAAAADAAQAABAAABAC5sVLb7em8/v2uHp6x1pN5R+M
HzQzw3AS53MQKtuuuINjc/XYgqeWLM0JpqbVtCVxwUpGkt4QQ0Q0Gqc4uh2zhrtbpQQ
HzEivnNNLY9Nq7jLozT7x/sGiWdmlucUhtetXMaBpM4aER9Y6w5w62y17CAVy9
bcVz/jlISypmjzkPJ39AJg+Qz2Kiv+H4uh/T05Lwhdi1FrjWWwEO8DV/DIRw3h0
4jhnj1QxBxyjad3efmFaejgRn6cBw821gm...
</CERTIFICATE>
</PRIVATE_KEY_CERTIFICATE>
</PRIVATE_KEY_CERTIFICATE>

</PRIVATE_KEY_INFO type="basic">

</PRIVATE_KEY_INFO type="rsa">
<![CDATA[-----BEGIN OPENSSH PRIVATE KEY-----
b3BbnNzaC1r2XktdjEAAAAAmCfLc3n1Hl01jYmMAAAAGYmNyeXB0AAAAAGAAAABCP1E
UH5L362GInEw+m/4/AAAAAIAAIAAAIAAABAAAB3NzaC1yc2EAAAAADQQAAAABAAACp
uwFVTVYmske0bdfJ1SiYgsfvvCr7e5irIfoW7B5HNyOJwyOEqZ5BzwPAs7jua6m3v
ngKPEQD1HyFdLse62JE7x0jDXLr9b264THPogERC/gI2aorrLKLxdr0K7u5wQUTm1
L0xO7YohE9Bbi8ok++xTw+Ymf7LbVRLWVdN6KUBunIGow3W+tHIohPoULw82QayZRa
41XpqpWWbh/90MnblraC
....
-----END OPENSSH PRIVATE KEY-----]]></PRIVATE_KEY>
</PRIVATE_KEY_INFO>
</PRIVATE_KEY_CERTIFICATE>
</UNIX_AUTH_PARAMS>
**XML output:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-18T18:54:36Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          <ID>12333</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```

**More Samples**

Qualys API - Unix Authentication API samples  (GitHub)

**DTDs for auth type “unix”**

- `<platform API server>/api/2.0/batch_return.dtd`
- `<platform API server>/api/2.0/fo/auth/windows/auth_unix_list_output.dtd`

For Unix type record type only, root delegation tools and private-key certificates are specified using the `unix_auth_params.dtd` here

- `<platform API server>/api/2.0/fo/auth/unix/unix_auth_params.dtd`
VMware Record

/api/2.0/fo/auth/vmware/

[POST]

Create, update, list and delete VMware records for authenticating to vSphere components running vSphere v4.x and 5.x. Vulnerability and compliance scans are supported (using VM, PC).

How it works - The VMware record allows for connections to the vSphere API for vSphere 5.x and 4.x. The vSphere API is a SOAP API used by all vSphere components, including VMware ESXi, VMware ESX, VMware vCenter Server, and the VMware vCenter Server Appliance. By default, the API connection occurs over an encrypted SSL web services connection on port 443.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request={0}[1]</td>
<td>(Optional) Specify 1 to view (echo) input parameters in the XML output. By default these are not included.</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Required to update or delete record) Record IDs to update/delete. Specify record IDs and/or ID ranges (for example, 1359-1407). Multiple entries are comma separated.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required to create record) A title for the record. The title must be unique. Maximum 255 characters (ascii).</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional to create or update record) User defined comments. Maximum of 1999 characters.</td>
</tr>
</tbody>
</table>

Login credentials

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>username={value}</td>
<td>(Required to create record, optional to update record) The user name for a VMware account. A maximum of 13 characters (ascii) may be specified.</td>
</tr>
<tr>
<td>password={value}</td>
<td>(To create record password or login_type=vault is required) The password for a VMware account. Maximum 13 characters (ascii).</td>
</tr>
<tr>
<td>login_type={basic}[vault]</td>
<td>(To create record password or login_type=vault is required) Set to vault if a third party vault will be used to retrieve password. Vault parameters need to be provided in the record. See Vault Definition</td>
</tr>
<tr>
<td>port={value}</td>
<td>(Optional) The service communicates with ESXi web services on port 443 and another port can be configured. When unspecified, port 443 is used.</td>
</tr>
</tbody>
</table>
# Chapter 5 - Scan Authentication

## VMware Record

### Sample - Create VMware record

#### API request:

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" -d "action=create&title=NewVMwareRecordWithAPI&username=USERNAME&password=PASSWORD&ips=10.10.10.2-10.10.10.4" "https://qualysapi.qualys.com/api/2.0/fo/auth/vmware/" > apiOutputCreateVMwareRecord.txt
```

#### XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://www.qualys.com/api/2.0.dtd">
```

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>hosts=[value]</td>
<td>(Optional) A list of FQDNs for the hosts that correspond to all ESXi host IP addresses on which a custom SSL certificate signed by a trusted root CA is installed. Multiple hosts are comma separated.</td>
</tr>
<tr>
<td>ssl_verify=[value]</td>
<td>(Optional) Specify &quot;all&quot; for a complete SSL certificate validation. Specify &quot;skip&quot; if the host SSL certificate is self-signed or uses an SSL certificate signed by a custom root CA. Specify &quot;none&quot; for no SSL verification.</td>
</tr>
<tr>
<td>ips=[value]</td>
<td>(Required to create record) The IP address(es) the server will log into using the record's credentials. Multiple entries are comma separated.</td>
</tr>
<tr>
<td></td>
<td>(Optional to update record) IPs specified will overwrite existing IPs in the record, and existing IPs will be removed.</td>
</tr>
<tr>
<td></td>
<td>This parameter and the add_ips parameter or the remove_ips parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>add_ips=[value]</td>
<td>(Optional to update record) Add IPs and/or ranges to the IPs list for this record. Multiple IPs/ranges are comma separated.</td>
</tr>
<tr>
<td></td>
<td>This parameter and the ips parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>remove_ips=[value]</td>
<td>(Optional to update record) IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated.</td>
</tr>
<tr>
<td></td>
<td>This parameter and the ips parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td>network_id=[value]</td>
<td>(Optional to create or update record, and valid when the networks feature is enabled) The network ID for the record.</td>
</tr>
</tbody>
</table>
"https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-02-13T21:16:41Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          <ID>30486</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>

**DTDs for auth type “vmware”**

<platform API server>/api/2.0/batch_return.dtd

<platform API server>/api/2.0/fo/auth/vmware/auth_vmware_list_output.dtd
Windows Record

/api/2.0/fo/auth/windows/

[POST]

Create, update, list and delete Windows records for authenticating to Windows systems. Vulnerability and Compliance scans are supported (using VM, PC).

Download Qualys User Guide - Windows Authentication (.pdf)

Input Parameters

<table>
<thead>
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<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) Specify create, update, delete (using POST) or list (using GET or POST).</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Required to update or delete record) Record IDs to update/delete. Specify record IDs and/or ID ranges (for example, 1359-1407). Multiple entries are comma separated.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required to create record) A title for the record. The title must be unique. Maximum 255 characters (ascii).</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional to create or update record) User defined comments. Maximum of 1999 characters.</td>
</tr>
<tr>
<td>use_agentless_tracking={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

Login credentials

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>username={value}</td>
<td>(Required to create record, optional to update record) The username for the Windows account to be used for authentication on target hosts. The username may include 1-31 characters (ascii).</td>
</tr>
<tr>
<td>password={value}</td>
<td>(To create record password or login_type=vault is required) The password of the Windows account to be used for authentication. The password may include 1-31 characters (ascii).</td>
</tr>
<tr>
<td>login_type={basic</td>
<td>vault}</td>
</tr>
</tbody>
</table>
### Chapter 5 - Scan Authentication

#### Windows Record

**Parameter**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>windows_ad_domain={value}</code></td>
<td>(Optional) The Windows Active Directory domain name for domain level authentication. When specified, we’ll use an Active Directory forest to authenticate to hosts in a certain domain within the framework. You’ll need to enter a Fully Qualified Domain Name (FQDN). See <a href="#">Windows Domains</a>. This parameter and the <code>windows_domain</code> parameter cannot be specified in the same request.</td>
</tr>
<tr>
<td><code>windows_domain={value}</code></td>
<td>(Optional) The Windows NetBIOS domain name for domain level authentication. See <a href="#">Windows Domains</a>. This parameter and the <code>windows_ad_domain</code> parameter cannot be specified in the same request. When the <code>ips</code> parameter is also specified, the domain type is NetBIOS, User-Selected IPs. We’ll use NetBIOS to authenticate to the IPs in the domain configuration. When the <code>ips</code> parameter is not specified, the domain type is NetBIOS, Service-Selected IPs. We’ll use NetBIOS to authenticate to hosts in the domain using credentials stored on the domain.</td>
</tr>
<tr>
<td>`ntlm={0</td>
<td>1}`</td>
</tr>
</tbody>
</table>

**Target Hosts**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>ips={value}</code></td>
<td>(Required to create record) The IP address(es) the server will log into using the record’s credentials. Multiple entries are comma separated. <em>(Optional to update record)</em> IPs specified will overwrite existing IPs in the record, and existing IPs will be removed. This parameter and the <code>add_ips</code> parameter or the <code>remove_ips</code> parameter cannot be specified in the same request.</td>
</tr>
</tbody>
</table>
Chapter 5 - Scan Authentication

Windows Record

**Parameter** | **Description**
--- | ---
add_ips={value} | (Optional to update record) Add IPs and/or ranges to the IPs list for this record. Multiple IPs/ranges are comma separated. This parameter and the ips parameter cannot be specified in the same request.

remove_ips={value} | (Optional to update record) IPs to be removed from your record. You may enter a combination of IPs and ranges. Multiple entries are comma separated. This parameter and the ips parameter cannot be specified in the same request.

network_id={value} | (Optional to create or update record, and valid when the networks feature is enabled) The network ID for the record.

**Protocols**

For Windows domain level authentication, all three authentication protocols are supported. Kerberos and NTLMv2 are enabled by default in new records. If NTLM was enabled in a record prior to this release, then NTLMv1 is enabled.

For Windows local host level authentication, NTLMv2 and NTLMv1 protocols are supported. NTLMv2 is enabled by default in new records. If NTLM was enabled in a record prior to this release, then NTLMv1 is enabled.

| kerberos={0|1} | (Optional) When not specified, Kerberos is enabled allowing the scanning engine to try Kerberos when negotiating authentication to target hosts. Specify kerberos=0 if you do not want Kerberos attempted. Kerberos is supported for domain authentication only. When kerberos=1 you must define a domain name for Windows Active Directory (windows_ad_domain) or NetBIOS (windows_domain) for the record.

| ntlmv2={0|1} | (Optional) When not specified for a new record, NTLMv2 is enabled allowing the scanning engine to try NTLMv2 when negotiating authentication to target hosts. Specify ntlmv2=0 if you do not want NTLMv2 attempted.

| ntlm={0|1} | (Optional) When not specified, NTLMv1 will not be attempted. Specify ntlm=1 to allow the scanning engine to try NTLMv1 when negotiating authentication to target hosts.

**SMB signing**

SMB Signing option is disabled by default, meaning SMB signing is not required. This is the recommended setting. When disabled, we can authenticate to any Windows version regardless of how SMB signing is configured on the target. You are not protected, however, against man-in-the-middle (MITM) attacks.
Chapter 5 - Scan Authentication
Windows Record

Windows Domains
- Supported domain types: Active Directory, NetBIOS User-Selected IPs, NetBIOS Service-Selected IPs.
- Authentication is performed at the local host level when a domain name is not defined for Active Directory (windows_ad_domain) or NetBIOS (windows_domain).
- Once a Windows record is saved, you cannot change the domain type from Active Directory to NetBIOS or from NetBIOS to Active Directory.

Sample - Create Windows record

API request:
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X POST
"action=create&title=API_v2_utwrx_mp_Windows&username=User&password=Password&ips=10.10.10.200"
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/fo/auth/windows/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Created</TEXT>
        <ID_SET>
          <ID>30486</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```

Parameter | Description
--- | ---
require_smb Signing=[0|1] | (Optional) Set to 0 (default) when SMB signing is not required.

Set value to 1 to require SMB signing. Should I require SMB signing? The answer is No in most cases. If you enable this option in your record, we will require each Windows target to support SMB signing. If SMB signing is disabled on a target host, authentication will fail and the host will not be scanned. This option protects against MITM attacks but we won’t be able to authenticate to some hosts.

minimum_smb_version=[value] | (Optional) The minimum SMB protocol version. Valid values are: 1, 2.0.2, 2.1, 3.0, 3.0.2, 3.1.1, and "" (empty string means no version set).

- Required parameters:
  - require_smb Signing
  - minimum_smb_version

- Optional parameters:
  - require_smb Signing
  - minimum_smb_version
Sample - List windows records

**API request:**

curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X POST "action=list&ids=1310338&details=All" "https://qualysapi.qualys.com/api/2.0/fo/auth/windows/

**XML output:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE AUTH_WINDOWS_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/auth/windows/auth_windows_list_output.dtd">
<AUTH_WINDOWS_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-04-30T09:29:45Z</DATETIME>
    <AUTH_WINDOWS_LIST>
      <AUTH_WINDOWS>
        <ID>1310338</ID>
        <TITLE><![CDATA[Windows_Record_1]]></TITLE>
        <USERNAME><![CDATA[acme_jd]]></USERNAME>
        <IP_SET>
          <IP>10.10.10.202</IP>
        </IP_SET>
        <CREATED>
          <DATETIME>2018-04-30T09:28:00Z</DATETIME>
          <BY>acme_jd</BY>
        </CREATED>
        <LAST_MODIFIED>
          <DATETIME>2018-04-30T09:28:43Z</DATETIME>
        </LAST_MODIFIED>
        <COMMENTS><![CDATA[My comments on Windows Record 1]]></COMMENTS>
      </AUTH_WINDOWS>
    </AUTH_WINDOWS_LIST>
  </RESPONSE>
</AUTH_WINDOWS_LIST_OUTPUT>

<GLOSSARY>
  <USER_LIST>
    <USER>
      <USER_LOGIN>acme_jd</USER_LOGIN>
      <FIRST_NAME>John</FIRST_NAME>
      <LAST_NAME>Doe</LAST_NAME>
    </USER>
  </USER_LIST>
</GLOSSARY>
```
DTDs for auth type "windows"
<platform API server>/api/2.0/batch_return.dtd
<platform API server>/api/2.0/fo/auth/windows/auth_windows_list_output.dtd
Chapter 6 - Vault Support

Set up and manage integration with third party password vaults, an option for authenticated scanning (e.g. trusted scanning).

### Vault Support matrix

Supported vaults by authentication type (OS/technology) and capability (password, private key, key passphrase, root delegation tool password). Use the vault name as shown when providing vault name using the Qualys API (i.e. vault_type=Quest Vault).

Vaults can be defined as part of authentication records using the Authentication API (/api/2.0/fo/auth/*) except as noted below. Some vaults can be defined using the Vault API (/api/2.0/fo/vault).

<table>
<thead>
<tr>
<th>password</th>
<th>private key</th>
<th>key passphrase</th>
<th>root delegation passwd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Azure Key</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CA PAM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CyberArk AIM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CyberArk PIM Suite</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HashiCorp</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Checkpoint Firewall (compliance scans only)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Azure Key</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CyberArk AIM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CyberArk PIM Suite</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HashiCorp</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Chapter 6 - Vault Support

### Vault Support matrix

<table>
<thead>
<tr>
<th>password</th>
<th>private key</th>
<th>key passphrase</th>
<th>root delegation</th>
<th>passwd</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM DB2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(UI support only)</td>
<td>CA Access Control</td>
<td>CyberArk AIM</td>
<td>CyberArk PIM Suite</td>
<td>Quest Vault</td>
</tr>
<tr>
<td>MariaDB (compliance scans only)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Azure Key</td>
<td>BeyondTrust PBPS</td>
<td>CyberArk AIM</td>
<td>CyberArk PIM Suite</td>
<td>Quest Vault</td>
</tr>
<tr>
<td>MongoDB</td>
<td></td>
<td>Azure Key</td>
<td>BeyondTrust PBPS</td>
<td>CyberArk AIM</td>
</tr>
<tr>
<td>MS SQL (compliance scans only)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Azure Key</td>
<td>(UI support only)</td>
<td>BeyondTrust PBPS</td>
<td>CA Access Control</td>
<td>CyberArk AIM</td>
</tr>
<tr>
<td>MySQL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Azure Key</td>
<td>BeyondTrust PBPS</td>
<td>CyberArk AIM</td>
<td>CyberArk PIM Suite</td>
<td>Quest Vault</td>
</tr>
</tbody>
</table>
## Vault Support

### Vault Support matrix

<table>
<thead>
<tr>
<th>password</th>
<th>private key</th>
<th>key passphrase</th>
<th>root delegation passwd</th>
</tr>
</thead>
</table>

### Oracle

- **Oracle Listener**
  - (UI support only)
  - BeyondTrust PBPS
  - CA Access Control
  - CyberArk AIM
  - CyberArk PIM Suite
  - Lieberman ERPM
  - Quest Vault
  - Thycotic Secret Server

### Oracle Listener

- **(UI support only)**
- BeyondTrust PBPS
- CA Access Control
- CyberArk AIM
- CyberArk PIM Suite
- Lieberman ERPM
- Quest Vault
- Thycotic Secret Server

### Palo Alto Firewall

- BeyondTrust PBPS
- CyberArk AIM
- CyberArk PIM Suite
- Quest Vault
- Thycotic Secret Server

### PostgreSQL (compliance scans only)

- CA Access Control
- CyberArk AIM
- CyberArk PIM Suite
- Hitachi ID PAM
- Quest Vault
- Thycotic Secret Server

### Sybase (compliance scans only)

- CyberArk AIM
- CyberArk PIM Suite
- Lieberman ERPM
- Quest Vault
- Thycotic Secret Server
### Chapter 6 - Vault Support

#### Vault Support matrix

<table>
<thead>
<tr>
<th>password</th>
<th>private key</th>
<th>key passphrase</th>
<th>root delegation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unix</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Azure Key</td>
<td>Azure Key</td>
<td>Azure Key</td>
<td>Azure Key</td>
</tr>
<tr>
<td>BeyondTrust PBPS</td>
<td>BeyondTrust PBPS</td>
<td>CA Access Control</td>
<td>BeyondTrust PBPS</td>
</tr>
<tr>
<td>CA Access Control</td>
<td>CA PAM</td>
<td>CA PAM</td>
<td>CA Access Control</td>
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<td>CA PAM</td>
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<td>HashiCorp</td>
<td>CyberArk AIM</td>
</tr>
<tr>
<td>CyberArk PIM Suite</td>
<td>Thycotic Secret Server</td>
<td>CyberArk PIM Suite</td>
<td>CyberArk AIM</td>
</tr>
<tr>
<td>HashiCorp</td>
<td>Wallix AdminBastion</td>
<td>HashiCorp</td>
<td>Hitatchi ID PAM</td>
</tr>
<tr>
<td>Hitatchi ID PAM</td>
<td></td>
<td>Lieberman ERPM</td>
<td>Hitatchi ID PAM</td>
</tr>
<tr>
<td>Lieberman ERPM</td>
<td></td>
<td>Quest Vault</td>
<td>Lieberman ERPM</td>
</tr>
<tr>
<td>Quest Vault</td>
<td></td>
<td>Thycotic Secret Server</td>
<td>Quest Vault</td>
</tr>
<tr>
<td>Thycotic Secret</td>
<td></td>
<td>Wallix AdminBastion</td>
<td>Thycotic Secret Server</td>
</tr>
<tr>
<td>Server</td>
<td></td>
<td></td>
<td>Wallix AdminBastion</td>
</tr>
<tr>
<td>Wallix AdminBastion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>VMware</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BeyondTrust PBPS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CA Access Control</td>
<td></td>
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<tr>
<td>CyberArk AIM</td>
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</tr>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>Lieberman ERPM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quest Vault</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thycotic Secret</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Server</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Windows</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Azure Key</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
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<td>CA Access Control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CA PAM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CyberArk AIM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CyberArk PIM Suite</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HashiCorp</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hitatchi ID PAM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lieberman ERPM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quest Vault</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thycotic Secret</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Server</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wallix AdminBastion</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Vault Definition

Various record types support adding vault definition as part of authentication record settings. When supported these parameters are used to provide the vault definition in record settings.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>login_type={basic</td>
<td>vault}</td>
</tr>
<tr>
<td>vault_id={value}</td>
<td>(Required only when action=create and login_type=vault) A vault ID. For Windows, vault_id and password parameters are mutually exclusive and cannot be specified in the same request. For Unix, vault_id and password, cleartext_password parameters are mutually exclusive and cannot be specified in the same request.</td>
</tr>
<tr>
<td>vault_type={value}</td>
<td>(Required only when action=create and login_type=vault) Want to know what vaults support what technologies and capabilities? See <a href="#">Vault Support matrix</a>. Choose one: Azure Key, BeyondTrust PBPS, CA Access Control, CyberArk AIM, CyberArk PIM Suite, HashiCorp, Hitachi ID PAM (no parameters specific to this vault type.), Lieberman ERPM, Quest Vault, Thycotic Secret Server, Wallix AdminBastion (WAB)</td>
</tr>
</tbody>
</table>

#### Azure Key

ak_secret_name={value} | (Optional) The secret name assigned to the secret stored in the vault. |

#### BeyondTrust PBPS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>system_name={value}</td>
<td>(Optional if vault type is BeyondTrust PBPS) The managed system name (also known as asset name). When not specified, we’ll attempt to auto-discover the system name at scan time.</td>
</tr>
<tr>
<td>account_name={value}</td>
<td>(Optional if vault type is BeyondTrust PBPS) The account name. When not specified, we’ll try the username specified in the authentication record.</td>
</tr>
</tbody>
</table>
### Chapter 6 - Vault Support

#### Vault Definition

**CA Access Control**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>end_point_name={value}</td>
<td>(Required if vault type is CA Access Control) The End-Point name identifies a managed system, either a target for local accounts or a domain controller for domain accounts. An End-Point name is a user-defined value within your installation of CA Access Control Enterprise Management. The End-Point name entered in this record must match a pre-defined name exactly.</td>
</tr>
<tr>
<td>end_point_type={value}</td>
<td>(Required if vault type is CA Access Control) The End-Point type represents the method of access to the End-Point system. CA Access Control Enterprise Management uses pre-defined values for various methods and the End-Point type value must match a pre-defined value exactly. Examples: &quot;Windows Agentless&quot; (for Windows accounts) and &quot;SSH Device&quot; (for Unix via SSH).</td>
</tr>
<tr>
<td>end_point_container={value}</td>
<td>(Required if vault type is CA Access Control) The End-Point container stores configuration values. CA Access Control Enterprise Management uses pre-defined values for various methods and the End-Point container value must match a pre-defined value exactly. Examples: &quot;Accounts&quot; (for Windows accounts) and &quot;SSH Accounts&quot; (for Unix via SSH).</td>
</tr>
</tbody>
</table>

**CA PAM**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>vault_app_name={value}</td>
<td>(Required) Application name as defined in the vault configuration for accessing a specific device.</td>
</tr>
<tr>
<td>vault_device_name={value}</td>
<td>(Required) Specify the target device name defined in the vault configuration for which you want to retrieve the credentials. You can use one or more variables when defining the device name in order to match several targets that use the same naming convention. $({ip}) // The IP address of the target, i.e. 10.20.30.40. $({ip_dash}) // The IP address of the target with dashes instead of dots, i.e. 10-20-30-40. $({dnshost}) // The DNS host name of the target, i.e. host.domain. $({host}) // The host name of the target, i.e. host before .domain. $({nbhost}) // (Windows only) The NetBIOS host name of the target in upper-case, i.e. HOST_ABC. For example, $({host})-$({ip_dash}) will match these 3 devices host40-10-20-30-40, host80-10-50-60-70, host12-10-30-10-12. Note You must specify “vault_device_name” or “vault_device_host”, but not both.</td>
</tr>
</tbody>
</table>
### Chapter 6 - Vault Support

**Vault Definition**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>vault_device_host={value}</td>
<td>(Required) Specify the host device name defined in the vault configuration for which you want to retrieve the credentials.</td>
</tr>
<tr>
<td></td>
<td>You can use one or more variables when defining the device name in order to match several targets that use the same naming convention.</td>
</tr>
<tr>
<td></td>
<td><code>${ip}</code> // The IP address of the target, i.e. 10.20.30.40.</td>
</tr>
<tr>
<td></td>
<td><code>${ip_dash}</code> // The IP address of the target with dashes instead of dots, i.e. 10-20-30-40.</td>
</tr>
<tr>
<td></td>
<td><code>${dnshost}</code> // The DNS host name of the target, i.e. host.domain.</td>
</tr>
<tr>
<td></td>
<td><code>${host}</code> // The host name of the target, i.e. host before .domain.</td>
</tr>
<tr>
<td></td>
<td><code>${nbhost}</code> // (Windows only) The NetBIOS host name of the target in upper-case, i.e. HOST_ABC.</td>
</tr>
<tr>
<td></td>
<td>For example, <code>${host}-${ip_dash}</code> will match these 3 devices host40-10-20-30-40, host80-10-50-60-70, host12-10-30-10-12.</td>
</tr>
<tr>
<td></td>
<td><strong>Note</strong> You must specify &quot;vault_device_name&quot; or &quot;vault_device_host&quot;, but not both.</td>
</tr>
</tbody>
</table>

#### CyberArk AIM

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>folder={value}</td>
<td>(Required if vault type is CyberArk AIM) Specify the name of the folder in the secure digital safe where the password to be used for authentication should be stored. The folder name can contain a maximum of 169 characters. Entering a trailing /, as in folder/, is optional (when specified, the service removes the trailing / and does not save it in the folder name). The maximum length of a folder name with a file name is 170 characters (the leading and/or trailing space in the input value will be removed). These special characters cannot be included in a folder name: / : * ? &quot; &lt; &gt;</td>
</tr>
<tr>
<td>file={value}</td>
<td>(Required if vault type is CyberArk AIM) Specify the name of the file in the secure digital safe where the password to be used for authentication should be stored. The file name can contain a maximum of 165 characters. The maximum length of a folder name plus a file name is 170 characters (the leading and/or trailing space in the input value will be removed). These special characters cannot be included in a file name: / : * ? &quot; &lt; &gt;</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>CyberArk PIM Suite</strong></td>
<td></td>
</tr>
<tr>
<td>folder={value}</td>
<td>(Required if vault type is CyberArk PIM Suite) Specify the name of the folder in the secure digital safe where the password to be used for authentication should be stored. The folder name can contain a maximum of 169 characters. Entering a trailing /, as in folder/, is optional (when specified, the service removes the trailing / and does not save it in the folder name). The maximum length of a folder name with a file name is 170 characters (the leading and/or trailing space in the input value will be removed). These special characters cannot be included in a folder name: / : * ? &quot; &lt; &gt;</td>
</tr>
<tr>
<td>file={value}</td>
<td>(Required if vault type is CyberArk PIM Suite) Specify the name of the file in the secure digital safe where the password to be used for authentication should be stored. The file name can contain a maximum of 165 characters. The maximum length of a folder name plus a file name is 170 characters (the leading and/or trailing space in the input value will be removed). These special characters cannot be included in a file name: \ / : * ? &quot; &lt; &gt;</td>
</tr>
<tr>
<td><strong>HashiCorp</strong></td>
<td></td>
</tr>
<tr>
<td>secret_kv_path={value}</td>
<td>(Optional if vault type is HashiCorp) The path of the secret engine. The default is &quot;secret&quot;.</td>
</tr>
<tr>
<td>secret_kv_name={value}</td>
<td>(Required if vault type is HashiCorp) The secret name which stores key-value pairs.</td>
</tr>
<tr>
<td>secret_kv_key={value}</td>
<td>(Required if vault type is HashiCorp) The key name for identifying a specific key-value pair.</td>
</tr>
<tr>
<td><strong>Lieberman ERPM</strong></td>
<td></td>
</tr>
<tr>
<td>auto_discover_system_name={0</td>
<td>1}</td>
</tr>
<tr>
<td>system_name_single_host={value}</td>
<td>(Required if vault type is Lieberman ERPM) Specify the system name that is needed to retrieve password for authentication. To specify system_name_single_host, ensure that auto discovery of system name is disabled (auto_discover_system_name=0). If auto discovery of system name is enabled (auto_discover_system_name=1), specifying system_name_single_host is invalid.</td>
</tr>
</tbody>
</table>
### Parameter Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>system_type={value}</code></td>
<td>(Required if vault type is Lieberman ERPM) A valid value is one of the following system type: auto, windows, unix, oracle, mssql, ldap, cisco, custom</td>
</tr>
<tr>
<td><code>custom_system_type={value}</code></td>
<td>(Required if vault type is Lieberman ERPM) Specify the custom system type name. custom_system_type is valid only when system_type=custom.</td>
</tr>
<tr>
<td><code>quest_vault</code></td>
<td></td>
</tr>
<tr>
<td><code>system_name={value}</code></td>
<td>(Required if vault type is Quest Vault) Specify the system name. During a scan we’ll perform a search for the system name and then retrieve the password. A single exact match of the system name must be found in order for authentication to be successful.</td>
</tr>
<tr>
<td><code>thycotic_secret_server</code></td>
<td></td>
</tr>
<tr>
<td><code>secret_name={value}</code></td>
<td>(Required if vault type is Thycotic Secret Server) Specify the secret name that contains the password to be used for authentication. The scanning engine will perform a search for the secret name and then get the password from the secret returned by the search. A single exact match of the secret name must be found in order for authentication to be successful. The secret name may contain a maximum of 256 characters, and must not contain multibyte characters.</td>
</tr>
</tbody>
</table>
### Wallix AdminBastion (WAB)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>authorization_name= {value}</td>
<td><em>(Required if vault type is Wallix AdminBastion (WAB)) Specify the name of the authorization that enables secret retrieval from a group of targets.</em></td>
</tr>
</tbody>
</table>
| target_name={value} | *(Required if vault type is Wallix AdminBastion (WAB)) Specify the name of the target device using one of these formats:  
user@global_WABdomain  
user@local_WABdomain@device  

where user is the user with access to the target,  
global_WABdomain is a domain name in a domain controller, local_WABdomain is a local domain, device is the device you want to scan* |

Use one or more variables in the target name to match several targets that use the same naming convention.  
${ip}$ - The IP address of the target, i.e. 10.20.30.40.  
${ip_dash}$ - The IP with dashes, i.e. 10-20-30-40.  
${dnshost}$ - DNS hostname of the target, i.e. host.domain.  
${host}$ - Hostname of the target, i.e. host before .domain.  
${nbhost}$ - (Windows only) The NetBIOS name of the target in upper-case, i.e. HOST_ABC.  

For example, the target name  
user@local_WABdomain@$\{ip\}$ will match these 3 devices:  
10.50.60.70, 10.50.60.88 and 10.30.10.12. |
List Vaults

The Authentication Vault API (resource /api/2.0/fo/vault/) allows you to list authentication vaults in your account. Use the parameter “action=list” to list the vaults.

Permissions: Managers, Unit Managers and Scanners can view vaults and their settings.

**API request:**

```bash
curl -u "USERNAME:PASSWD" -H "X-Requested-With: curl" -d "action=list" "https://qualysapi.qualys.com/api/2.0/fo/vault/
```

**XML output:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE AUTH_VAULT_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/vault/vault_output.dtd">
<AUTH_VAULT_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2014-09-12T13:55:57Z</DATETIME>
    <STATUS>Success</STATUS>
    <COUNT>13</COUNT>
    <AUTH_VAULTS>
      <AUTH_VAULT>
        <TITLE><![CDATA[added failover ip]]></TITLE>
        <VAULT_TYPE><![CDATA[CyberArk PIM Suite]]></VAULT_TYPE>
        <LAST_MODIFIED>
          <DATETIME>2014-02-13T12:05:21Z</DATETIME>
          <BY>quays_rn1</BY>
        </LAST_MODIFIED>
        <ID>1421</ID>
      </AUTH_VAULT>
      <AUTH_VAULT>
        <TITLE><![CDATA[added failover ip1]]></TITLE>
        <VAULT_TYPE><![CDATA[CyberArk PIM Suite]]></VAULT_TYPE>
        <LAST_MODIFIED>
          <DATETIME>2014-02-19T06:43:44Z</DATETIME>
          <BY>quays_rn1</BY>
        </LAST_MODIFIED>
        <ID>1421</ID>
      </AUTH_VAULT>
    </AUTH_VAULTS>
  </RESPONSE>
</AUTH_VAULT_LIST_OUTPUT>
```
### Parameters:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0}[1]</td>
<td>(Optional) Set to 1 to show (echo) the request’s input parameters (names and value) in the XML output.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Optional) Include vaults matching this title.</td>
</tr>
<tr>
<td>type={value}</td>
<td>(Optional) Include a certain vault type only. A valid value is:</td>
</tr>
<tr>
<td></td>
<td>BeyondTrust PBPS</td>
</tr>
<tr>
<td></td>
<td>CA Access Control</td>
</tr>
<tr>
<td></td>
<td>CA PAM</td>
</tr>
<tr>
<td></td>
<td>CyberArk AIM</td>
</tr>
<tr>
<td></td>
<td>CyberArk PIM Suite</td>
</tr>
<tr>
<td></td>
<td>HashiCorp</td>
</tr>
<tr>
<td></td>
<td>Hitachi ID PAM</td>
</tr>
<tr>
<td></td>
<td>Lieberman ERPM</td>
</tr>
<tr>
<td></td>
<td>Quest Vault</td>
</tr>
<tr>
<td></td>
<td>Thycotic Secret Server</td>
</tr>
<tr>
<td></td>
<td>Wallix AdminBastion (WAB)</td>
</tr>
<tr>
<td>modified={date}</td>
<td>(Optional) Include vaults modified on or after a certain date/time, in this format: YYYY-MM-DD[THH:MM:SSZ] (UTC/GMT).</td>
</tr>
<tr>
<td>orderby={value}</td>
<td>(Optional) Sort the vaults list by certain data. One of: “id”, “title”, “system_name”, “last_modified”, “last_modified_by”. A date must be specified in YYYYMM-DD[THH:MM:SSZ] format (UTC/GMT).</td>
</tr>
</tbody>
</table>
### List Vaults

**3) List only 9th and 10th vault records**

```bash
```

### More sample requests:

1) **List all vaults, order vaults by system name**

   ```bash
curl -H "X-Requested-With:API" -u "USERNAME:PASSWD" -d "action=list&orderby=system_name" "https://qualysapi.qualys.com/api/2.0/fo/vault/index.php/?"
```

2) **List all vaults, order vaults by title in descending order**

   ```bash
```

### Parameter Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>sortorder={asc</td>
<td>desc}</td>
</tr>
<tr>
<td>limit={value}</td>
<td>(Optional) The maximum number of vault records processed for the request, starting at the record number specified by the offset parameter. These parameters must be specified together: limit and offset. Limit value must always be greater than “0”. If you specify a value 0 for the parameter, the request will fail. When not specified, default limit is set to 1,000 vault records. You can specify a value less than or greater than the default.</td>
</tr>
<tr>
<td>offset={value}</td>
<td>(Optional) The starting vault record number, used only when the request includes the limit parameter.</td>
</tr>
</tbody>
</table>
Manage Vaults

The Authentication Vault API (resource /api/2.0/fo/vault) allows you to manage authentication vaults (create, update, delete) as separate configurations.

Permissions: Managers can perform all functions (create, update, delete). Unit Managers can perform these functions if they are granted the permission “Create/edit authentication records/vaults”.

Create a new vault

**Parameters:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=create</td>
<td>(Required)</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required) The vault title.</td>
</tr>
<tr>
<td>type={value}</td>
<td>(Required) The vault type. A valid value is: Azure Key, BeyondTrust PBPS, CA Access Control, CA PAM, CyberArk AIM, CyberArk PIM Suite, HashiCorp, Hitachi ID PAM, Lieberman ERPM, Quest Vault, Thycotic Secret Server, Wallix AdminBastion (WAB)</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional) User defined comments.</td>
</tr>
<tr>
<td>vault settings</td>
<td>&quot;Tell me about vault settings&quot;</td>
</tr>
</tbody>
</table>

**API request:**

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl" -d "action=create&type=CyberArk AIM&title=New-CyberArk-AIM&appid=CyberArk007&safe=Vaultsafe&url=https://afco.com&ssl_verify=1&cert=-----BEGIN+CERTIFICATE-----%0D%0AMIIDXzCCAkcCAQEwDQYJKoZIwdjELMAkGA1UEBhM%0D%0A-----END+CERTIFICATE-----&private_key_pwd=password&private_key=-----BEGIN+RSA+PRIVATE+KEY-----%0D%0AMIIEowIBAAKCAQEAmbSGApwS662q5SsJ2XA2mVvK0fXa%2%0D%0A-----END+RSA+PRIVATE+KEY-----" "https://qualysapi.qualys.com/api/2.0/fo/vault/index.php"

**XML output:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
```
Update vault settings

Parameters:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=update</td>
<td>(Required)</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Required) A vault ID.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Optional) A new title to replace the existing title.</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Optional) User defined comments.</td>
</tr>
<tr>
<td>vault settings</td>
<td>“Tell me about vault settings”</td>
</tr>
</tbody>
</table>

API request:

curl -u "USERNAME:PASSWD" -H "X-Requested-With: curl" -X "POST" -d "id=14836922&server_address=10.10.10.10" "https://qualysapi.qualys.com/api/2.0/fo/vault/?action=update"

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2014-09-12T14:13:28Z</DATETIME>
    <TEXT>Success</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>14836922</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
### View vault settings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=view</td>
<td>(Required)</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Required) A vault ID.</td>
</tr>
</tbody>
</table>

**API request:**

```bash
```

**XML output:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE VAULT_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/vault/vault_view.dtd">
<Vault_OUTPUT>
  <Response>
    <Datetime>2016-09-08T06:38:28Z</Datetime>
    <Vault_Quest>
      <Title><![CDATA[New CyberArk AIM Vault]]></Title>
      <Comments><![CDATA[]]></Comments>
      <Vault_Type><![CDATA[CyberArk AIM]]></Vault_Type>
      <Created_On>2016-09-07T07:09:34Z</Created_On>
      <Owner>user_john</Owner>
      <Last_Modified>
        <Datetime>2016-09-08T06:37:49Z</Datetime>
        <By>user_john</By>
      </Last_Modified>
      <AppID><![CDATA[735435]]></AppID>
      <URL><![CDATA[https://afco.com]]></URL>
      <SSL_Verify><![CDATA[1]]></SSL_Verify>
      <Safe><![CDATA[56908456904]]></Safe>
      <ID>7004</ID>
    </Vault_Quest>
  </Response>
</Vault_OUTPUT>
```
Delete a vault

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=view</td>
<td>(Required)</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Required) A vault ID.</td>
</tr>
</tbody>
</table>

API request:

```
curl -u "USERNAME:PASSWD" -H "X-Requested-With: curl" -d "id=43463"
"https://qualysapi.qualys.com/api/2.0/fo/vault/?action=delete"
```

XML output:

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2014-09-12T14:13:28Z</DATETIME>
    <TEXT>Success</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>Status</KEY>
        <VALUE>Deleted</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```

Tell me about vault settings

The vault settings differ per vault type.

**Azure Key**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>url={value}</td>
<td>(Required to create and optional to update vault) The HTTP or HTTPS URL to access the Azure key Vault HTTP API. The HTTPS URL is required if the ssl_verify parameter is set 1.</td>
</tr>
<tr>
<td>app_id={value}</td>
<td>(Required to create and optional to update vault) The application ID associated with the application created in the Azure Key Vault.</td>
</tr>
<tr>
<td>ssl_verify={0</td>
<td>1}</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>cert={value}</td>
<td>(Required to create and optional to update vault) The client certificate for authentication. Enter the certificate block after the key block and be sure to include the first and last line (-----BEGIN CERTIFICATE----- and -----END CERTIFICATE-----). For a create/update request, if the cert parameter is specified, then the private_key parameter must also be specified.</td>
</tr>
<tr>
<td>private_key={value}</td>
<td>(Required to create and optional to update vault) The private key for authentication. Copy the contents of private key file (id_rsa) and be sure to include the first and last line (-----BEGIN PRIVATE KEY----- and -----END PRIVATE KEY-----).</td>
</tr>
<tr>
<td>passphrase={value}</td>
<td>(Optional) The private key passphrase is required if the private key is encrypted.</td>
</tr>
</tbody>
</table>

**BeyondTrust PBPS**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>appkey={value}</td>
<td>(Required for new vault) The application key (alpha-numeric string) for the BeyondTrust PBPS web services API. The maximum length is 128 bytes. A leading and/or trailing space or periods in the input value will be removed.</td>
</tr>
<tr>
<td>url={value}</td>
<td>(Required for new vault) The HTTP or HTTPS URL to access the BeyondTrust PBPS web services API.</td>
</tr>
<tr>
<td>ssl_verify={1</td>
<td>0}</td>
</tr>
<tr>
<td>username={value}</td>
<td>(Required for new vault) The user account that can call the BeyondTrust PBPS web services API. The maximum length is 64 characters. This special character cannot be included: @</td>
</tr>
<tr>
<td>password={value}</td>
<td>(Optional) Specify a user password when required by the Application API Key configuration in BeyondTrust.</td>
</tr>
<tr>
<td>cert={value}</td>
<td>(Optional) Provide an X.509 client certificate with your private key when required by the Application API Key configuration in BeyondTrust. The certificate must be trusted by the PBPS web server. Enter the certificate block after the key block and be sure to include the first and last line (-----BEGIN CERTIFICATE----- and -----END CERTIFICATE-----). For a create/update request, if the cert parameter is specified, then the private_key parameter must also be specified.</td>
</tr>
</tbody>
</table>
### CA Access Control

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>ca_url</code></td>
<td>(Required for new vault) The HTTP or HTTPS URL of the CA Access Control web services, an API interface to your CA Access Control Enterprise Management installation. Note that the web services URL is different from the web management URL. Sample web services URL: <a href="http://caac126u-32-235.caac125.domain.com:18080/iam/TEWS6/ac">http://caac126u-32-235.caac125.domain.com:18080/iam/TEWS6/ac</a> Sample web management URL: <a href="http://caac126p-33-166.caac125.domain.com:18080/iam/ac/">http://caac126p-33-166.caac125.domain.com:18080/iam/ac/</a></td>
</tr>
<tr>
<td><code>ca_api_username</code></td>
<td>(Required for new vault) The name of a user that is granted GetAccountPassword API permissions.</td>
</tr>
<tr>
<td><code>ca_ssl_verify</code></td>
<td>(Required for new vault) When set to 1, our service will verify the SSL certificate of the web server to make sure the certificate is valid and trusted. When set to 0 our service will not verify the certificate of the web server.</td>
</tr>
<tr>
<td><code>ca_web_username</code></td>
<td>(Optional) The web user name used to access Basic Authentication of the CA Access Control web server.</td>
</tr>
<tr>
<td><code>ca_web_password</code></td>
<td>(Optional) The web password used to access Basic Authentication of the CA Access Control web server.</td>
</tr>
</tbody>
</table>

### CA PAM

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>ssl_verify</code></td>
<td>(Required to create and optional to update vault) The user account that can call the CA PAM Vault HTTP API.</td>
</tr>
<tr>
<td><code>url</code></td>
<td>(Required to create and optional to update vault) The HTTP or HTTPS URL to access the CA PAM Vault HTTP API.</td>
</tr>
<tr>
<td><code>apikey_name</code></td>
<td>(Required to create and optional to update vault) The user account that can call the CA PAM Vault HTTP API.</td>
</tr>
<tr>
<td><code>apikey</code></td>
<td>(Required to create and optional to update vault) The password for the user account that can call the CA PAM Vault HTTP API.</td>
</tr>
</tbody>
</table>
### CyberArk AIM

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>appid={value}</td>
<td>(Required) Application ID string defined by the customer. The application ID acts as an authenticator for our scanner to call CCP web services API. The maximum length of an application ID name is 128 bytes and the first 28 characters must be unique (leading and/or trailing space or periods in the input value will be removed). These restricted words cannot be included in an application ID: Users, Addresses, Areas, XUserRules, unknown, Locations, Safes, Schedule, VaultCategories, BuiltIn. These special characters cannot be included in an application ID: \ / : * ? &quot; &lt; &gt;</td>
</tr>
<tr>
<td>safe={value}</td>
<td>(Required) The name of the digital password safe. The safe name can contain a maximum of 28 characters (leading and/or trailing space in the input value will be removed). These special characters cannot be included in a safe name: \ / : * ? &quot; &lt; &gt;</td>
</tr>
<tr>
<td>url={value}</td>
<td>(Required) The HTTP or HTTPS URL over SSL protocols to access CyberArk’s CCP web services.</td>
</tr>
<tr>
<td>ssl_verify={1</td>
<td>0}</td>
</tr>
<tr>
<td>cert={value}</td>
<td>(Optional) You must include an X.509 certificate with your private key. Enter the certificate block after the key block and be sure to include the first and last line (-----BEGIN CERTIFICATE----- and -----END CERTIFICATE-----). For a create/update request, if the certificate parameter is specified, then the private_key parameter must also be specified.</td>
</tr>
<tr>
<td>private_key={value}</td>
<td>(Optional) Specify private key for authentication. Copy the contents of private key file (id_rsa) and be sure to include the first and last line (-----BEGIN PRIVATE KEY----- and -----END PRIVATE KEY-----). For a create/update request, if the private_key parameter is specified, then the certificate parameter must also be specified.</td>
</tr>
<tr>
<td>private_key_pwd={value}</td>
<td>(Optional) Specify a password for the encrypted private_key.</td>
</tr>
</tbody>
</table>

### CyberArk PIM Suite

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>server_address={value}</td>
<td>(Required for new vault) The IP address of the vault server that stores system login credentials to be used.</td>
</tr>
<tr>
<td>port={value}</td>
<td>(Optional) The port the vault server is running on. The port must be in the range 1025 to 65535. For a new vault the port is set to 1858 by default, if the port parameter is not specified.</td>
</tr>
</tbody>
</table>
### Manage Vaults

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>safe={value}</td>
<td>(Required for new vault) The name of the digital password safe. The safe name can contain a maximum of 28 characters (leading and/or trailing space in the input value will be removed). These special characters cannot be included in a safe name: \ / : * ? &quot; &lt; &gt;</td>
</tr>
<tr>
<td>username={value}</td>
<td>(Required for new vault) The username for an account with access to your CyberArk PIM Suite environment.</td>
</tr>
<tr>
<td>password={value}</td>
<td>(Required for new vault) The password for an account with access to your CyberArk PIM Suite environment.</td>
</tr>
<tr>
<td>HashiCorp</td>
<td></td>
</tr>
<tr>
<td>url={value}</td>
<td>(Required) The HTTP or HTTPS URL to access the HashiCorp Vault HTTP API.</td>
</tr>
<tr>
<td>api_version={value}</td>
<td>(Optional) The HashiCorp Vault HTTP API version. This is v1 by default, which is the only supported version.</td>
</tr>
<tr>
<td>ssl_verify={0</td>
<td>1}</td>
</tr>
<tr>
<td>auth_type={value}</td>
<td>(Required to create vault, optional to update vault) HashiCorp Vault API supports three authentication types. First choose any one of the authentication method you want to use (Username/Password, Cert or App Role) and then provide login credentials for authenticating to the vault server via the HashiCorp Vault HTTP API. Valid authentication values for API are: userpass, cert and approle.</td>
</tr>
<tr>
<td>auth_type={userpass}</td>
<td>Choose this authentication method to authenticate to the vault server with a username and password combination. auth_type= {userpass} supports 3 parameters: path, username, password.</td>
</tr>
<tr>
<td>path={value}</td>
<td>(Optional) The path for the Username/Password authentication method. The default path is auth/userpass but you can specify a custom path like auth/my-path.</td>
</tr>
<tr>
<td>username={value}</td>
<td>(Required to create and update vault) The user account that can access the vault server.</td>
</tr>
<tr>
<td>password={value}</td>
<td>(Required to create and update vault) The password for the user account.</td>
</tr>
<tr>
<td>auth_type={cert}</td>
<td>Choose this authentication method to authenticate to the vault server using SSL/TLS client certificates which are either signed by a CA (Certificate Authority) or self-signed. CA certificates are associated with a role name. auth_type= {cert} supports 5 parameters: path, role_name, cert, private_key, passphrase.</td>
</tr>
</tbody>
</table>

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Chapter 6 - Vault Support

Manage Vaults

- **path={value}** (Optional) The path for the Cert authentication method. The default path is auth/cert but you can specify a custom path like auth/my-path.

- **role_name={value}** (Required to create and update vault) The role associated with the CA certificate.

- **cert={value}** (Required to create and update vault) The client certificate for authentication. Enter the certificate block after the key block and be sure to include the first and last line (-----BEGIN CERTIFICATE----- and -----END CERTIFICATE-----).
  For a create/update request, if the cert parameter is specified, then the private_key parameter must also be specified.

- **private_key={value}** (Required to create and update vault) The private key for authentication. Copy the contents of private key file (id_rsa) and be sure to include the first and last line (-----BEGIN PRIVATE KEY----- and -----END PRIVATE KEY-----).

- **passphrase{value}** (Optional) The private key passphrase, if the private key is encrypted.

- **auth_type={approle}** Choose the App Role authentication method to authenticate to the vault server with a vault-defined role. auth_type= {approle} supports 3 parameters: path, role_id, secret_id.

  - **path={value}** (Optional) The path for the App Role authentication method. The default path is auth/approle but you can specify a custom path like auth/my-path.

  - **role_id={value}** (Required to create and update vault) The role ID of the App Role you want to use for authentication.

  - **secret_id={value}** (Optional) The secret ID of the App Role you want to use for authentication.

**Hitachi ID PAM**

- **url={value}** (Required for new vault) The HTTP or HTTPS URL of the Hitachi ID PAM webservices.

- **username={value}** (Required for new vault) The username (ID) for the Hitachi ID PAM user account. To allow Qualys scanners to connect using this account, this user must have the following settings under Administrator information in the Hitachi ID Management Suite: 1) the privilege “OTP IDAPI caller” and 2) the value entered in the “IP address with CIDR bitmask” field must include the Qualys scanner IP addresses.

- **password={value}** (Required for new vault) The password for the Hitachi ID PAM user account.

- **ssl_verify={1|0}** (Required for new vault) When set to 1, our service will verify the SSL certificate of the web server to make sure the certificate is valid and trusted. When set to 0 our service will not verify the certificate of the web server.
### Lieberman ERPM

- **url={value}** (Required for new vault) The HTTP or HTTPS URL of the Lieberman ERPM server.
- **domain={value}** (Optional) A domain name if your Lieberman ERPM server is part of a domain.
- **username={value}** (Required for new vault) The username for the Lieberman ERPM server account.
- **password={value}** (Required) The password for the Lieberman ERPM server account.
- **ssl_verify={1|0}** (Required for new vault) When set to 1, our service will verify the SSL certificate of the web server to make sure the certificate is valid and trusted. When set to 0 our service will not verify the certificate of the web server.

### Quest Vault

- **server_address={value}** (Required for new vault) The IP address of the vault server, Quest One Privileged Password Manager.
- **port={value}** (Optional) The listing port of the vault server. For a new vault the port is set to 22 by default, if the port parameter is not specified.
- **username={value}** (Required for new vault) The username to be used for SSH authentication. We recommend you create a dedicated user account for Qualys scanning. Using Quest/Dell 2.4 or higher, enter the key for the API user account you’ve created for use with our service. We support both API and CLI keys but recommend use of an API key.
- **access_key={value}** (Required for new vault) The DSA private key in PEM format for SSH authentication.

### Thycotic Secret Server

- **url={value}** (Required for new vault) The HTTP or HTTPS URL of the Secret Server webservice. The URL may contain a maximum of 256 characters, and must not contain multibyte characters.
- **username={value}** (Required for new vault) The username for a Secret Server user. This user must have access to the secret names to be used for authentication.
- **password={value}** (Required for new vault) The password for a Secret Server user.
- **domain={value}** (Optional) Specify a fully qualified domain name if Secret Server is integrated with Active Directory. The domain may contain a maximum of 128 characters, and must not contain any multibyte characters.

### Wallix AdminBastion (WAB)

- **url={value}** (Required for new vault) The HTTP or HTTPS URL to access the WAB web services API.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ssl_verify=[0</td>
<td>1]</td>
</tr>
<tr>
<td>username={value}</td>
<td>(Required for new vault) The user account that can call the WAB web services API.</td>
</tr>
<tr>
<td>password={value}</td>
<td>(Optional) The password for the user account that can call the WAB web services API. For a new vault, you must specify password or appkey. Both parameters cannot be specified in the same request.</td>
</tr>
<tr>
<td>appkey={value}</td>
<td>(Optional) Your WAB REST API key (alpha-numeric value) for connecting to the WAB web services API.</td>
</tr>
<tr>
<td></td>
<td>- Do not include leading or trailing periods or spaces.</td>
</tr>
<tr>
<td></td>
<td>- These characters are not allowed: \ / : * ? &quot; &lt; &gt;</td>
</tr>
<tr>
<td></td>
<td>- UTF-8 multibyte characters are not allowed.</td>
</tr>
<tr>
<td></td>
<td>For a new vault, you must specify password or appkey. Both parameters cannot be specified in the same request.</td>
</tr>
</tbody>
</table>
Chapter 7 - Assets

Manage the host assets you want to scan (internal and external facing) for vulnerabilities and compliance.

IP List | Add IPs | Update IPs
Host List
Host List Detection | Normalized Data | Best Practices | Use Cases
Excluded Host List | Excluded Hosts Change History | Manage Excluded Hosts
Virtual Host List | Manage Virtual Hosts
Restricted IPs List | Manage Restricted IPs
Asset Group List | Manage Asset Groups
Purge Hosts
Patch List
IP List

/api/2.0/fo/asset/ip/?action=list

[GET]  [POST]

List IP addresses in the user account. By default, all hosts in the user account are included. Optional input parameters support filtering the list by IP addresses and host tracking method.

Permissions - Managers and Auditors view all assets in the subscription, Unit Managers view assets in their own business unit, Scanners and Readers view assets in their own account.

Express Lite - This API is available to Express Lite users.

**Input Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required) A flag used to make an IP list request.</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ips={value}</td>
<td>(Optional) Show only certain IP addresses/ranges. One or more IPs/ranges may be specified. Multiple entries are comma separated. A host IP range is specified with a hyphen (for example, 10.10.10.44-10.10.10.90).</td>
</tr>
<tr>
<td>network_id={value}</td>
<td>(Optional, and valid only when the Network Support feature is enabled for the user’s account) Restrict the request to a certain custom network ID.</td>
</tr>
<tr>
<td>tracking_method={value}</td>
<td>(Optional) Show only IP addresses/ranges which have a certain tracking method. A valid value is: IP, DNS, or NETBIOS.</td>
</tr>
</tbody>
</table>
Filter the output by module

Only interested in seeing IP addresses for VM, PC or CertView? Your request must include the compliance_enabled and certview_enabled parameters as described below.

To return only VM IP addresses, specify compliance_enabled=0 and certview_enabled=0.

To return only PC IP addresses, specify compliance_enabled=1 and certview_enabled=0.

To return only CertView IP addresses, specify compliance_enabled=0 and certview_enabled=1.

To return both PC and CertView IP addresses, specify compliance_enabled=1 and certview_enabled=1.
Sample - List Host IPs

API request:

```
curl -H "X-Requested-With: Curl Sample" -b "QualysSession=71e6cda2a35d2cd404cddf3d05ea0208; path=/api; secure"
  "https://qualysapi.qualys.com/api/2.0/fo/asset/ip/?action=list"
```

XML output:

```
<!DOCTYPE IP_LIST_OUTPUT SYSTEM
  "https://qualysapi.qualys.com/api/2.0/fo/asset/ip/
  ip_list_output.dtd">

<IP_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-05-21T13:32:17Z</DATETIME>
    <IP_SET>
      <IP>123.123.45.0</IP>
      <IP_RANGE>123.124.45.0-123.124.45.255</IP_RANGE>
      <IP_RANGE>123.124.46.0-123.124.46.255</IP_RANGE>
      <IP_RANGE>123.124.47.0-123.124.47.255</IP_RANGE>
      <IP_RANGE>123.124.48.0-123.124.48.255</IP_RANGE>
    </IP_SET>
  </RESPONSE>
</IP_LIST_OUTPUT>
```

DTD

```
<platform API server>/api/2.0/fo/asset/ip/ip_list_output.dtd
```

Add IPs

```
/api/2.0/fo/asset/ip/?action=add
```

[POST]

Add IP addresses to the user’s subscription. Once added they are available for scanning and reporting.

Permissions - A Manager has permissions to add IP addresses. A Unit Manager can add IP addresses when the “Add assets” permission is enabled in their account. Users with other roles (Scanner, Reader, Auditor) do not have permissions to add IP addresses.
### Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=add</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ips={value} -or-</td>
<td>(Required) The hosts you want to add to the subscription. IPs must be specified by using the “ips” parameter (using the POST method) or by uploading CSV raw data (using the POST method). To upload CSV raw data, specify --data-binary &lt;data&gt;.</td>
</tr>
<tr>
<td>POSTed CSV raw data</td>
<td></td>
</tr>
<tr>
<td>tracking_method={value}</td>
<td>(Optional) The tracking method is set to IP for IP address by default. To use another tracking method specify DNS or NETBIOS.</td>
</tr>
<tr>
<td>enable_vm={0</td>
<td>1}</td>
</tr>
<tr>
<td>enable_pc={0</td>
<td>1}</td>
</tr>
<tr>
<td>owner={value}</td>
<td>(Optional) The owner of the host asset(s). The owner must be a Manager or a Unit Manager. A valid Unit Manager must have the “Add assets” permission and sufficient remaining IPs (maximum number of IPs that can be added to the Unit Manager’s business unit).</td>
</tr>
<tr>
<td>ud1={value}</td>
<td>(Optional) Values for user-defined fields 1, 2 and 3. You can specify a maximum of 128 characters (ascii) for each field value.</td>
</tr>
<tr>
<td>ud2={value}</td>
<td></td>
</tr>
<tr>
<td>ud3={value}</td>
<td></td>
</tr>
<tr>
<td>comment={value}</td>
<td>(Optional) User-defined comments.</td>
</tr>
<tr>
<td>ag_title={value}</td>
<td>(Required if the request is being made by a Unit Manager; otherwise invalid) The title of an asset group in the Unit Manager’s business unit that the host(s) will be added to.</td>
</tr>
<tr>
<td>enable_certview={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

### Sample - Add IPs using POSTED data

**API request:**
```
curl -H "X-Requested-With: Curl" -H "Content-Type:text/csv"
-u "USERNAME:PASSWORD" --data-binary @ips_list.csv
"https://qualysapi.qualys.com/api/2.0/fo/asset/ip/?action=add&enable_vm=1&enable_pc=1&tracking_method=IP&owner=quays_es1"
```
XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-08-07T01:21:03Z</DATETIME>
    <TEXT>IPs successfully added to Vulnerability Management/Compliance Management</TEXT>
  </RESPONSE>
</SIMPLE_RETURN>
```

Sample - Add IPs using “ips” parameter

API request:

```
curl -H "X-Requested-With: demo" -u "USERNAME:PASSWORD" -X "POST"
   -d "action=add&enable_vm=1&enable_pc=1&ips=10.10.10.1,10.10.10.10-10.10.10.20,10.10.10.200"
   "https://qualysapi.qualys.com/api/2.0/fo/asset/ip/"
```

DTD

`<platform API server>/api/2.0/simple_return.dtd`

Update IPs

`/api/2.0/fo/asset/ip/?action=update`

[POST]

Update IP addresses in the user's subscription. Once added they are available for scanning and reporting.

Permissions - A Manager has permissions to update IP addresses. A Unit Manager can update IP addresses in asset groups assigned to the user's business unit. Users with other roles (Scanner, Reader, Auditor) do not have permissions to update IP addresses.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=update</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
</tbody>
</table>
Chapter 7 - Assets
Update IPs

Sample - Add IPs and assign tracking method

API request:
```
curl -H "X-Requested-With: demo" -u "USERNAME:PASSWORD" -X "POST"
-d "action=update&ips=10.10.10.200,10.10.23.40&tracking_method=
-data-binary <data>.
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-07T17:27:36Z</DATETIME>
    <TEXT>IPs successfully updated</TEXT>
  </RESPONSE>
</SIMPLE_RETURN>
```

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ips=[value] -or-</td>
<td>(Required) The hosts within the subscription you want to update. IPs must</td>
</tr>
<tr>
<td>{POSTed CSV raw data}</td>
<td>be specified by using the &quot;ips&quot; parameter (using the POST method) or by</td>
</tr>
<tr>
<td></td>
<td>uploading CSV raw data (using the POST method). To upload CSV raw data,</td>
</tr>
<tr>
<td></td>
<td>specify -data-binary &lt;data&gt;. One or more IPs/ranges may be specified.</td>
</tr>
<tr>
<td></td>
<td>Multiple entries are comma separated. An IP range is specified with a</td>
</tr>
<tr>
<td></td>
<td>hyphen (for example, 10.10.30.1-10.10.30.50). CIDR notation is supported.</td>
</tr>
<tr>
<td>tracking_method=[value]</td>
<td>(Optional) To change to another tracking method specify IP for IP address,</td>
</tr>
<tr>
<td></td>
<td>DNS or NETBIOS.</td>
</tr>
<tr>
<td>host_dns=[value]</td>
<td>(Optional) The DNS hostname for the IP you want to update. A single IP</td>
</tr>
<tr>
<td></td>
<td>must be specified in the same request and the IP will only be updated if</td>
</tr>
<tr>
<td></td>
<td>it matches the hostname specified.</td>
</tr>
<tr>
<td>host_netbios=[value]</td>
<td>(Optional) The NetBIOS hostname for the IP you want to update. A single</td>
</tr>
<tr>
<td></td>
<td>IP must be specified in the same request and the IP will only be updated</td>
</tr>
<tr>
<td></td>
<td>if it matches the hostname specified.</td>
</tr>
<tr>
<td>owner=[value]</td>
<td>(Optional) The owner of the host asset(s). The owner must be a Manager.</td>
</tr>
<tr>
<td></td>
<td>Another user (Unit Manager, Scanner, Reader) can be the owner if the IP</td>
</tr>
<tr>
<td></td>
<td>address is in the user’s account.</td>
</tr>
<tr>
<td>ud1=[value] ud2=[value]</td>
<td>(Optional) Values for user-defined fields 1, 2 and 3. You can specify</td>
</tr>
<tr>
<td>ud3=[value]</td>
<td>a maximum of 128 characters (ascii) for each field value.</td>
</tr>
<tr>
<td>comment=[value]</td>
<td>(Optional) User-defined comments.</td>
</tr>
</tbody>
</table>
Sample - Update IP with matching NetBIOS name

IP 10.10.26.167 has multiple entries so we're specifying the NetBIOS hostname in the request to identify which entry to update.

API request:


Sample - Duplicate host error

For the request below we're updating IP 10.10.25.224. The duplicate host warning is returned because there are 2 asset records for IP 10.10.25.224.

API request:


XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE DUPLICATE_HOSTS_ERROR_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/asset/ip/duplicate_hosts_error.dtd">
<DUPLICATE_HOSTS_ERROR_OUTPUT>
  <RESPONSE>
    <CODE>1982</CODE>
    <DATETIME>2018-03-16T04:54:15Z</DATETIME>
    <WARNING>
      <TEXT>You cannot change the tracking method for the following host using the API since there are multiple scan data entries. This can happen when the host is resolved to different hostnames in different scan tasks. You'll need to change the tracking method using the UI. Use the URL to log into your account, edit the host and select another tracking method. At the prompt click Apply to save the most recent scan data and purge the other scan data.</TEXT>
      <DUPLICATE_HOSTS>
        <DUPLICATE_HOST>
          <IP>10.10.25.224</IP>
          <DNS_HOSTNAME>ora10105-win-25-224.qualys.com</DNS_HOSTNAME>
          <NETBIOS_HOSTNAME>ORA10105-WIN-25</NETBIOS_HOSTNAME>
          <LAST_SCANDATE>09/09/2016 at 13:35:29 (GMT)</LAST_SCANDATE>
          <TRACKING>DNS</TRACKING>
        </DUPLICATE_HOST>
      </DUPLICATE_HOSTS>
    </WARNING>
  </RESPONSE>
</DUPLICATE_HOSTS_ERROR_OUTPUT>
Chapter 7 - Assets
Update IPs

</DUPLICATE_HOST>
</DUPLICATE_HOSTS>
</URL><![CDATA[https://qualysguard.qualys.com/fo/tools/ip_assets.php]]></URL>
</WARNING>
</RESPONSE>
</DUPLICATE_HOSTS_ERROR_OUTPUT>

DTD for duplicate host error
<platform API server>/api/2.0/fo/asset/ip/duplicate_hosts_error.dtd"
Host List

/api/2.0/fo/asset/host/?action=list

[GET] [POST]

Download a list of scanned hosts in the user’s account. By default, all scanned hosts in the user account are included and basic information about each host is provided. Hosts in the XML output are sorted by host ID in ascending order.

The output of the Host List API is paginated. By default, a maximum of 1,000 host records are returned per request. You can customize the page size (i.e. the number of host records) by using the parameter “truncation_limit=10000” for instance. In this case the results will be return with pages of 10,000 host records.

Permissions - Managers view all scanned hosts in subscription. Auditors view all scanned compliance hosts in subscription. Unit Managers view scanned hosts in user’s business unit. Scanners and Readers view scanned hosts in user’s account. For Unit Managers, Scanners, and Readers to view compliance hosts, the “Manage compliance” permission must be granted in the user’s account.

Express Lite - This API is available to Express Lite users.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required) A flag used to make a host list request.</td>
</tr>
<tr>
<td>echo_request=0</td>
<td>1]</td>
</tr>
</tbody>
</table>
### Chapter 7 - Assets

### Host List

#### Parameter

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>details={Basic</td>
<td>Basic/AGs</td>
</tr>
</tbody>
</table>

- **Basic** - (default) Show basic host information. Basic host information includes the host ID, IP address, tracking method, DNS and NetBIOS hostnames, and operating system.

- **Basic/AGs** - Show basic host information plus asset group information. Asset group information includes the asset group ID and title.

- **All** - Show all host information. All host information includes the basic host information plus the last vulnerability and compliance scan dates.

- **All/AGs** - Show all host information plus asset group information. Asset group information includes the asset group ID and title.

- **None** - Show only the host ID.

#### os_pattern={expression} | (Optional) Show only hosts which have an operating system matching a certain regular expression. An empty value cannot be specified. Use "%SE%24" to match empty string. |

**Important:** The regular expression string you enter must follow the PCRE standard and it must be URL encoded.

**Sample regular expression strings for matching OS names:**
- Qualys API - Host List Detection API samples (GitHub, see sample 17)

**For information about the Perl Compatible Regular Expressions (PCRE) standard visit:**

**PCRE syntax:**

### Chapter 7 - Assets

#### Host List

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>truncation_limit={value}</td>
<td>(Optional) Specify the maximum number of host records processed per request. When not specified, the truncation limit is set to 1000 host records. You may specify a value less than the default (1-999) or greater than the default (1001-1000000). If the requested list identifies more host records than the truncation limit, then the XML output includes the <code>&lt;WARNING&gt;</code> element and the URL for making another request for the next batch of host records. See example: [Qualys API - Host List API samples](GitHub, sample 3) You can specify truncation_limit=0 for no truncation limit. This means that the output is not paginated and all the records are returned in a single output. WARNING: This can generate very large output and processing large XML files can consume a lot of resources on the client side. In this case it is recommended to use the pagination logic and parallel processing. The previous page can be processed while the next page is downloaded.</td>
</tr>
<tr>
<td>ips={value}</td>
<td>(Optional) Show only certain IP addresses/ranges. One or more IPs/ranges may be specified. Multiple entries are comma separated. An IP range is specified with a hyphen (for example, 10.10.10.1-10.10.100).</td>
</tr>
<tr>
<td>ag_ids={value}</td>
<td>(Optional) Show only hosts belonging to asset groups with certain IDs. One or more asset group IDs and/or ranges may be specified. Multiple entries are comma separated. A range is specified with a dash (for example, 386941-386945). Valid asset group IDs are required.</td>
</tr>
<tr>
<td>ag_titles={value}</td>
<td>(Optional) Show only hosts belonging to asset groups with certain strings in the asset group title. One or more asset group titles may be specified. Multiple entries are comma separated (for example, My+First+Asset+Group,Another+Asset+Group).</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Optional) Show only certain host IDs/ranges. One or more host IDs/ranges may be specified. Multiple entries are comma separated. A host ID range is specified with a hyphen (for example, 190-400). Valid host IDs are required.</td>
</tr>
<tr>
<td>id_min={value}</td>
<td>(Optional) Show only hosts which have a minimum host ID value. A valid host ID is required.</td>
</tr>
<tr>
<td>id_max={value}</td>
<td>(Optional) Show only hosts which have a maximum host ID value. A valid host ID is required.</td>
</tr>
<tr>
<td>network_ids={value}</td>
<td>(Optional, and valid only when the Network Support feature is enabled for the user's account) Restrict the request to certain custom network IDs. Multiple network IDs are comma separated.</td>
</tr>
</tbody>
</table>
**Parameter** | **Description**  
---|---  
compliance_enabled={0|1} (Optional) This parameter is valid only when the policy compliance module is enabled for the user account. This parameter is invalid for an Express Lite user.  
Use this parameter to filter the scanned hosts list to show either: 1) a list of scanned compliance hosts, or 2) a list of scanned vulnerability management hosts.  
Specify 1 to list scanned compliance hosts in the user’s account. These hosts are assigned to the policy compliance module.  
Specify 0 to list scanned hosts which are not assigned to the policy compliance module.  
A user can specify 0 only when the user has compliance management privileges. For a Unit Manager, Scanner or Reader, the “Manage compliance” permission must be enabled in the user account. If this permission is not enabled and the user makes a request with this parameter set to 0, the request fails with an error (unknown parameter).

**Date Filters**  

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>no_vm_scan_since={date}</strong> (Optional) Show hosts not scanned since a certain date and time (optional). The date/time is specified in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2007-07-01” or “2007-01-25T23:12:00Z”. Permissions - An Auditor cannot specify this parameter.</td>
<td></td>
</tr>
<tr>
<td><strong>no_compliance_scan_since={date}</strong> (Optional) Show compliance hosts not scanned since a certain date and time (optional). This parameter is invalid for an Express Lite user. The date/time is specified in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2007-07-01” or “2007-01-25T23:12:00Z”. Permissions - A sub-account (Unit Manager, Scanner or Reader) can specify this parameter only when the user is granted permissions to manage compliance information.</td>
<td></td>
</tr>
<tr>
<td><strong>vm_scan_since={date}</strong> (Optional) Show hosts that were last scanned for vulnerabilities since a certain date and time (optional). Hosts that were the target of a vulnerability scan since the date/time will be shown. Date/time is specified in this format: YYYY-MM-DD[THH:MM:SSZ] (UTC/GMT). Permissions: An Auditor cannot specify this parameter.</td>
<td></td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><code>compliance_scan_since={date}</code></td>
<td>(Optional) Show hosts that were last scanned for compliance since a certain date and time (optional). Hosts that were the target of a compliance scan since the date/time will be shown. This parameter is invalid for an Express Lite user. Date/time is specified in this format: YYYY-MM-DD[THH:MM:SSZ] (UTC/GMT). Permissions: A sub-account (Unit Manager, Scanner or Reader) can specify this parameter only when the user is granted permissions to manage compliance information.</td>
</tr>
<tr>
<td><code>vm_processed_before={date}</code></td>
<td>(Optional) Show hosts with vulnerability scan results processed before a certain date and time. Specify the date in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2016-09-12” or “2016-09-12T23:15:00Z”.</td>
</tr>
<tr>
<td><code>vm_processed_after={date}</code></td>
<td>(Optional) Show hosts with vulnerability scan results processed after a certain date and time. Specify the date in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2016-09-12” or “2016-09-12T23:15:00Z”.</td>
</tr>
<tr>
<td><code>vm_scan_date_before={date}</code></td>
<td>(Optional) Show hosts with a vulnerability scan end date before a certain date and time. Specify the date in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2016-09-12” or “2016-09-12T23:15:00Z”.</td>
</tr>
<tr>
<td><code>vm_scan_date_after={date}</code></td>
<td>(Optional) Show hosts with a vulnerability scan end date after a certain date and time. Specify the date in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2016-09-12” or “2016-09-12T23:15:00Z”.</td>
</tr>
<tr>
<td><code>vm_auth_scan_date_before={date}</code></td>
<td>(Optional) Show hosts with a successful authenticated vulnerability scan end date before a certain date and time. Specify the date in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2016-09-12” or “2016-09-12T23:15:00Z”.</td>
</tr>
</tbody>
</table>
| `vm_auth_scan_date_after={date}` | (Optional) Show hosts with a successful authenticated vulnerability scan end date after a certain date and time. Specify the date in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2016-09-12” or “2016-09-12T23:15:00Z”.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>scap_scan_since={date}</code></td>
<td>(Optional) Show hosts that were last scanned for SCAP since a certain date and time. Hosts that were the target of a SCAP scan since the date/time will be shown. This parameter is invalid for an Express Lite user. Valid date format is: YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2018-07-01” or “2018-01-25T23:12:00Z”.</td>
</tr>
<tr>
<td><code>no_scap_scan_since={date}</code></td>
<td>(Optional) Show hosts not scanned for SCAP since a certain date and time. This parameter is invalid for an Express Lite user. Valid date format is: YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2018-07-01” or “2018-01-25T23:12:00Z”.</td>
</tr>
</tbody>
</table>
Chapter 7 - Assets

Host List

Sample - List assets based on scan end date, scan processed date

API request:
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl"
"https://qualysapi.qualys.com/api/2.0/fo/asset/host/?action=list&
  truncation_limit=10&details=All/AGs&
  vm_scan_date_before=2017-09-14T06:32:15Z&
  vm_auth_scan_date_before=2017-09-14T06:32:15Z&
  vm_scan_date_after=2016-05-12T06:32:15Z&
  vm_auth_scan_date_after=2016-05-
```

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>use_tags={0</td>
<td>1}</td>
</tr>
<tr>
<td>tag_set_by={id</td>
<td>name}</td>
</tr>
<tr>
<td>tag_include_selector={any</td>
<td>all}</td>
</tr>
<tr>
<td>tag_exclude_selector={any</td>
<td>all}</td>
</tr>
<tr>
<td>tag_set_include={value}</td>
<td>(Optional when use_tags=1) Specify a tag set to include. Hosts that match these tags will be included. You identify the tag set by providing tag name or IDs. Multiple entries are comma separated.</td>
</tr>
<tr>
<td>tag_set_exclude={value}</td>
<td>(Optional when use_tags=1) Specify a tag set to exclude. Hosts that match these tags will be excluded. You identify the tag set by providing tag name or IDs. Multiple entries are comma separated.</td>
</tr>
<tr>
<td>show_tags={0</td>
<td>1}</td>
</tr>
<tr>
<td>host_metadata={value}</td>
<td>(Optional) Specify the name of the cloud provider to show the assets managed by that cloud provider, i.e. EC2. Note: Only supports fetching EC2 assets for now.</td>
</tr>
<tr>
<td>host_metadata_fields={value1,value2}</td>
<td>(Optional when host_metadata is specified) Specify the EC2 instance fields to fetch the data for. Data can be fetched for the following fields: accountId, region, availabilityZone, instanceId, instanceType, imageId, kernelId.</td>
</tr>
</tbody>
</table>
Chapter 7 - Assets
Host List

12T06:32:15Z&vm_processed_before=2017-09
scap_scan_since=2018-08-29

XML output:

...<HOST_LIST_OUTPUT>
  <RESPONSE>
    <HOST_LIST>
      <HOST>
        <ID>2872568</ID>
        <IP>10.10.25.182</IP>
        <TRACKING_METHOD>IP</TRACKING_METHOD>
        <NETBIOS><![CDATA[COM-REG-SLES102]]></NETBIOS>
        <OS><![CDATA[Linux 2.4-2.6 / Embedded Device / F5 Networks Big-IP / Linux 2.6]]></OS>
        <LAST_VULN_SCAN_DATETIME>2017-02-05T19:48:17Z</LAST_VULN_SCAN_DATETIME>
        <LAST_VM_SCANNED_DATE>2017-02-05T19:48:17Z</LAST_VM_SCANNED_DATE>
        <LAST_VM_SCANNED_DURATION>988</LAST_VM_SCANNED_DURATION>
        <LAST_VM_AUTH_SCANNED_DATE>2017-02-05T19:48:17Z</LAST_VM_AUTH_SCANNED_DATE>
        <LAST_VM_AUTH_SCANNED_DURATION>988</LAST_VM_AUTH_SCANNED_DURATION>
        <LAST_COMPLIANCE_SCAN_DATETIME>2016-10-09T16:23:26Z</LAST_COMPLIANCE_SCAN_DATETIME>
        <LAST_SCAP_SCAN_DATETIME>2018-08-29T08:44:54Z</LAST_SCAP_SCAN_DATETIME>
        <OWNER>utwrx_kg</OWNER>
        <COMMENTS><![CDATA[#RFDS#]]></COMMENTS>
        <USER_DEF>
          <VALUE_1><![CDATA[###$#R]]></VALUE_1>
          <VALUE_2><![CDATA[###RFESF#]]></VALUE_2>
          <VALUE_3><![CDATA[#RFE#]]></VALUE_3>
        </USER_DEF>
        <ASSET_GROUP_IDS>473828,474410,474821,475800,476176,477561,477562,477906,479441,485951,548754,549447,553596,553598,558368,568715,572525,573976,573983,573985,607336,833161,891118,957062,1077977,1311813,1604575,1642904</ASSET_GROUP_IDS>
      </HOST>
    ...
  </HOST_LIST>
</HOST_LIST_OUTPUT>
Sample - List scanned assets with certain EC2 metadata

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X POST "action=list&details=All&host_metadata=ec2&host_metadata_fields=region,accountId,instanceId" "https://qualysapi.qualys.com/api/2.0/fo/asset/host/"

XML output:

<!DOCTYPE HOST_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/asset/host/host_list_output.dtd">
<HOST_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2017-04-15T09:50:46Z</DATETIME>
    <HOST_LIST>
      <HOST>
        <ID>135151</ID>
        <IP>10.97.5.247</IP>
        <TRACKING_METHOD>EC2</TRACKING_METHOD>
        <DNS><![CDATA[i-0bb87c3281243cdfd]]></DNS>
        <EC2_INSTANCE_ID><![CDATA[i-0bb87c3281243cdfd]]></EC2_INSTANCE_ID>
        <OS><![CDATA[Amazon Linux 2016.09]]></OS>
        <METADATA>
          <EC2>
            <ATTRIBUTE>
              <NAME><![CDATA[latest/dynamic/instance-identity/document/region]]></NAME>
              <LAST_STATUS>Success</LAST_STATUS>
              <VALUE><![CDATA[us-east-1]]></VALUE>
              <LAST_SUCCESS_DATE>2017-03-21T13:39:38Z</LAST_SUCCESS_DATE>
              <LAST_ERROR_DATE></LAST_ERROR_DATE>
              <LAST_ERROR></LAST_ERROR>
            </ATTRIBUTE>
            <ATTRIBUTE>
              <NAME><![CDATA[latest/dynamic/instance-identity/document/accountId]]></NAME>
              <LAST_STATUS>Success</LAST_STATUS>
              <VALUE><![CDATA[205767712438]]></VALUE>
              <LAST_SUCCESS_DATE>2017-03-21T13:39:38Z</LAST_SUCCESS_DATE>
              <LAST_ERROR_DATE></LAST_ERROR_DATE>
              <LAST_ERROR></LAST_ERROR>
            </ATTRIBUTE>
          </EC2>
        </METADATA>
      </HOST>
    </HOST_LIST>
  </RESPONSE>
</HOST_LIST_OUTPUT>
Sample - Record Limit Exceeded Warning

In this case 1,000 host records are included in the XML output and the Warning message (shown below) indicates the URL you need to use to request the next 1,000 host records.

```xml
<RESPONSE>
...</RESPONSE>
```

```xml
<WARNING>
  <CODE>1980</CODE>
  <TEXT>1000 record limit exceeded. Use URL to get next batch of results.</TEXT>
  <URL><![CDATA[https://qualysapi.qualys.com/api/2.0/fo/asset/host/?action=list&id_min=2400356]]></URL>
</WARNING>
```

```
<RESPONSE>
...
```

DTD

```xml
<platform API server>/api/2.0/fo/asset/host/host_list_output.dtd
```
Host List Detection

/api/2.0/fo/asset/host/vm/detection/

[GET]  [POST]

Download a list of hosts with the hosts latest vulnerability data, based on the host based scan data available in the user’s account. This data brings a lot of value to customers because they provide the latest complete vulnerability status for the hosts (NEW, ACTIVE, FIXED, REOPENED) and history information.

Permissions - Managers view all VM scanned hosts in subscription. Auditors have no permission to view VM scanned hosts. Unit Managers view VM scanned hosts in user’s business unit. Scanners and Readers view VM scanned hosts in user’s account.

Express Lite - This API is available to Express Lite users.

Input Parameters

The input parameter action=list is required. All other input parameters are optional. Several filtering parameters are provided for filtering hosts and QIDs. When multiple filter parameters are specified, the service combines the effects of all the parameters in a way that corresponds to a logical “AND”. So if two filter parameters are specified in the request, the service returns hosts that match both filters.

Quick Links: Detection Filters Host Filters | Detection Filters Host Filters | QID Filters | Asset tags | EC2 metadata | Detection Timestamp

API Request

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
</tbody>
</table>
## Detection Filters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request=[0</td>
<td>1]</td>
</tr>
<tr>
<td>show_results=[0</td>
<td>1]</td>
</tr>
<tr>
<td>show_reopened_info=[0</td>
<td>1]</td>
</tr>
<tr>
<td>arf_kernel_filter=[0</td>
<td>1</td>
</tr>
</tbody>
</table>
### Parameter: `arf_service_filter`  
(Optional) Identify vulnerabilities found on running or non-running ports/services.

- When unspecified, vulnerabilities are not filtered based on running ports/services. `<AFFECT_RUNNING_SERVICE>` does not appear in the output.
- When set to 0, vulnerabilities are not filtered based on running ports/services. `<AFFECT_RUNNING_SERVICE>` appears in the output for service related vulnerabilities.
- When set to 1, exclude service related vulnerabilities that are exploitable (found on running ports/services). `<AFFECT_RUNNING_SERVICE>` appears in the output for service related vulnerabilities that have a value of 1.
- When set to 2, only include service related vulnerabilities that are exploitable (found on running ports/services). `<AFFECT_RUNNING_SERVICE>` appears in the output with a value of 0 for each detection.
- When set to 3, only include service related vulnerabilities that are not exploitable (found on non-running ports/services). `<AFFECT_RUNNING_SERVICE>` appears in the output with a value of 1 for each detection.
- When set to 4, only include service related vulnerabilities. `<AFFECT_RUNNING_SERVICE>` appears in the output with a value of 0 or 1 for each detection.

### Parameter: `arf_config_filter`  
(Optional) Identify vulnerabilities that may or may not be exploitable due to the current host configuration.

- When unspecified, vulnerabilities are not filtered based on host configuration. `<AFFECT_EXPLOITABLE_CONFIG>` does not appear in the output.
- When set to 0, vulnerabilities are not filtered based on host configuration. `<AFFECT_EXPLOITABLE_CONFIG>` appears in the output for config related vulnerabilities.
- When set to 1, exclude vulnerabilities that are exploitable due to host configuration. `<AFFECT_EXPLOITABLE_CONFIG>` appears in the output for config related detections that have a value of 1.
- When set to 2, only include config related vulnerabilities that are exploitable. `<AFFECT_EXPLOITABLE_CONFIG>` appears in the output with a value of 0 for each detection.
- When set to 3, only include config related vulnerabilities that are not exploitable. `<AFFECT_EXPLOITABLE_CONFIG>` appears in the output with a value of 1 for each detection.
- When set to 4, only include config related vulnerabilities. `<AFFECT_EXPLOITABLE_CONFIG>` appears in the output with a value of 0 or 1 for each detection.
Chapter 7 - Assets
Host List Detection

Optional) Identify vulnerabilities related to running and non-running kernels in the output in the tag <AFFECT_RUNNING KERNEL>.

Good to Know - It’s possible that multiple kernels are detected on a single Linux host. You’ll notice the scan results report the running kernel on each Linux host in Information Gathered QID 45097.

When unspecified, vulnerabilities are not filtered based on kernel activity. <AFFECT_RUNNING_KERNEL> does not appear in the output for kernel related vulnerabilities.

When set to 0, vulnerabilities are not filtered based on kernel activity. <AFFECT_RUNNING_KERNEL> appears in the output for kernel related vulnerabilities.

When set to 1, exclude vulnerabilities found on non-running Linux kernels. <AFFECT_RUNNING_KERNEL> appears in the output for kernel related vulnerabilities.

When set to 2, only include vulnerabilities found on non-running Linux kernels. <AFFECT_RUNNING_KERNEL> appears in the output with a value of 0 for all vulnerabilities.

When set to 3, only include vulnerabilities found on running Linux kernels. <AFFECT_RUNNING_KERNEL> appears in the output with a value of 1 for all vulnerabilities.

Note that active_kernels_only is deprecated and will be removed in a future release. Please use arf_kernel_filter instead.

(output_format={XML|CSV|CSV_NO_METADATA}) (Optional) Specifies the format of the host detection list output. When not specified, the output format is XML. A valid value is XML, CSV, or CSV_NO_METADATA.

XML (default). Specifies XML format for the output.

CSV. Specifies CSV format for the output. The output is structured in these sections: HEADER_CSV (lists input parameters specified during the list request if echo_request=1 is also specified), BODY_CSV (lists host records matching filters) and FOOTER_CSV (lists status messages and truncation details, if applicable).

CSV_NO_METADATA. Specifies CSV format for the output with no metadata. In this case, the output will not be structured with header, body and footer sections, and will not indicate whether the list is truncated.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
</table>
| active_kernels_only=| Optional) Identify vulnerabilities related to running and non-running kernels in the output in the tag <AFFECT_RUNNING_KERNEL>.

Good to Know - It’s possible that multiple kernels are detected on a single Linux host. You’ll notice the scan results report the running kernel on each Linux host in Information Gathered QID 45097.

When unspecified, vulnerabilities are not filtered based on kernel activity. <AFFECT_RUNNING_KERNEL> does not appear in the output for kernel related vulnerabilities.

When set to 0, vulnerabilities are not filtered based on kernel activity. <AFFECT_RUNNING_KERNEL> appears in the output for kernel related vulnerabilities.

When set to 1, exclude vulnerabilities found on non-running Linux kernels. <AFFECT_RUNNING_KERNEL> appears in the output for kernel related vulnerabilities.

When set to 2, only include vulnerabilities found on non-running Linux kernels. <AFFECT_RUNNING_KERNEL> appears in the output with a value of 0 for all vulnerabilities.

When set to 3, only include vulnerabilities found on running Linux kernels. <AFFECT_RUNNING_KERNEL> appears in the output with a value of 1 for all vulnerabilities.

Note that active_kernels_only is deprecated and will be removed in a future release. Please use arf_kernel_filter instead. |
### suppress_duplicated_data_from_csv={0|1}

(Optional) By default or when set to 0, host details will be repeated in each line of detection information in the CSV output. When set to 1, host details will not be repeated (suppressed) in each detection line.

This parameter must be specified with:
output_format=CSV or
output_format=CSV_NO_METADATA.

### truncation_limit={value}

(Optional) Specifies the maximum number of host records processed per request. When not specified, the truncation limit is set to 1000 host records. You may specify a value less than the default (1-999) or greater than the default (1001-1000000). Specify 0 for no truncation limit.

If the requested list identifies more host records than the truncation limit and output_format=XML, then the XML output includes the <WARNING> element and the URL for making another request for the next batch of host records.

If the requested list identifies more host records than the truncation limit and output_format=CSV, then the CSV output includes “Truncated” in the FOOTER_CSV section and the URL for making another request for the next batch of host records.

Check API samples (2, 4, 16)
Qualys API - Host List Detection API samples (GitHub)

### max_days_since_detection_updated={value}

(Optional) Show only detections whose detection status changed since some maximum number of days you specify. For detections that have never changed the maximum number of days is applied to the last detection date.

One of these parameters may be specified in the same request: detection_updated_since, max_days_since_detection_updated
**Parameter**

**detection_updated_since={value}**

(Optional) Show only detections whose detection status changed after a certain date and time. For detections that have never changed the date is applied to the last detection date. Valid date format is: YYYY-MMDD[THH:MM:SSZ] format (UTC/GMT), like “2017-02-15” or “2017-02-15T23:15:00Z”.

Tip: You can use this parameter in conjunction with the detection_updated_before parameter to limit the detections shown to a specific date range.

One of these parameters may be specified in the same request: detection_updated_since, max_days_since_detection_updated

**detection_updated_before={value}**

(Optional) Show only detections whose detection status changed before a certain date and time. Valid date format is: YYYY-MMDD[THH:MM:SSZ] format (UTC/GMT), like “2017-02-15” or “2017-02-15T23:15:00Z”.

Tip: You can use this parameter in conjunction with the detection_updated_since parameter to limit the detections shown to a specific date range.

One of these parameters may be specified in the same request: detection_updated_since, max_days_since_detection_updated

**detection_processed_before={date}**

(Optional) Show detections with vulnerability scan results processed before a certain date and time. Specify the date in YYYY-MMDD[THH:MM:SSZ] format (UTC/GMT), like “2016-09-12” or “2016-09-12T23:15:00Z”.

**detection_processed_after={date}**

(Optional) Show detections with vulnerability scan results processed after a certain date and time. Specify the date in YYYY-MMDD[THH:MM:SSZ] format (UTC/GMT), like “2016-09-12” or “2016-09-12T23:15:00Z”.
### Host List Detection

- **detection_last_tested_since={date}**
  - (Optional) Show only detections that were last tested on or after a certain date and time. Valid date format is: YYYYMM-DD[THH:MM:SSZ] format (UTC/GMT), like "2018-07-01" or "2018-01-25T23:12:00Z".
  - You can use this parameter in conjunction with detection_last_tested_before or detection_last_tested_before_days to limit the detections shown to a date range.
  - This parameter cannot be specified in the same request as detection_last_tested_since_days.

- **detection_last_tested_since_days={value}**
  - (Optional) Show only detections that were last tested within the number of days you specify. For example, show detections last tested in the past 10 days.
  - You can use this parameter in conjunction with detection_last_tested_before or detection_last_tested_before_days to limit the detections shown to a specific date range.
  - This parameter cannot be specified in the same request as detection_last_tested_since.

- **detection_last_tested_before={date}**
  - (Optional) Show only detections that were last tested before a certain date and time. Valid date format is: YYYYMM-DD[THH:MM:SSZ] format (UTC/GMT), like "2018-07-01" or "2018-01-25T23:12:00Z".
  - You can use this parameter in conjunction with detection_last_tested_since or detection_last_tested_since_days to limit the detections shown to a specific date range.
  - This parameter cannot be specified in the same request as detection_last_tested_before_days.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>detection_last_tested_before_days={value}</td>
<td>(Optional) Show only detections that were last tested before the number of days you specify. For example, show detections last tested more than 30 days ago.</td>
</tr>
<tr>
<td></td>
<td>You can use this parameter in conjunction with detection_last_tested_since or detection_last_tested_since_days to limit the detections shown to a specific date range.</td>
</tr>
<tr>
<td></td>
<td>This parameter cannot be specified in the same request as detection_last_tested_before.</td>
</tr>
<tr>
<td>include_ignored={0</td>
<td>1}</td>
</tr>
<tr>
<td>include_disabled={0</td>
<td>1}</td>
</tr>
</tbody>
</table>
### Host Filters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ids={value}</td>
<td>(Optional) Show only certain host IDs/ranges. One or more host IDs/ranges may be specified. Multiple entries are comma separated. A host ID range is specified with a hyphen (for example: 190-400). Valid host IDs are required.</td>
</tr>
<tr>
<td>id_min={value}</td>
<td>(Optional) Show only hosts which have a minimum host ID value.</td>
</tr>
<tr>
<td>id_max={value}</td>
<td>(Optional) Show only hosts which have a maximum host ID value. A valid host ID is required.</td>
</tr>
<tr>
<td>ips={value}</td>
<td>(Optional) Show only certain IP addresses/ranges. One or more IPs/ranges may be specified. Multiple entries are comma separated. An IP range is specified with a hyphen (for example: 10.10.10.1-10.10.10.100).</td>
</tr>
<tr>
<td>ag_ids={value}</td>
<td>(Optional) Show only hosts belonging to asset groups with certain IDs. One or more asset group IDs and/or ranges may be specified. Multiple entries are comma separated. A range is specified with a dash (for example: 386941-386945). Valid asset group IDs are required.</td>
</tr>
<tr>
<td>ag_titles={value}</td>
<td>(Optional) Show only hosts belonging to asset groups with certain strings in the asset group title. One or more asset group titles may be specified. Multiple entries are comma separated (for example, My+First+Asset+Group,Another+Asset+Group).</td>
</tr>
<tr>
<td>network_ids={value}</td>
<td>(Optional, and valid only when the Network Support feature is enabled for the user’s account) Restrict the request to certain custom network IDs. Multiple network IDs are comma separated.</td>
</tr>
<tr>
<td>vm_scan_since={date}</td>
<td>(Optional) Show hosts scanned and processed since a certain date and time (optional). The date/time is specified in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2007-07-01” or “2007-01-25T23:12:00Z”.</td>
</tr>
<tr>
<td>no_vm_scan_since={date}</td>
<td>(Optional) Show hosts not scanned and processed since a certain date and time (optional). The date/time is specified in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2007-07-01” or “2007-01-25T23:12:00Z”.</td>
</tr>
</tbody>
</table>

The ag_ids and ag_titles parameters are mutually exclusive and cannot be specified together in the same request.
### Parameter Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>max_days_since_last_vm_scan={value}</td>
<td>(Optional) Show only hosts scanned and processed in the past number of days, where the value is a number of days. This parameter cannot be specified with any of these parameters in the same request: vm_scan_since and no_vm_scan_since.</td>
</tr>
<tr>
<td>vm_processed_before={date}</td>
<td>(Optional) Show hosts with vulnerability scan results processed before a certain date and time. Specify the date in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2016-09-12” or “2016-09-12T23:15:00Z”.</td>
</tr>
<tr>
<td>vm_processed_after={date}</td>
<td>(Optional) Show hosts with vulnerability scan results processed after a certain date and time. Specify the date in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2016-09-12” or “2016-09-12T23:15:00Z”.</td>
</tr>
<tr>
<td>vm_scan_date_before=date</td>
<td>(Optional) Show hosts with a vulnerability scan end date before a certain date and time. Specify the date in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2016-09-12” or “2016-09-12T23:15:00Z”.</td>
</tr>
<tr>
<td>vm_scan_date_after={date}</td>
<td>(Optional) Show hosts with a vulnerability scan end date after a certain date and time. Specify the date in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2016-09-12” or “2016-09-12T23:15:00Z”.</td>
</tr>
<tr>
<td>vm_auth_scan_date_before={date}</td>
<td>(Optional) Show hosts with a successful authenticated vulnerability scan end date before a certain date and time. Specify the date in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2016-09-12” or “2016-09-12T23:15:00Z”.</td>
</tr>
<tr>
<td>vm_auth_scan_date_after={date}</td>
<td>(Optional) Show hosts with a successful authenticated vulnerability scan end date after a certain date and time. Specify the date in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2016-09-12” or “2016-09-12T23:15:00Z”.</td>
</tr>
<tr>
<td>status={value}</td>
<td>(Optional) Show only hosts with one or more of these status values: New, Active, Re-Opened, Fixed. Multiple status values are entered as a comma-separated list. If this parameter is not passed to the API, by default, the output contains detections with New, Active or Re-Opened &lt;STATUS&gt; only. To get hosts with Fixed status, check this API sample Qualys API - Host List Detection API samples (GitHub, sample 11)</td>
</tr>
</tbody>
</table>

---

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**Parameter** | **Description**
--- | ---
compliance_enabled={0|1}  | (Optional) This parameter is valid only when the policy compliance module is enabled for the user account. This parameter is invalid for an Express Lite user. Specify 1 to list compliance hosts in the user’s account that have been scanned and processed. These hosts are assigned to the policy compliance module. Specify 0 to list scanned hosts which are not assigned to the policy compliance module.

os_pattern={expression}  | (Optional) Show only hosts which have an operating system matching a certain regular expression. An empty value cannot be specified. Use “%5E%24” to match empty string.

Important: The regular expression string you enter must follow the PCRE standard and it must be URL encoded.

Sample regular expression strings for matching OS names:
Qualys API - Host List Detection API samples (GitHub, see sample 17)

For information about the Perl Compatible Regular Expressions (PCRE) standard visit:

For the PCRE syntax, see:

# QID Filters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>qids={value}</td>
<td>(Optional) Show only detection records with certain QIDs. One or more QIDs may be specified. A range is specified with a dash (for example: 68518-68522). Multiple entries are comma separated. Valid QIDs are required.</td>
</tr>
<tr>
<td>severities={value}</td>
<td>(Optional) Show only detection records which have certain severities. One or more levels may be specified. A range is specified with a dash (for example: 1-3). Multiple entries are comma separated.</td>
</tr>
<tr>
<td>show_igs={0</td>
<td>1}</td>
</tr>
<tr>
<td></td>
<td>The show_igs parameter is required in one use case. The parameter show_igs=1 must be specified if both these conditions are met: 1) search lists are included using the parameter include_search_list_titles or include_search_list_ids, and 2) if the included search lists contain only information gathered.</td>
</tr>
<tr>
<td>include_search_list_titles={value}</td>
<td>(Optional) Show detection records only when a record’s QID is INCLUDED IN one or more of the specified search list titles. One or more titles may be specified. Multiple titles are comma separated.</td>
</tr>
<tr>
<td></td>
<td>This parameter cannot be specified with any of these parameters in the same request: qids, severities or include_search_list_ids.</td>
</tr>
<tr>
<td>exclude_search_list_titles={value}</td>
<td>(Optional) Show detection records only when a record’s QID is IS EXCLUDED from one or more of the specified search list titles. One or more titles may be specified. Multiple titles are comma separated.</td>
</tr>
<tr>
<td></td>
<td>This parameter cannot be specified with any of these parameters in the same request: qids, severities or exclude_search_list_ids.</td>
</tr>
<tr>
<td>include_search_list_ids={value,value...}</td>
<td>(Optional) Show detection records only when a record’s QID IS INCLUDED in one or more of the specified search list titles. One or more IDs may be specified. A range is specified with a dash (for example: 10-15). Multiple entries are comma separated.</td>
</tr>
<tr>
<td></td>
<td>This parameter cannot be specified with any of these parameters in the same request: qids, severities or include_search_list_titles.</td>
</tr>
</tbody>
</table>
### Chapter 7 - Assets

#### Host List Detection

**Parameter**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>exclude_search_list_ids= {value,value...}</td>
<td>(Optional) Show detection records only when a record's QID IS EXCLUDED from one or more of the specified search list titles. One or more IDs may be specified. A range is specified with a dash (for example: 40-42). Multiple entries are comma separated. This parameter cannot be specified with any of these parameters in the same request: qids, severities or exclude_search_list_titles.</td>
</tr>
</tbody>
</table>

**Asset tags**

**Parameter**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>use_tags={0,1}</td>
<td>(Optional) Specify 0 (the default) if you want to select hosts based on IP addresses/ranges and/or asset groups. Specify 1 if you want to select hosts based on asset tags.</td>
</tr>
<tr>
<td>tag_set_by={id,name}</td>
<td>(Optional when use_tags=1) Specify “id” (the default) to select a tag set by providing tag IDs. Specify “name” to select a tag set by providing tag names.</td>
</tr>
<tr>
<td>tag_include_selector= {any,all}</td>
<td>(Optional when use_tags=1) Select “any” (the default) to include hosts that match at least one of the selected tags. Select “all” to include hosts that match all of the selected tags.</td>
</tr>
<tr>
<td>tag_exclude_selector= {any,all}</td>
<td>(Optional when use_tags=1) Select “any” (the default) to exclude hosts that match at least one of the selected tags. Select “all” to exclude hosts that match all of the selected tags.</td>
</tr>
<tr>
<td>tag_set_include= value</td>
<td>(Optional when use_tags=1) Specify a tag set to include. Hosts that match these tags will be included. You identify the tag set by providing tag name or IDs. Multiple entries are comma separated.</td>
</tr>
<tr>
<td>tag_set_exclude= value</td>
<td>(Optional when use_tags=1) Specify a tag set to exclude. Hosts that match these tags will be excluded. You identify the tag set by providing tag name or IDs. Multiple entries are comma separated.</td>
</tr>
<tr>
<td>show_tags={0,1}</td>
<td>(Optional) Specify 1 to display asset tags associated with each host in the XML output.</td>
</tr>
</tbody>
</table>
### EC2 metadata

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>host_metadata={value}</td>
<td>(Optional) Specify the name of the cloud provider to show the assets managed by that cloud provider, i.e. EC2. Note: Only supports fetching EC2 assets for now.</td>
</tr>
<tr>
<td>host_metadata_fields={value1,value2}</td>
<td>(Optional when host_metadata is specified) Specify the EC2 instance fields to fetch the data for. Data can be fetched for the following fields: accountId, region, availabilityZone, instanceId, instanceType, imageId, kernelId.</td>
</tr>
</tbody>
</table>

### Detection Timestamp

Use these parameters to view various timestamp values in the output.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAST_SCAN_DATETIME={date}</td>
<td>The date and time of the most recent vulnerability scan of the asset.</td>
</tr>
<tr>
<td>LAST_VM_SCANNED_DATE={date}</td>
<td>The scan end date/time for the most recent unauthenticated vulnerability scan of the asset.</td>
</tr>
<tr>
<td>LAST_VM_SCANNED_DURATION={date}</td>
<td>The scan duration (in seconds) for the most recent unauthenticated vulnerability scan of the asset.</td>
</tr>
<tr>
<td>LAST_VM_AUTH_SCANNED_DATE={date}</td>
<td>The scan end date/time for the last successful authenticated vulnerability scan of the asset.</td>
</tr>
<tr>
<td>LAST_VM_AUTH_SCANNED_DURATION={date}</td>
<td>The scan duration (in seconds) for the last successful authenticated vulnerability scan of the asset.</td>
</tr>
<tr>
<td>LAST_PC_SCANNED_DATE={date}</td>
<td>The scan end date/time for the most recent compliance scan on the asset.</td>
</tr>
<tr>
<td>FIRST_FOUND_DATETIME={date}</td>
<td>The date/time when the vulnerability was first found.</td>
</tr>
<tr>
<td>LAST_FOUND_DATETIME={date}</td>
<td>The most recent date/time when the vulnerability was found.</td>
</tr>
<tr>
<td>LAST_TEST_DATETIME={date}</td>
<td>The most recent date/time when the vulnerability was tested.</td>
</tr>
<tr>
<td>LAST_UPDATE_DATETIME={date}</td>
<td>The most recent date/time when the detection record was updated.</td>
</tr>
<tr>
<td>LAST_FIXED_DATETIME={date}</td>
<td>The date/time when the vulnerability was verified fixed by a scan.</td>
</tr>
</tbody>
</table>
Keep Alive Mechanism

The service uses a “keep alive” mechanism to maintain an open connection to the Qualys server for the duration of the host detection list API request. To keep the connection alive, the service sends some “dummy” data back to the client every 30 to 40 seconds if no “real” data has been sent already by the API during that time.

In XML output, this “dummy” data appears as a “<!-- keep-alive -->” line (since comments should be safely ignored by downstream XML parsers).

In CSV and CSV_NO_METADATA output, this “dummy” data appears as a <CR><LF> (carriage return, linefeed) pair (since empty lines clearly do not contain any CSV data).

Sample - List VM scanned hosts

API request:

```bash
curl -u "username:password" -H "X-Requested-With: curl"
 "https://qualysapi.qualys.com/api/2.0/fo/asset/host/vm/detection/?
 action=list"
```

XML output:

```xml
<HOST_LIST_VM_DETECTION_OUTPUT>
 <RESPONSE>
  <DATETIME>2018-04-26T11:25:58Z</DATETIME>
  <HOST_LIST>
   <HOST>
    <ID>6506432</ID>
    <IP>10.10.10.11</IP>
    <TRACKING_METHOD>IP</TRACKING_METHOD>
    <OS><![CDATA[Windows 2008 R2 Enterprise Service Pack 1]]></OS>
    <DNS><![CDATA[2k8r2-u-10-11]]></DNS>
    <NETBIOS><![CDATA[2K8R2-U-10-11]]></NETBIOS>
    <LAST_SCAN_DATETIME>2018-04-13T03:49:05Z</LAST_SCAN_DATETIME>
    <LAST_VM_SCANNED_DATE>2018-04-13T03:48:50Z</LAST_VM_SCANNED_DATE>
    <LAST_VM_SCANNED_DURATION>352</LAST_VM_SCANNED_DURATION>
    <DETECTION_LIST>
     <DETECTION>
      <QID>38170</QID>
      <TYPE>Confirmed</TYPE>
      <SEVERITY>2</SEVERITY>
      <PORT>3389</PORT>
      <PROTOCOL>tcp</PROTOCOL>
      <SSL>1</SSL>
      <RESULTS><![CDATA[Certificate #0 CN=2k8r2-u-10-11 (2k8r2-u-10-11) doesn't resolve]]></RESULTS>
     </DETECTION>
    </DETECTION_LIST>
   </HOST>
  </HOST_LIST>
 </RESPONSE>
</HOST_LIST_VM_DETECTION_OUTPUT>
```
<STATUS>Active</STATUS>
<FIRST_FOUND_DATETIME>2018-01-26T04:45:50Z</FIRST_FOUND_DATETIME>
<LAST_FOUND_DATETIME>2018-04-13T03:48:50Z</LAST_FOUND_DATETIME>
<TIMES_FOUND>111</TIMES_FOUND>
<LAST_TEST_DATETIME>2018-04-13T03:48:50Z</LAST_TEST_DATETIME>
<LAST_UPDATE_DATETIME>2018-04-13T03:49:05Z</LAST_UPDATE_DATETIME>
<IS_IGNORED>0</IS_IGNORED>
<IS_DISABLED>0</IS_DISABLED>
<LAST_PROCESSED_DATETIME>2018-04-13T03:49:05Z</LAST_PROCESSED_DATETIME>
</DETECTION>

<DETECTION>
<QID>38173</QID>
<TYPE>Confirmed</TYPE>
<SEVERITY>2</SEVERITY>
<PORT>3389</PORT>
<PROTOCOL>tcp</PROTOCOL>
<SSL>1</SSL>
<RESULTS><![CDATA[Certificate #0 CN=2k8r2-u-10-11 unable to get local issuer certificate]]></RESULTS>
<STATUS>Active</STATUS>
<FIRST_FOUND_DATETIME>2018-01-26T04:45:50Z</FIRST_FOUND_DATETIME>
<LAST_FOUND_DATETIME>2018-04-13T03:48:50Z</LAST_FOUND_DATETIME>
<TIMES_FOUND>111</TIMES_FOUND>
<LAST_TEST_DATETIME>2018-04-13T03:48:50Z</LAST_TEST_DATETIME>
<LAST_UPDATE_DATETIME>2018-04-13T03:49:05Z</LAST_UPDATE_DATETIME>
<IS_IGNORED>0</IS_IGNORED>
<IS_DISABLED>0</IS_DISABLED>
<LAST_PROCESSED_DATETIME>2018-04-13T03:49:05Z</LAST_PROCESSED_DATETIME>
</DETECTION>

<DETECTION>
<QID>38601</QID>
<TYPE>Confirmed</TYPE>
<SEVERITY>2</SEVERITY>
<PORT>3389</PORT>
<PROTOCOL>tcp</PROTOCOL>
A truncated response is returned when the API request returns more host records than the truncation limit. In this sample, the truncation limit is set to 100 host records.

**API request:**
```
curl -u "username:password" -H "X-Requested-With: curl"
"https://qualysapi.qualys.com/api/2.0/fo/asset/host/vm/detection/?
action=list&truncation_limit=100"
```

The Warning message in the XML output (shown below) indicates the URL you need to use to request the next 100 host records.

**XML output:**
```
...</DETECTION>
</DETECTION_LIST>
</HOST>
</HOST_LIST>
</RESPONSE>
</HOST_LIST_VM_DETECTION_OUTPUT>>
<WARNING>
  <CODE>1980</CODE>
  <TEXT>100 record limit exceeded. Use URL to get next batch of results.</TEXT>
</WARNING>

<URL><![CDATA[https://qualysapi.qualys.com/api/2.0/fo/asset/host/vm/detection/?action=list&truncation_limit=100&id_min=5641289]]></URL>

</WARNING>
</RESPONSE>
</HOST_LIST_VM_DETECTION_OUTPUT>

More Samples
Qualys API - Host List Detection API samples  (GitHub)

DTD
<platform API server>/api/2.0/fo/asset/host/vm/detection/
host_list_vm_detection_output.dtd

Host List Detection - Normalized Data

Qualys normalizes the vulnerability scan results into the database using a complex and sophisticated process. This mechanism generates what is called the vulnerability "host based" scan results. Normalized data brings a lot of value to customers because they provide the latest complete vulnerability status for the hosts (NEW, ACTIVE, FIXED, REOPENED) and history information. Normalized data is completely independent of scan results and option profiles, as shown in the diagram below.

The Qualys database stores automatic data for VM scanned hosts. For each of these hosts there can be multiple detection records.
What is a VM Scanned Host? A VM scanned host is a host that has been successfully scanned by the Qualys VM service for vulnerabilities. Note that a host is considered successfully scanned when it was included as a scan target, the scan was launched and it completed successfully.

What is a Detection Record? A detection record is a unique instance of a discovered vulnerability for a given host. It identifies the host IP address, QID, port, service, FQDN and SSL flag (whether the vulnerability was detected over SSL).

**Host List Detection - Use Cases**

The host detection API is often used in conjunction with other information that can be downloaded using other Qualys APIs.

**Create Custom Technical Reports with vulnerability details**

Technical reports need additional information for each vulnerability such as the description, solution, threat or impact. The detection API provides the QID for each vulnerability found for an asset. The QID is a unique ID that references a vulnerability within the Qualys KnowledgeBase.

Use the following workflow to create custom technical reports:

**Step 1** - Use the host list detection API to return “host based” vulnerability data for hosts in your account.

**Step 2** - Use the KnowledgeBase API (/api/2.0/fo/knowledge_base/vuln/?action=list) to obtain vulnerability data, such as the vulnerability description, threat and impact. It’s possible to make a request for all vulnerabilities (QIDs) in the KnowledgeBase or just a specific vulnerability.

For example, to make a request for QID 90082 use the following URL:

```
https://qualysapi.qualys.com/api/2.0/fo/knowledge_base/vuln/?action=list&ids=90082
```

where “qualysapi.qualys.com” is the name of the API server where your account is located (in this case US Platform 1).

**Step 3** - Correlate the vulnerability information in the third party application using the QID number provided in the <QID> XML output which is returned by the host detection API (Step 1) and the KnowledgeBase API (Step 2).

A typical integration would be to create tables in a database for the XML output from both Qualys API functions and use QID as a key for a join. This way it would be possible to create queries that will provide all the vulnerabilities for a given set of hosts (according to custom search criteria) and their descriptions.
Get All PCI Vulnerabilities

Step 1 - First you need to create a dynamic search list titled “PCI Vulns” using the Qualys user interface. When creating the dynamic search list, select the PCI option next to Compliance Type as shown below.

Step 2 - Create an asset group titled “PCI Hosts” containing the hosts which are in scope for PCI compliance.

Step 3 - Make the following host list detection API request using the asset group title “PCI Hosts” and the search list title “PCI Vulns”:

https://qualysapi.qualys.com/api/2.0/fo/asset/host/vm/detection/?action=list&ag_titles=PCI+Hosts&include_search_list_titles=PCI+Vulns

where “qualysapi.qualys.com” is the name of the API server where your account is located (in this case US Platform 1).

Host List Detection - Best Practices

Some background

When API calls are done to pull large sets of data, the backend will process data by streaming that information in batches to ensure data integrity and preventing overloading the backend services. That means that there will be brief periods of speeds declining while the next batch is being retrieved and processed to stream back to the client. However, the overall speed averages itself out in the long run.

You also need to keep in mind the contributing factors that could impact performance on a shared resource. Such as performing data pulls during peak usage, which will hit congestion and speeds will not be as fast as those conducted during off peak hours. There are also additional factors from the use of optional parameters used in API calls that do extra processing before streaming the data, active_kernels_only being an example.

Multi-Threading

We have been, and will continue to innovate and re-architect the capabilities of processing large amount of encrypted data for streaming through API to scale to our customers needs. While being able to provide customers with all of their Vulnerability information as quickly as possible is a primary focal point, it should be innovated in such a way that keeps data integrity in the forefront of every release. To do this, it takes time, effort, and
dedicated resources to ensure full testing is done to account for all aspects. With that in mind, the use of automation, threading, and parallelism are techniques to that can assist with increasing performance with data pulls.

While fetching host information in an automated fashion, you can make use of multi-threading to collect data in batch sizes for optimum performance.

Maximum benefit has seen when the batch size is set evenly throughout the number of parallel threads used. For example, a host detection call resulting in a return of 100k assets, and using 10 threads in parallel, would benefit the most by using a batch size of \((100,000 / 10) = 10,000\). To reduce having one thread slow down the entire process by hitting a congested server, you can break this out further into batches of 5,000 hosts, resulting in 20 output files.

Looking for help? Check our examples here

**Qualys API - Host List Detection API samples - Multithreading** (GitHub)

### Excluded Host List

/\api/2.0/fo/asset/excluded_ip/?action=list

[GET] [POST]

Show the excluded host list for the user’s account. Hosts in your excluded host list will not be scanned.

Permissions - Managers, Auditors view all excluded hosts in subscription. Unit Managers view excluded hosts in their own business unit. Scanners, Readers view excluded hosts in their account.

Express Lite - This API is available to Express Lite users.

#### Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request=[0</td>
<td>1]</td>
</tr>
<tr>
<td>ips={value}</td>
<td>(Optional) Show only certain excluded IP addresses/ranges. When unspecified, all excluded IPs/ranges in your account will be listed. One or more IPs/ranges may be specified. Multiple entries are comma separated. An IP range is specified with a hyphen (for example, 10.10.24.1-10.10.24.20).</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>network_id={value}</td>
<td>(Optional and valid only when the Network Support feature is enabled for the user’s account) Restrict the request to a certain custom network ID. You might need to use this parameter to get the excluded host list you’re interested in. See User Scenarios to know more about the behavior of this parameter.</td>
</tr>
</tbody>
</table>

**Asset Groups**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ag_ids={value}</td>
<td>(Optional and valid only when the Network Support feature is enabled for the user’s account) Restrict the request to a certain custom network ID. You might need to use this parameter to get the excluded host list you’re interested in.</td>
</tr>
<tr>
<td>ag_titles={value}</td>
<td>(Optional) Show excluded hosts belonging to asset groups with certain strings in the asset group title. One or more asset group titles may be specified. Multiple entries are comma separated (for example, My+First+Asset+Group,Another+Asset+Group). These parameters are mutually exclusive and cannot be specified together: ag_ids and ag_titles.</td>
</tr>
</tbody>
</table>

**Asset Tags**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>use_tags={0</td>
<td>1}</td>
</tr>
<tr>
<td>tag_include_selector=</td>
<td>(Optional when use_tags=1) Specify &quot;any&quot; (the default) to include excluded hosts that match at least one of the selected tags. Specify &quot;all&quot; to include excluded hosts that match all of the selected tags.</td>
</tr>
<tr>
<td>{any</td>
<td>all}</td>
</tr>
<tr>
<td>tag_exclude_selector=</td>
<td>(Optional when use_tags=1) Specify &quot;any&quot; (the default) to ignore excluded hosts that match at least one of the selected tags. Specify &quot;all&quot; to ignore excluded hosts that match all of the selected tags.</td>
</tr>
<tr>
<td>{any</td>
<td>all}</td>
</tr>
<tr>
<td>tag_set_by = {id</td>
<td>name}</td>
</tr>
<tr>
<td>tag_set_include={value}</td>
<td>(Optional when use_tags=1) Specify a tag set to include. Excluded hosts that match these tags will be included. You identify the tag set by providing tag name or IDs. Multiple entries are comma separated.</td>
</tr>
<tr>
<td>tag_set_exclude={value}</td>
<td>(Optional when use_tags=1) Specify a tag set to exclude. Excluded hosts that match these tags will be ignored. You identify the tag set by providing tag name or IDs. Multiple entries are comma separated.</td>
</tr>
</tbody>
</table>
User Scenarios

Let us consider different user scenarios to know more about the behavior of network_id parameter:

<table>
<thead>
<tr>
<th>User</th>
<th>Networks with access</th>
<th>network_id mandatory?</th>
<th>What does output include?</th>
</tr>
</thead>
<tbody>
<tr>
<td>User 1</td>
<td>Global Default Network, Network 1, Network 2</td>
<td>No</td>
<td>Excluded host list from all the networks the user has access to.</td>
</tr>
<tr>
<td>User 2</td>
<td>Global Default Network</td>
<td>No</td>
<td>Excluded host list for global default network.</td>
</tr>
<tr>
<td>User 3</td>
<td>Network 1</td>
<td>Yes</td>
<td>Excluded host list for Network 1.</td>
</tr>
<tr>
<td>User 4</td>
<td>Network 1, Network 2, Network 3</td>
<td>Yes</td>
<td>Excluded host list for network that is listed in the request. Multiple entries are comma separated (for example, Network+1,Network+2,Network+3).</td>
</tr>
</tbody>
</table>

Sample - List all excluded hosts

API request:

```
curl -u user:password -H "X-Requested-With: curl demo 2" -D headers.15 "https://qualysapi.qualys.com/api/2.0/fo/asset/excluded_ip/?action=list"
```

XML output

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE IP_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/asset/excluded_ip/ip_list_output.dtd">
<IP_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-01-23T00:33:24Z</DATETIME>
    <IP_SET>
      <IP_RANGE network_id="0" expiration_date="2015-04-28T00:00:00Z">10.100.100.101-10.100.100.255</IP_RANGE>
      <IP network_id="14665885">10.10.10.1</IP>
      <IP network_id="0">10.100.100.100</IP>
    </IP_SET>
  </RESPONSE>
</IP_LIST_OUTPUT>
```
Sample - List all excluded hosts in IP range

API request:
```
curl -u user:password -H "X-Requested-With: curl demo 2" -D headers.16
  "https://qualysapi.qualys.com/api/2.0/fo/asset/excluded_ip/
    ?action=list&ips=10.10.24.1-10.10.24.255"
```

DTD
```
<platform API server>/api/2.0/fo/asset/excluded_ip/ip_list_output.dtd
```

Excluded Hosts Change History

/api/2.0/fo/asset/excluded_ip/history/?action=list

[GET] [POST]

View change history for excluded hosts in the user’s subscription. History record IDs in the XML output are listed in decreasing order.

Permissions - Users with these roles have permission to view all excluded hosts in the subscription: Manager, Auditor, Unit Manager, Scanner and Reader.

Unlike other APIs, an excluded hosts change history request returns change history records for all relevant IP addresses in the subscription, regardless of whether the user has access to these IP addresses in their account.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ips={value}</td>
<td>(Optional) Show only certain excluded IP addresses/ranges. When unspecified, all excluded IPs/ranges in your subscription will be listed. One or more IPs/ranges may be specified. Multiple entries are comma separated. An IP range is specified with a hyphen (for example, 10.10.24.1-10.10.24.20).</td>
</tr>
<tr>
<td>network_id={value}</td>
<td>(Optional and valid only when the Network Support feature is enabled for the user’s account) Specify a network ID to restrict the request to a certain custom network.</td>
</tr>
<tr>
<td>id_min={value}</td>
<td>(Optional) Show only those history records in your subscription that have an ID number greater than or equal to an ID number you specify.</td>
</tr>
</tbody>
</table>
Chapter 7 - Assets
Excluded Hosts Change History

Sample - Change list for all excluded IPs

API request:
```
curl -u user:password -H "X-Requested-With: curl demo 2" -D
headers.15
"https://qualysapi.qualys.com/api/2.0/fo/asset/excluded_ip/history
/?action=list"
```

XML output:
```
<!DOCTYPE HISTORY_LIST_OUTPUT SYSTEM
"https://qualysapi.qualys.com/api/2.0/fo/asset/excluded_ip/history
/history_list_output.dtd">

<HISTORY_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-01-18T01:48:42Z</DATETIME>
    <HISTORY_LIST>
      <HISTORY>
        <ID>1923</ID>
        <IP_SET>
          <IP_RANGE>10.10.10.2-10.10.10.11</IP_RANGE>
          <IP_RANGE>10.10.10.32-10.10.10.34</IP_RANGE>
          <IP>10.10.30.70</IP>
        </IP_SET>
        <ACTION>Added</ACTION>
        <DATETIME>2017-12-02T05:19:06Z</DATETIME>
        <USER_LOGIN>quays_ab</USER_LOGIN>
        <COMMENTS><![CDATA[DD]]></COMMENTS>
      </HISTORY>
      <HISTORY>
        <ID>1863</ID>
        <IP_SET>
          <IP_RANGE>10.10.10.102-10.10.10.120</IP_RANGE>
        </IP_SET>
        <ACTION>Removed</ACTION>
        <DATETIME>2017-06-01T23:51:26Z</DATETIME>
        <USER_LOGIN>quays_ab</USER_LOGIN>
        <COMMENTS><![CDATA[Removing 10.10.10.102-]]></COMMENTS>
      </HISTORY>
    </HISTORY_LIST>
  </RESPONSE>
</HISTORY_LIST_OUTPUT>
```

Parameter | Description
--- | ---
`id_max={value}` | (Optional) Show only those history records in your subscription that have an ID number less than or equal to an ID number you specify.

`ids={value}` | (Optional) Show only those history records in your subscription that have ID numbers matching the ID numbers you specify.
Chapter 7 - Assets
Excluded Hosts Change History

10.10.10.120]]></COMMENTS>
</HISTORY>
</HISTORY>

<ID>1663</ID>
<IP_SET>
  <IP_RANGE>10.10.10.100-10.10.10.120</IP_RANGE>
</IP_SET>
<ACTION>Added</ACTION>
<DATETIME>2016-04-29T06:56:13Z</DATETIME>
<User_LOGIN>quays_ss</User_LOGIN>
<COMMENTS><![CDATA[Scanner shouldn't add Exclude hosts]]></COMMENTS>
</HISTORY>
...
</HISTORY_LIST>
</WARNING>
</GLOSSARY>
</USER_LIST>
</USER>
<USER>
  <USER_LOGIN>quays_ab</USER_LOGIN>
  <FIRST_NAME>Al</FIRST_NAME>
  <LAST_NAME>Berger</LAST_NAME>
  <ROLE>Manager</ROLE>
</USER>
</USER_LIST>
</GLOSSARY>
</RESPONSE>
</HISTORY_LIST_OUTPUT>

**DTD**

<platform API server>/api/2.0/fo/asset/excluded_ip/history/history_list_output.dtd
Manage Excluded Hosts

The excluded hosts endpoint (/api/2.0/fo/asset/excluded_ip) allows you to add and remove excluded hosts from your account.

Add excluded hosts

/api/2.0/fo/asset/excluded_ip/?action=add

[POST]

Add hosts (IPs) to your excluded host list. Hosts in your excluded host list will not be scanned.

Permissions - Managers and Unit Managers have permission to add IPs to the excluded host list.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=add</td>
<td>(Required) The IP addresses to be added to the excluded IPs list. Enter a comma separated list of IPv4 singletons or ranges. For example: 10.10.10.13,10.10.10.25-10.10.10.29</td>
</tr>
<tr>
<td>ips={value}</td>
<td>(Required) The number of days the IPs being added to the excluded IPs list will be considered valid for exclusion. When the expiration is reached, the IPs are removed from the list and made available again for scanning. When unspecified, the IPs being added have no expiration and will remain on the list until removed by a user.</td>
</tr>
<tr>
<td>expiry_days={value}</td>
<td>(Optional) Specify users who will be notified 7 days before hosts are removed from the excluded hosts list. Multiple distribution groups are comma separated. A maximum of 15 distribution groups may be entered.</td>
</tr>
<tr>
<td>dg_names={value}</td>
<td>(Optional) The number of days the IPs being added to the excluded IPs list will be considered valid for exclusion. When the expiration is reached, the IPs are removed from the list and made available again for scanning. When unspecified, the IPs being added have no expiration and will remain on the list until removed by a user.</td>
</tr>
<tr>
<td>comment={value}</td>
<td>(Required) User-defined notes (up to 1024 characters).</td>
</tr>
<tr>
<td>network_id={value}</td>
<td>(Optional and valid only when the user making the request has access to more than one network) Assign a network ID to the IPs being added to the excluded IPs list. By default, the user's default network ID is assigned.</td>
</tr>
</tbody>
</table>

Sample - Add excluded hosts

API request:

curl -H "X-Requested-With: curl" -u "USERNAME:PASSWD" -d "action=add&ips=10.100.100.101-10.100.100.255&comment=adding ips&expiry_days=5"
Chapter 7 - Assets
Manage Excluded Hosts

"https://qualysapi.qualys.com/api/2.0/fo/asset/excluded_ip/

XML output:

<!DOCTYPE SIMPLE_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-23T00:33:21Z</DATETIME>
    <TEXT>Adding IPs to Excluded IPs list.</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>Added IPs</KEY>
        <VALUE>10.100.100.101-10.100.100.255</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>

Sample - Add IPs already in excluded hosts list

API request:
curl -H "X-Requested-With: curl" -u "USERNAME:PASSWD" -d 
"action=add&ips=10.10.34.210-10.10.34.212&comment=adding, added 
IPs " "https://qualysapi.qualys.com/api/2.0/fo/asset/excluded_ip/

XML output:

<!DOCTYPE SIMPLE_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-05-14T13:09:03Z</DATETIME>
    <TEXT>Not Adding any IPs to Excluded IPs list.</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>IPs already in Excluded IPs list.</KEY>
        <VALUE>10.10.34.210-10.10.34.212</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
Remove excluded hosts

@api/2.0/fo/asset/excluded_ip/?action=remove

[POST]

Remove certain hosts from your excluded hosts list. You can choose to remove certain hosts (IPs) or all hosts from your excluded hosts list.

Permissions - Managers and Unit Managers have permission to remove IPs from the excluded host list.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=remove</td>
<td>(Required) The IP addresses to be removed from the excluded IPs list. Enter a comma separated list of IPv4 singletons or ranges. For example: 10.10.10.13,10.10.10.25-10.10.10.29</td>
</tr>
<tr>
<td>ips={value}</td>
<td>(Required) User-defined notes (up to 1024 characters).</td>
</tr>
<tr>
<td>comment={value}</td>
<td>(Optional and valid only when the user making the request has access to more than one network) Identify a network ID that is assigned to the IPs being removed from the excluded IPs list. By default, the user’s default network ID is assigned.</td>
</tr>
</tbody>
</table>

Sample - Remove certain excluded hosts

API request:

curl -H "X-Requested-With: curl" -u "USERNAME:PASSWD" -d "action=remove&ips=10.10.34.250-10.10.34.254&comment=remove IPS" "https://qualysapi.qualys.com/api/2.0/fo/asset/excluded_ip/"

XML output:

```xml
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-15T04:05:04Z</DATETIME>
    <TEXT>Removed IPs from Excluded IPs list.</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>Removed IPs</KEY>
        <VALUE>10.10.34.250-10.10.34.254</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```
Remove all excluded hosts

/api/2.0/fo/asset/excluded_ip/?action=remove_all

[POST]

Remove all hosts from your excluded hosts list.

Permissions - Managers and Unit Managers have permission to remove IPs from the excluded host list.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=remove_all</td>
<td>(Required)</td>
</tr>
<tr>
<td>comment={value}</td>
<td>(Required) User-defined notes (up to 1024 characters).</td>
</tr>
<tr>
<td>network_id={value}</td>
<td>(Optional and valid only when the user making the request has access to more than one network) Identify a network ID that is assigned to the IPs being removed from the excluded IPs list. By default, the user’s default network ID is assigned.</td>
</tr>
</tbody>
</table>

Sample - Remove all excluded hosts

API request:

```bash
curl -H "X-Requested-With: curl" -u "USERNAME:PASSWD" -d "action=remove_all&comment=remove all ips" "https://qualysapi.qualys.com/api/2.0/fo/asset/excluded_ip/
```

XML output:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-24T00:08:19Z</DATETIME>
    <TEXT>Removed IPs from Excluded IPs list.</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>Removed IPs</KEY>
        <VALUE>10.100.100.101-10.100.100.255,100.100.100.101-100.100.100.255</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```
**DTD**

DTD returned by requests to add and remove excluded hosts

<platform API server>/api/2.0/simple_return.dtd

**Virtual Host List**

/api/2.0/fo/asset/vhost/?action=list

[GET] [POST]

List virtual hosts in the user's account. By default, all virtual hosts in the user's account are included.

Permissions - Managers view virtual hosts in the subscription. Unit Managers view virtual hosts in their own business unit. Scanners and Readers view virtual hosts in their own account.

**Input Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ip={value}</td>
<td>(Optional) Show only virtual hosts that have a certain IP address.</td>
</tr>
<tr>
<td>port={value}</td>
<td>(Optional) Show only virtual hosts that have a certain port.</td>
</tr>
</tbody>
</table>

**Sample - List virtual hosts in account**

**API request:**

curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X POST "https://qualysapi.qualys.com/api/2.0/fo/asset/vhost/?action=list"

**XML output:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE VIRTUAL_HOST_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/asset/vhost/vhost_list_output.dtd">
<VIRTUAL_HOST_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-04-26T11:20:42Z</DATETIME>
    <VIRTUAL_HOST_LIST>
      <VIRTUAL_HOST>
```

Chapter 7 - Assets
Manage Virtual Hosts

Create, edit and delete virtual hosts in the user account. One subscription can have a maximum of 5000 virtual hosts. The POST access method may be used to make an API request.

Permissions - Managers manage virtual hosts in the subscription. Unit Managers manage virtual hosts in their own business unit when granted this permission. Scanners have permission to manage virtual hosts in their account when granted this permission. Readers, Auditors do not have permission to manage virtual hosts.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={action}</td>
<td>(Required) A flag used to make a virtual host request: create (create a virtual host) update (update/edit a virtual host) delete (delete a virtual host) add_fqdn (add one or more FQDNs to a virtual host) delete_fqdn (remove one or more FQDNs from a virtual host)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ip={value}</td>
<td>(Required) An IP address for the virtual host configuration.</td>
</tr>
</tbody>
</table>
Chapter 7 - Assets
Manage Virtual Hosts

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>port={value}</td>
<td>(Required) A port number for the virtual host configuration.</td>
</tr>
<tr>
<td>fqdn={value}</td>
<td>(Required for all actions except “delete”. Invalid for “delete”. ) One or more fully-qualified domain names (FQDNs) for the virtual host configuration. Multiple entries are comma separated.*</td>
</tr>
</tbody>
</table>

Sample - Create virtual host

API request:
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X POST
"action=create&ip=10.10.25.212&port=80&fqdn=www.abc123abc.com"
"https://qualysapi.qualys.com/api/2.0/fo/asset/vhost/
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
RESPONSE>
  <DATETIME>2018-04-27T08:45:22Z</DATETIME>
  <TEXT>Virtual host successfully created.</TEXT>
</RESPONSE>
</SIMPLE_RETURN>
```

Sample - Add FQDNs to a virtual host

API request:
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -X POST
"action=add_fqdn&ip=10.10.25.212&port=80&fqdn=www.abc123abc.com"
"https://qualysapi.qualys.com/api/2.0/fo/asset/vhost/
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
RESPONSE>
  <DATETIME>2018-04-27T08:45:48Z</DATETIME>
  <TEXT>Virtual host FQDN(s) successfully added.</TEXT>
</RESPONSE>
</SIMPLE_RETURN>
```
Chapter 7 - Assets
Restricted IPs List

/api/2.0/fo/setup/restricted_ips/?action=list
[GET] [POST]

List restricted IPs within the user’s subscription. Managers only have permission to perform these actions using this API.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request=0</td>
<td>1]</td>
</tr>
<tr>
<td>output_format={CSV</td>
<td>XML}</td>
</tr>
</tbody>
</table>

Sample - Download restricted IPs

API request:

```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" -d "action=list"
"https://qualysapi.qualys.com/api/2.0/fo/setup/restricted_ips/" > output.txt
```

XML output:

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE RESTRICTED_IPS_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/setup/restricted_ips/rest
icted_ips_output.dtd">
<RESTRICTED_IPS_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-03-22T11:12:56Z</DATETIME>
    <IP_SET>
      <IP_RANGE>10.10.10.1-10.10.10.255</IP_RANGE>
    </IP_SET>
  </RESPONSE>
</RESTRICTED_IPS_OUTPUT>
```

The DTD for the restricted IPs list XML is provided in Appendix B - Ports used for scanning.
Chapter 7 - Assets

Manage Restricted IPs

<STATUS>disabled</STATUS>
</RESPONSE>
</RESTRICTED_IPS_OUTPUT>

DTD for restricted IPs list
<platform API server>/api/2.0/fo/setup/restricted_ips/restricted_ips_output.dtd

Sample - Download Restricted IPs List in CSV format

API request:
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST"
-d "action=list&output_format=csv"
"https://qualysapi.qualys.com/api/2.0/fo/setup/restricted_ips/"

CSV output:

----BEGIN_RESPONSE_BODY_CSV
10.0.0.0
10.0.0.101-10.255.255.255
----END_RESPONSE_BODY_CSV

----BEGIN_RESPONSE_FOOTER_CSV
STATUS
enabled
----END_RESPONSE_FOOTER_CSV

Manage Restricted IPs

/api/2.0/fo/setup/restricted_ips/

[GET] [POST]

Manage and update the list of restricted IPs within the user’s subscription. Managers only have permission to perform these actions using this API.
Chapter 7 - Assets
Manage Restricted IPs

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action={value}</td>
<td>(Required) The action for the request, one of: activate - enable or disable the restricted IPs feature; clear - clear all restricted IPs and de-active this feature; add - add restricted IPs; delete - delete restricted IPs; replace - replace restricted IPs</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>enable={0</td>
<td>1}</td>
</tr>
<tr>
<td>ips={value} -or-</td>
<td>(Optional and valid when action is add, replace or delete) The hosts you want to add to, remove from or replace in the restricted IPs list.</td>
</tr>
<tr>
<td>{CSV raw data upload}</td>
<td></td>
</tr>
</tbody>
</table>

IPs must be specified by using the "ips" parameter (using the POST method) or by uploading CSV raw data (using the GET or POST method). To upload CSV raw data using POST, specify --data-binary <data>.

How to specify IP addresses. One or more IPs/ranges may be specified. Multiple IPs/ranges are comma separated. An IP range is specified with a hyphen (for example, 10.10.30.1-10.10.30.50). CIDR notation is supported.

Sample - Replace restricted IPs

API request:

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" -d "action=replace&ips=10.0.0.0/8" "https://qualysapi.qualys.com/api/2.0/fo/setup/restricted_ips/" > output.txt
```

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-03-22T11:45:00Z</DATETIME>
    <TEXT>Successfully replaced restricted ips</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>STATUS</KEY>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```
<VALUE>disabled</VALUE>
</ITEM>
</ITEM_LIST>
</RESPONSE>
</SIMPLE_RETURN>

Sample - Delete restricted IPs, upload CSV raw data

CSV raw data:

$ cat file1.csv
10.0.0.1
10.0.0.2-10.0.0.100

API request:


XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-03-22T11:45:34Z</DATETIME>
    <TEXT>Successfully deleted restricted ips</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>STATUS</KEY>
        <VALUE>disabled</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>

Sample - Activate Restricted IPs feature and enable list

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" -d "action=activate&enable=1" "https://qualysapi.qualys.com/api/2.0/fo/setup/restricted_ips/" > output.txt
XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-03-22T11:46:45Z</DATETIME>
    <TEXT>Restricted IPs feature has been enabled successfully</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>STATUS</KEY>
        <VALUE>enabled</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```

Sample - Clear All Restricted IPs and Disable the feature

API request:

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" -d "action=clear" "https://qualysapi.qualys.com/api/2.0/fo/setup/restricted_ips/"
```

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-03-22T12:04:34Z</DATETIME>
    <TEXT>Successfully cleared restricted ips</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>STATUS</KEY>
        <VALUE>disabled</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```
Asset Group List

/api/2.0/fo/asset/group/?action=list

[GET]  [POST]

List asset groups in the user’s account.

Permissions - Managers can view asset groups in the subscription. Unit Managers can view all asset groups in the user’s business unit (those assigned to the business unit, and those owned by all users in the business unit). Scanners and Readers can view asset groups in the user’s account (those assigned to the user, and those owned by the user).

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required) The requested output format: CSV or XML.</td>
</tr>
<tr>
<td>output_format={csv</td>
<td>xml}</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Optional) Show only asset groups with certain IDs. Multiple IDs are comma separated.</td>
</tr>
<tr>
<td>id_min={value}</td>
<td>(Optional) Show only asset groups that have an ID greater than or equal to the specified ID.</td>
</tr>
<tr>
<td>id_max={value}</td>
<td>(Optional) Show only asset groups that have an ID less than or equal to the specified ID.</td>
</tr>
<tr>
<td>truncation_limit={value}</td>
<td>(Optional) Specify the maximum number of asset group records to output. By default this is set to 1000 records. If you specify truncation_limit=0, the output is not paginated and all records are returned in a single output. WARNING This can generate very large output and processing large XML files can consume a lot of resources on the client side. It is recommended to use the pagination logic and parallel processing. The previous page can be processed while the next page is being downloaded.</td>
</tr>
<tr>
<td>network_ids={value}</td>
<td>(Optional and valid only when the Networks feature is enabled in your account) Restrict the request to certain network IDs. Multiple IDs are comma separated.</td>
</tr>
<tr>
<td>unit_id={value}</td>
<td>(Optional) Show only asset groups that have a business unit ID equal to the specified ID.</td>
</tr>
<tr>
<td>user_id={value}</td>
<td>(Optional) Show only asset groups that have a user ID equal to the specified ID.</td>
</tr>
</tbody>
</table>
Chapter 7 - Assets
Asset Group List

Sample - List asset groups, show default attributes

API request:
```
curl -u "USERNAME:PASSWD" -H "X-Requested-With: Curl" -X "POST" -d "action=list&ids=442838"
"https://qualysapi.qualys.com/api/2.0/fo/asset/group/"
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE ASSET_GROUP_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/asset/group/asset_group_list_output.dtd">
<ASSET_GROUP_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-05-17T08:48:41Z</DATETIME>
    <ASSET_GROUP_LIST>
      <ASSET_GROUP>
        <ID>442838</ID>
        <TITLE><![CDATA[All]]></TITLE>
        <OWNER_ID>103448</OWNER_ID>
        <UNIT_ID>0</UNIT_ID>
        <NETWORK_ID>0</NETWORK_ID>
        <IP_SET>
          <IP_RANGE>10.10.10.0-10.10.10.1</IP_RANGE>
          <IP_RANGE>10.10.10.3-10.10.10.6</IP_RANGE>
          <IP_RANGE>10.10.10.14</IP>
          <IP_RANGE>10.10.16-10.10.10.20</IP_RANGE>
          <IP_RANGE>10.10.10.22-10.10.10.255</IP_RANGE>
          <IP_RANGE>10.10.31.26</IP>
        </IP_SET>
      </ASSET_GROUP>
    </ASSET_GROUP_LIST>
  </RESPONSE>
</ASSET_GROUP_LIST_OUTPUT>
```

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>title={value}</td>
<td>(Optional) Show only the asset group that has a title equal to the specified string - this must be an exact match.</td>
</tr>
<tr>
<td>show_attributes={value}</td>
<td>(Optional) Show attributes for each asset group along with the ID. Your options are: None, All or a comma-separated list of attribute names. Attribute names: OWNER_USER_NAME, TITLE, OWNER, NETWORK_IDS, LAST_UPDATE, IP_SET, APPLIANCE_LIST, DOMAIN_LIST, DNS_LIST, NETBIOS_LIST, EC2_ID_LIST, HOST_IDS, USER_IDS, UNIT_IDS, BUSINESS_IMPACT, CVSS, COMMENTS.</td>
</tr>
</tbody>
</table>
Sample - List asset groups, show all attributes

API request:

curl -u "USERNAME:PASSWD" -H "X-Requested-With: Curl" -X "POST" -d "action=list&ids=246385&show_attributes=ALL" "https://qualysapi.qualys.com/api/2.0/fo/asset/group/"

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE ASSET_GROUP_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/asset/group/asset_group_list_output.dtd">
<ASSET_GROUP_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-03-17T09:52:59Z</DATETIME>
    <ASSET_GROUP_LIST>
      <ASSET_GROUP>
        <ID>246385</ID>
        <TITLE>user_john</TITLE>
        <OWNER_USER_ID>180603</OWNER_USER_ID>
        <LAST_UPDATE>2018-03-07T11:37:57Z</LAST_UPDATE>
        <BUSINESS_IMPACT>High</BUSINESS_IMPACT>
        <DEFAULT_APPLIANCE_ID>199673</DEFAULT_APPLIANCE_ID>
        <APPLIANCE_IDS>199673, 199674</APPLIANCE_IDS>
        <IP_SET>
          <IP_RANGE>10.10.10.10-10.10.10.11</IP_RANGE>
          <IP_RANGE>10.113.197.131-10.113.197.132</IP_RANGE>
        </IP_SET>
        <DNS_LIST>
          <DNS>qualsss1.com</DNS>
        </DNS_LIST>
        <NETBIOS_LIST>
          <NETBIOS>WIN2003-SRV-O</NETBIOS>
        </NETBIOS_LIST>
        <HOST_IDS>634744, 653133</HOST_IDS>
        <ASSIGNED_USER_IDS>198400, 198401</ASSIGNED_USER_IDS>
        <ASSIGNED_UNIT_IDS>202741</ASSIGNED_UNIT_IDS>
        <OWNER_USER_NAME>John Doe</OWNER_USER_NAME>
      </ASSET_GROUP>
    </ASSET_GROUP_LIST>
  </RESPONSE>
</ASSET_GROUP_LIST_OUTPUT>
```

DTD for asset group list

```
<platform API server>/api/2.0/fo/asset/group/asset_group_list_output.dtd
```
Manage Asset Groups

Create, edit and delete asset groups in the user's account.

Permissions - Managers can manage (create, edit, delete) all asset groups in the subscription. Unit Managers can manage asset groups owned by any user in the user's same business unit. Scanners and Readers can manage asset groups owned by the user.

Add new asset group

/api/2.0/fo/asset/group/?action=add

[POST]

Add a new asset group in the user's account.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=add</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request=0</td>
<td>(Optional) Specify 1 to show (echo) the request's input parameters (names, values) in the XML output. When unspecified, parameters are not included in the XML output.</td>
</tr>
<tr>
<td>title={value}</td>
<td>(Required) An asset group title. This name must be unique and can't be &quot;All&quot;.</td>
</tr>
<tr>
<td>network_id={value}</td>
<td>(Optional) The network ID of the network you want to assign the asset group to.</td>
</tr>
</tbody>
</table>

Sample - Add asset group

API request:

curl -u "USERNAME:PASSWD" -H "X-Requested-With: Curl" -X "POST" -d "title=MY DEMO AG&network_id=1220&comments=This is this is division&location=this is location&business_impact=high&cvss_enviro_cdp=low&cvss_enviro_td=low&cvss_enviro_cr=medium&cvss_enviro_ir=high&cvss_enviro_ar=medium&ips=10.1.1.1/31" "https://qualysapi.qualys.com/api/2.0/fo/asset/group/?action=add"

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    
  </RESPONSE>
</SIMPLE_RETURN>
Chapter 7 - Assets
Manage Asset Groups

<DATETIME>2018-03-28T22:57:50Z</DATETIME>
<TEXT>Asset Group successfully added.</TEXT>
<ITEM_LIST>
  <ITEM>
    <KEY>ID</KEY>
    <VALUE>395752377</VALUE>
  </ITEM>
  </ITEM_LIST>
<RESPONSE>
</SIMPLE_RETURN>

Edit asset group
/api/2.0/fo/asset/group/?action=edit
[POST]

Edit an existing asset group in the user's account.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=edit</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1} (Optional) Specify 1 to show (echo) the request's input parameters (names, values) in the XML output. When unspecified, parameters are not included in the XML output.</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Required) The ID of the asset group you want to edit.</td>
</tr>
<tr>
<td>[parameters]</td>
<td>See &quot;Asset Group Parameters&quot;</td>
</tr>
</tbody>
</table>

Sample - Edit asset group

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST"
-d "id=395752377&set_title=MY ASSET GROUP"
"https://qualysapi.qualys.com/api/2.0/fo/asset/group/?action=edit"

XML output:
The XML output uses the simple return (/api/2.0/simple_return.dtd).

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2014-05-29T15:29:00Z</DATETIME>
  </RESPONSE>
</SIMPLE_RETURN>
Delete asset group

/api/2.0/fo/asset/group/?action=delete

[POST]

Delete an asset group present in the user’s account. By deleting an asset group any scheduled scans using the asset group will be deactivated.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=delete</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0|1}</td>
<td>Optional) Specify 1 to show (echo) the request’s input parameters (names, values) in the XML output. When unspecified, parameters are not included in the XML output.</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Required) The ID of the asset group you want to delete.</td>
</tr>
</tbody>
</table>

Sample - Delete asset group

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" -d "id=395752377"
"https://qualysapi.qualys.com/api/2.0/fo/asset/group/?action=delete"

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-03-29T15:49:35Z</DATETIME>
    <TEXT>Asset Group Deleted Successfully</TEXT>
  </RESPONSE>
</SIMPLE_RETURN>
```
<ITEM_LIST>
  <ITEM>
    <KEY>ID</KEY>
    <VALUE>395752377</VALUE>
  </ITEM>
</ITEM_LIST>
</RESPONSE>
</SIMPLE_RETURN>
### Asset Group Parameters

Theses parameters are used for adding and editing an asset group.

The "set" (overwrite) and "remove" operations can cause the asset group to have no IPs, domains, etc depending on the parameter.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Parameter Name</th>
<th>Parameter Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>action=add</td>
<td>action=edit</td>
</tr>
<tr>
<td>Comments</td>
<td>comments</td>
<td>set_comments</td>
</tr>
<tr>
<td></td>
<td>(255 characters maximum)</td>
<td></td>
</tr>
<tr>
<td>Division</td>
<td>division</td>
<td>set_division</td>
</tr>
<tr>
<td></td>
<td>(64 characters maximum)</td>
<td></td>
</tr>
<tr>
<td>Function</td>
<td>function</td>
<td>set_function</td>
</tr>
<tr>
<td></td>
<td>(64 characters maximum)</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>location</td>
<td>set_location</td>
</tr>
<tr>
<td></td>
<td>(64 characters maximum)</td>
<td></td>
</tr>
<tr>
<td>Business Impact</td>
<td>business_impact</td>
<td>set_business_impact</td>
</tr>
<tr>
<td></td>
<td>(One of: critical, high, medium, low, none)</td>
<td></td>
</tr>
<tr>
<td>IP addresses/ranges</td>
<td>ips</td>
<td>add_ips</td>
</tr>
<tr>
<td></td>
<td></td>
<td>remove_ips</td>
</tr>
<tr>
<td></td>
<td></td>
<td>set_ips</td>
</tr>
<tr>
<td>Scanner Appliances</td>
<td>appliance_ids</td>
<td>add_appliance_ids</td>
</tr>
<tr>
<td></td>
<td></td>
<td>remove_appliance_ids</td>
</tr>
<tr>
<td></td>
<td></td>
<td>set_appliance_ids</td>
</tr>
<tr>
<td>Default Scanner Appliance</td>
<td>default_appliance_id</td>
<td>set_default_appliance_id</td>
</tr>
<tr>
<td>Domains</td>
<td>domains</td>
<td>add_domains</td>
</tr>
<tr>
<td></td>
<td></td>
<td>remove_domains</td>
</tr>
<tr>
<td></td>
<td></td>
<td>set_domains</td>
</tr>
<tr>
<td>DNS Names</td>
<td>dns_names</td>
<td>add_dns_names</td>
</tr>
<tr>
<td></td>
<td></td>
<td>remove_dns_names</td>
</tr>
<tr>
<td></td>
<td></td>
<td>set_dns_names</td>
</tr>
<tr>
<td>NetBIOS Names</td>
<td>netbios_names</td>
<td>add_netbios_names</td>
</tr>
<tr>
<td></td>
<td></td>
<td>remove_netbios_names</td>
</tr>
<tr>
<td></td>
<td></td>
<td>set_netbios_names</td>
</tr>
<tr>
<td>Title</td>
<td>title</td>
<td>set_title</td>
</tr>
<tr>
<td></td>
<td>(255 characters maximum)</td>
<td></td>
</tr>
<tr>
<td>CVSS Environmental Metric: Collateral Damage Potential</td>
<td>cvss_enviro_cdp</td>
<td>set_cvss_enviro_cdp</td>
</tr>
<tr>
<td></td>
<td>(One of: high, medium-high, low-medium, low, none)</td>
<td></td>
</tr>
</tbody>
</table>
Purge Hosts

/api/2.0/fo/asset/host/?action=purge

[POST]

Purge hosts in your account to remove the assessment data associated with them.

Purging hosts will remove host based data in the user’s account (scan results will not be removed). Purged host information will not appear in new reports generated by users. One or both types of host data is removed, based on the user’s API request: vulnerability data and compliance data.

Permissions - Manager can purge assessment data for all hosts in the subscription, including vulnerability data and compliance data. Auditor can purge compliance data for all compliance hosts in the subscription (vulnerability data will not be removed).

Unit Manager, Scanner, and Reader can purge vulnerability and compliance data in their user account if granted the permission “Purge host information/history”. The permission “Manage compliance” permission is required to purge compliance data.

Express Lite - This API is available to Express Lite users.
### Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>action=purge</strong></td>
<td>(Required)</td>
</tr>
<tr>
<td><strong>echo_request</strong></td>
<td>(Optional) Specify 1 to view input parameters in the XML output. When unspecified, parameters are not included in the XML output.</td>
</tr>
<tr>
<td><strong>ids={value}</strong></td>
<td>(Optional) Purge host information for certain host IDs/ranges. One or more host IDs/ranges may be specified. Multiple entries are comma separated. A host ID range is specified with a hyphen (for example, 190-400). Valid host IDs are required. One of these host selection parameters must be specified in an API request: ids, ips, ag_ids or ag_titles. Multiple host selection parameters may be specified together in the same request.</td>
</tr>
<tr>
<td><strong>ips={value}</strong></td>
<td>(Optional) Purge host information certain IP addresses/ranges. One or more IPs/ranges may be specified. Multiple entries are comma separated. An IP range is specified with a hyphen (for example, 10.10.10.1-10.10.10.100).</td>
</tr>
<tr>
<td><strong>ag_ids={value}</strong></td>
<td>(Optional) Purge hosts belonging to asset groups with certain IDs. One or more asset group IDs and/or ranges may be specified. Multiple entries are comma separated. A range is specified with a dash (for example, 386941-386945). Valid asset group IDs are required. One of these host selection parameters must be specified in an API request: ids, ips, ag_ids or ag_titles. Multiple host selection parameters may be specified together in the same request.</td>
</tr>
<tr>
<td><strong>ag_titles={value}</strong></td>
<td>(Optional) Purge hosts belonging to asset groups with certain strings in the asset group title. One or more asset group titles may be specified. Multiple entries are comma separated (for example, My+First+Asset+Group,Another+Asset+Group). One of these parameters must be specified in an API request: ids, ips, ag_ids or ag_titles. Multiple host selection parameters may be specified together in the same request. These parameters are mutually exclusive and cannot be specified together: ag_ids and ag_titles.</td>
</tr>
<tr>
<td><strong>network_ids={value}</strong></td>
<td>(Optional, and valid only when the Network Support feature is enabled for the user’s account) Restrict the request to certain custom network IDs. Multiple network IDs are comma separated.</td>
</tr>
</tbody>
</table>
### Parameter Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>no_vm_scan_since={date}</td>
<td>(Optional) Purge hosts not scanned since a certain date and time (optional). The date/time is specified in YYYY-MM-DD[THH:MM:SS] format (UTC/GMT), like &quot;2007-07-01&quot; or &quot;2007-01-25T23:12:00Z&quot;.</td>
</tr>
<tr>
<td></td>
<td>User Permissions: An Auditor cannot be specify this parameter.</td>
</tr>
<tr>
<td>no_compliance_scan_since={date}</td>
<td>(Optional) Purge compliance hosts not scanned since a certain date and time (optional). This parameter is invalid for an Express Lite user.</td>
</tr>
<tr>
<td></td>
<td>User Permissions: A sub-account (Unit Manager, Scanner or Reader) can specify this parameter only when the user account is granted certain permissions to purge compliance information. See &quot;Input Parameters&quot;.</td>
</tr>
</tbody>
</table>
### Purge Hosts

- **Compliance Enable**: `(Optional) This parameter is valid only when the policy compliance module is enabled for the user account. This parameter is invalid for an Express Lite user.

  Specify 1 to purge compliance hosts in the user’s account. These hosts are assigned to the policy compliance module. When selected, the service will remove vulnerability information and compliance information associated with the selected hosts.

  Specify 0 to purge hosts which are not assigned to the policy compliance module. When selected, the service will remove vulnerability information associated with the selected hosts.

  User Permissions: A sub-account (Unit Manager, Scanner or Reader) can specify this parameter only when the user account is granted permissions to purge compliance information. An Auditor does not have permission to set compliance_enabled=0.

- **OS Pattern**: `(Optional) Purge only hosts which have an operating system matching a certain regular expression. An empty value cannot be specified. Use "%5E%24" to match empty string.

  Important: The regular expression string you enter must follow the PCRE standard and it must be URL encoded.

  Sample regular expression strings for matching OS names: [Qualys API - Host List Detection API samples](GitHub, see sample 17)


### Sample - Purge Assessment Data for Host

**API Request**:

```bash
```
XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-04-24T10:26:14Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Hosts Queued for Purging</TEXT>
        <ID_SET>
          <ID>5442340</ID>
        </ID_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```

DTD

`<platform API server>/api/2.0/fo/batch_return.dtd`
Chapter 7 - Assets

Patch List

/api/2.0/fo/asset/patch/index.php

[GET]

The Patch API lets you view the list of all superseding patches for detection on specific host. For the host, the Patch Info List provides information such as detection QID, patch QID, patch severity, patch title, patch vendor ID, patch release date, and patch links.

User permissions - Managers and Unit Managers can fetch the patch list on assets in their own business unit. Scanners and Readers fetch the patch list on assets in their own account.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>host_id={value}</td>
<td>(Required) The output lists all the superseding patches that will fix the detections on a single host instance. Specify the ID for the host to include in the report. A valid host ID must be entered.</td>
</tr>
<tr>
<td>output_format={xml}</td>
<td>(Optional) Specifies the format of the host detection list output. When not specified, the output format is xml. A valid value is xml.</td>
</tr>
</tbody>
</table>

Sample 1: Patch List

API request:

```
curl -u "USERNAME:PASSWORD" -X "GET" -H "Content-Type: text/xml" "host_id=136801&output_format=xml" "https://qualysapi.qualys.com/api/2.0/fo/asset/patch/index.php"
```

XML output:

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE PATCH_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/asset/patch/host_patches.dtd">
<PATCH_LIST_OUTPUT>
  <RESPONSE>
    <SUBSCRIPTION_ID>3058</SUBSCRIPTION_ID>
    <HOST_ID>136801</HOST_ID>
    <IP>10.10.25.249</IP>
    <DNS><![CDATA[ora11107-25-249]]></DNS>
    <NETBIOS><![CDATA[ORA11107-25-249]]></NETBIOS>
    <OS><![CDATA[Windows 2003 Service Pack 2]]></OS>
    <OS_CPE><![CDATA[]]></OS_CPE>
    <NETWORK><![CDATA[Star Trek]]></NETWORK>
  </RESPONSE>
</PATCH_LIST_OUTPUT>
```
<PATCH_INFO_LIST>
  <PATCH_INFO>
    <DETECTION_QIDS>
      <QID cve_ids=""><![CDATA[19883]]></QID>
    </DETECTION_QIDS>
    <PATCH_QID cve_ids=""><![CDATA[19883]]></PATCH_QID>
    <PATCH_SEVERITY>4</PATCH_SEVERITY>
    <PATCH_TITLE><![CDATA[Oracle 11.1.0.7 on Microsoft Windows - General Update Multiple Issues (Patch #54)]></PATCH_TITLE>
    <PATCH_VENDOR_ID><![CDATA[11.1.0.7 Patch 54 - 32bit,11.1.0.7 Patch 54 - 64bit]]></PATCH_VENDOR_ID>
    <PATCH_RELEASE_DATE>2013-10-15 00:00:00</PATCH_RELEASE_DATE>
    <PATCH_LINKS>
      <LINK os_sw="Windows"><![CDATA[https://support.oracle.com/epmos/faces/ui /patch/PatchDetail.jspx?patchId=17363759]]></LINK>
      <LINK os_sw="Windows"><![CDATA[https://support.oracle.com/epmos/faces/ui /patch/PatchDetail.jspx?patchId=17363760]]></LINK>
    </PATCH_LINKS>
  </PATCH_INFO>
</PATCH_INFO_LIST>

DTD
<platform API server>/api/2.0/fo/asset/patch/host_patches.dtd
Chapter 8 - IPv6 Assets

The IPv6 Assets API allows Manager users to manage IPv6 assets so they can be scanned using Qualys. The IPv6 API can be used when the IPv6 Support feature is enabled in the user’s subscription. Please contact Support if you would like this feature enabled for your account.

API Support for IPv6 Asset Management and Scanning
IPv6 Mapping Record List
Add IPv6 Mapping Records
Remove IPv6 Mapping Records

API Support for IPv6 Asset Management and Scanning

IPv6 Support is a subscription-level option that must be enabled for your subscription by Qualys Support in order to start managing and scanning IPv6 hosts. Follow the steps below to get started with managing and scanning IPv6 hosts using the API.

Step 1: Add Special IPv4 Addresses to your subscription
Using the Asset API add to your subscription the special, mapping IPv4 addresses. These IPv4 addresses are used for mapping IPv4 addresses to your IPv6 hosts. The IPv4 addresses for mapping are in the special 0.0.0.0/8 network, in this range:

0.0.0.1-0.254.255.255

A sample request for adding the special IPv4 addresses is shown below (where qualysapi.qualys.com is the server URL where your Qualys account is located):

https://qualysapi.qualys.com/msp/asset_ip.php?action=add&host_ips=0.0.0.1-0.0.0.255

Step 2: Add IPv6 Mapping Records
Manager users can add and remove IPv6 mapping records for the subscription by submitting the records in CSV or XML format. Each mapping record associates one IPv6 address in your network to one IPv4 address in the special mapping range 0.0.0.1-0.254.255.255. A maximum of 10,000 records can be added or removed per API request.

How to Add IPv6 Records in CSV
Review the steps below to learn how to add IPv6 mapping records by submitting the records in CSV format. A curl client is used to illustrate this process.
1) View Mapping Records in CSV

API request:

```
$ curl -u username:password -H "X-Requested-With: curl"
"https://qualysapi.qualys.com/api/2.0/fo/asset/ip/v4_v6/?action=list
&output_format=csv"
```

XML output:

Note: The service automatically returns an ID value in the ID column for each IPv6 mapping record. This ID is assigned by the service when the record is created.

```
----BEGIN_RESPONSE_BODY_CSV
ID,IPv4,IPv6
"46947","0.0.0.7","2001:db8:85a3::8a2e:370:84"
"47036","0.0.0.1","2001:db8:85a3::8a2e:370:77"
----END_RESPONSE_BODY_CSV
----BEGIN_RESPONSE_FOOTER_CSV
"Status Message"
"Finished"
----END_RESPONSE_FOOTER_CSV
```

2) Prepare file1.csv with records to be added

The CSV file contents identify one or more IPv6 mapping records to be added. The columns in the CSV upload file are described below.

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPv4</td>
<td>(Required) An IPv4 address. The IPv4 address can be defined in only one IPv6 mapping record within your subscription.</td>
</tr>
<tr>
<td>IPv6</td>
<td>(Required) An IPv6 address. The IPv6 address can be defined in only one IPv6 mapping record within your subscription.</td>
</tr>
<tr>
<td>ID</td>
<td>(Optional) A user-defined, custom ID may be included. Important: Custom ID values will not be saved with record data within your subscription.</td>
</tr>
</tbody>
</table>

The CSV file must include the input parameters action=add and csv_data=. The parameter all_or_nothing is optional. When set to 1 or unspecified, the service cancels the request and does not add any new records if it finds the upload data has one record with an IP conflict. When set to 0 the service does not cancel the request if an IP conflict is found.

Sample file1.csv used to add IPv6 mapping records:

```
$ cat file1.csv
action=add&all_or_nothing=1&csv_data=
"0.0.0.2","2001:470:8418:a18::a0a:1805"%0A
```
"0.0.0.3","2001:470:8418:a18::a0a:ab7"%0A"0.0.0.4","2001:470:8418:a18::a0a:1849"%0A"0.0.0.5","2001:470:8418:a18::a0a:189c"%0A"0.0.0.6","2001:470:8418:a18::a0a:189d"%0A"0.0.0.8","2001:470:8418:a18::a0a:189e"%0A"0.0.0.9","2001:470:8418:a18::a0a:18d0"%0A"0.0.0.10","2001:470:8418:a18::a0a:18d1"%0A"0.0.0.11","2001:470:8418:a18::a0a:18d2"%0A"0.0.0.12","2001:470:8418:a18::a0a:18d6"%0A"0.0.0.13","2001:470:8418:a18::a0a:18d7"%0A"0.0.0.14","2001:470:8418:a18::a0a:18da"%0A"0.0.0.15","2001:470:8418:a18::a0a:18db"%0A"0.0.0.16","ff00:abcd::1234"%0A

3) POST data from file1.csv (Success)

Input:
$ curl -u username:password -H "X-Requested-With: curl"
   -d @file1.csv
"https://qualysguard.api.qualys.com/api/2.0/fo/asset/ip/v4_v6/"

Output:
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM
"https://qualysguard.api.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2011-11-03T19:31:27Z</DATETIME>
    <TEXT>Successfully imported 14 records</TEXT>
  </RESPONSE>
</SIMPLE_RETURN>

How to Add IPv6 Records in XML
Review the steps below to learn how to add IPv6 mapping records by submitting the
records in XML format. A curl client is used to illustrate this process.

1) View mapping records in XML

API request:
$ curl -u username:password -H "X-Requested-With: curl"
"https://qualysguard.api.qualys.com/api/2.0/fo/asset/ip/v4_v6/?action=list&output_format=xml"
Output:

Note: The service automatically returns an ID value in the <ID> element for each IPv6 mapping record. This ID is assigned by the service when the record is created.

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE IP_MAP_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/asset/ip/v4_v6/ip_map_list_output.dtd">  
<IP_MAP_LIST_OUTPUT>  
<RESPONSE>  
<DATETIME>2011-11-28T19:42:10Z</DATETIME>  
<IP_MAP_LIST>  
<IP_MAP>  
<ID>46947</ID>  
<V4>0.0.0.7</V4>  
<V6>2001:db8:85a3::8a2e:370:84</V6>  
</IP_MAP>  
<IP_MAP>  
<ID>47036</ID>  
<V4>0.0.0.1</V4>  
<V6>2001:db8:85a3::8a2e:370:77</V6>  
</IP_MAP>  
</IP_MAP_LIST>  
</RESPONSE>  
</IP_MAP_LIST_OUTPUT>
```

2) Prepare file2.xml with records to be added

The XML file contents identify one or more IPv6 mapping records to be added. The elements in the XML upload file are described below.

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;V4&gt;</td>
<td>(Required) An IPv4 address. The IPv4 address can be defined in only one IPv6 mapping record within your subscription.</td>
</tr>
<tr>
<td>&lt;V6&gt;</td>
<td>(Required) An IPv6 address. The IPv6 address can be defined in only one IPv6 mapping record within your subscription.</td>
</tr>
<tr>
<td>&lt;ID&gt;</td>
<td>(Optional) A user-defined, custom ID may be included. Important: Custom ID values will not be saved with record data within your subscription.</td>
</tr>
</tbody>
</table>
The XML file must include the input parameters action=add and xml_data=. The parameter all_or_nothing is optional. When set to 1 or unspecified, the service cancels the request and does not add any new records if it finds the upload data has one record with an IP conflict. When set to 0 the service does not cancel the request if an IP conflict is found.

Sample file2.xml used to add IPv6 mapping records:

```
$ cat file2.xml
action=add&xml_data=
<IP_MAP_LIST>
  <IP_MAP>
    <V4>0.0.0.2</V4>
    <V6>2001:470:8418:a18::a0a:1805</V6>
  </IP_MAP>
  <IP_MAP>
    <V4>0.0.0.3</V4>
    <V6>2001:470:8418:a18::a0a:ab7</V6>
  </IP_MAP>
</IP_MAP_LIST>
```

3) POST data from file2.xml (Success)

API request:
```
$ curl -u username:password -H "X-Requested-With: curl"
-d @file2.xml
"https://qualysguard.api.qualys.com/api/2.0/fo/asset/ip/v4_v6/"
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM
  "https://qualysguard.api.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2011-11-03T20:59:07Z</DATETIME>
    <TEXT>Successfully imported 2 records</TEXT>
  </RESPONSE>
</SIMPLE_RETURN>
```

Step 3: Remove IPv6 Mapping Records (optional)
Manager users can remove IPv6 mapping records for the subscription by submitting the records to be removed in CSV or XML format. A maximum of 10,000 records can be removed per API request.
It's not necessary to specify both the IPv4 address and the IPv6 address for each record to be deleted in the data file (CSV or XML). If you specify only the IPv4 address, any associated record will be deleted. If you specify only the IPv6 address, any associated record will be deleted. If you specify both the IPv4 and IPv6 addresses, any record containing either address will be deleted. If no IP addresses specified in a mapping record to be deleted match any IP addresses already defined in mapping records in the subscription, the mapping record listed in the data file will be silently ignored.

Important: When an IPv6 mapping record is removed, any scan data associated with your IPv6 host is removed from your subscription and this data is not recoverable.

**How to Remove IPv6 Records in CSV**

Review the steps below to learn how to remove IPv6 mapping records by submitting the records in CSV format. A curl client is used to illustrate this process.

1) **View mapping records in CSV**

   **Input:**
   
   ```
   $ curl -u username:password -H "X-Requested-With: curl"
   "https://qualysguard.api.qualys.com/api/2.0/fo/asset/ip/v4_v6/?action=list&output_format=csv"
   ```

2) **Prepare file3.csv with records to be removed**

   The CSV file contents identify one or more IPv6 mapping records to be removed.

   Sample file3.csv used to remove IPv6 mapping records:
   
   ```
   $ cat file3.csv
   action=remove&csv_data=
   "0.0.0.4","2001:470:8418:a18::a0a:1849"
   "0.0.0.5","2001:470:8418:a18::a0a:189c"
   ```

3) **POST data from file3.csv (Success)**

   **API request:**
   
   ```
   $ curl -u username:password -H "X-Requested-With: curl"
   -d @file3.csv
   "https://qualysguard.api.qualys.com/api/2.0/fo/asset/ip/v4_v6/"
   ```

   **XML output:**
   
   ```
   <?xml version="1.0" encoding="UTF-8" ?>
   <!DOCTYPE SIMPLE_RETURN SYSTEM
   "https://qualysguard.api.qualys.com/api/2.0/simple_return.dtd">
   <SIMPLE_RETURN>
   <RESPONSE>
   <DATETIME>2011-11-03T19:31:27Z</DATETIME>
   <TEXT>Removed 2 records (any associated scanned host data is
   ```
How to Remove IPv6 Records in XML
Review the steps below to learn how to remove IPv6 mapping records by submitting the
records in XML format. A curl client is used to illustrate this process.

1) View mapping records in XML
Input:
   $ curl -u username:password -H "X-Requested-With: curl"
   "https://qualysguard.api.qualys.com/api/2.0/fo/asset/ip/v4_v6/?action=list&output_format=xml"

2) Prepare file4.xml with records to be removed
The XML file contents identify one or more IPv6 mapping records to be removed.
Sample file4.XML used to remove IPv6 mapping records:
   $ cat file4.xml
   action=remove&xml_data=
   <IP_MAP_LIST>
   <IP_MAP>
     <V4>0.0.0.4</V4>
     <V6>2001:470:8418:a18::a0a:1849</V6>
   </IP_MAP>
   <IP_MAP>
     <V4>0.0.0.5</V4>
     <V6>2001:470:8418:a18::a0a:189c</V6>
   </IP_MAP>
   </IP_MAP_LIST>

3) POST data from file4.xml (Success)
Input:
   $ curl -u username:password -H "X-Requested-With: curl"
   -d @file4.xml
   "https://qualysguard.api.qualys.com/api/2.0/fo/asset/ip/v4_v6/"

Output:
   <?xml version="1.0" encoding="UTF-8" ?>
   <!DOCTYPE SIMPLE_RETURN SYSTEM
   "https://qualysguard.api.qualys.com/api/2.0/simple_return.dtd">
   <SIMPLE_RETURN>
Chapter 8 - IPv6 Assets
API Support for IPv6 Asset Management and Scanning

<RESPONSE>
  <DATETIME>2011-11-03T20:59:07Z</DATETIME>
  <TEXT>Removed 2 records (any associated scanned host data is now queued for purging)</TEXT>
</RESPONSE>

Step 4: Enable IPv6 for Scanner Appliance(s)
IPv6 scanning is supported using a scanner appliance enabled with IPv6. You can enable this by editing the appliance within the Qualys user interface. Once IPv6 is enabled, the appliance uses stateless address autoconfiguration to obtain an IPv6 address from the router (note that stateful configuration through DHCPv6 or Static IPv6 is not supported).

Step 5: Launch Scan
Using the Qualys API you can launch scans on the IPv4 addresses which are mapped to IPv6 addresses.

Step 6: View IPv6 Addresses using Host List Detection API
The scan results XML output will include IPv4 addresses only. Also, scan reports downloaded from the user interface will include IPv4 addresses only.

The host list detection output returned from a host list detection API request (api/2.0/fo/asset/host/vm/detection/?action=list ) gives you the IPv6 address, if available, along with the “automatic” vulnerability detection data.

To request a list of VM scanned hosts which have IPv4 addresses that are mapped to IPv6 addresses in your account, you enter the IPv4 addresses for the ips parameter.

For example, if the special IPv4 address 0.0.0.199 is mapped to an IPv6 address in your account and this IP address has been scanned, you can make this API request:

```
curl -H "X-Requested-With: Curl Sample" -u "username:password" "https://qualysapi.qualys.com/api/2.0/fo/asset/host/vm/detection/?action=list&ips=0.0.0.100"
```

XML output returned will show the IPv4 address and the IPv6 address for the host, as shown below (XML fragment):

```
...  
  <HOST>
    <ID>276010</ID>
    <IP>0.0.0.100</IP>
    <IPV6>2001:470:8418:a18::a0a:18c7</IPV6>
    <TRACKING_METHOD>IP</TRACKING_METHOD>
    <OS><![CDATA[Windows 2003 Service Pack 2]]></OS>
    <DNS><![CDATA[mssql2k8-24-199.patch.qualys.com]]></DNS>
    <LAST_SCAN_DATETIME>2018-06-17T19:06:31Z</LAST_SCAN_DATETIME>
  </HOST>
```
IPv6 Mapping Record List

/api/2.0/fo/asset/ip/v4_6

[GET] [POST]

View a list of IPv6 mapping records in the subscription. Each mapping record associates one IPv6 address in your network with one IPv4 address in the special mapping range 0.0.0.1-0.254.255.255.

A maximum of 5,000 IPv6 mapping records will be processed per request, unless the truncation_limit input parameter is specified. If the requested list identifies more than 5,000 records or the number of records specified using truncation_limit, then the XML output includes the <WARNING> element and instructions for making another request for the next batch of records.

Permissions - Managers can view all IPv6 mapping records when the IPv6 Support feature is enabled for the user’s subscription. Other users do not have permission to view IPv6 mapping records.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>id_min={value}</td>
<td>(Optional) Show only mapping records which have a minimum record ID. A valid mapping record ID is required. When unspecified, records are not filtered by record ID.</td>
</tr>
<tr>
<td>id_max={value}</td>
<td>(Optional) Show only mapping records which have a maximum record ID. A valid mapping record ID is required.</td>
</tr>
<tr>
<td>ipv4_filter={value}</td>
<td>(Optional) Show only mapping records with certain IPv4 addresses. When unspecified, records are not filtered by IPv4 addresses.</td>
</tr>
<tr>
<td>ipv6_network={value}</td>
<td>(Optional) Show only mapping records with certain IPv6 network addresses. When unspecified, records are not filtered by IPv6 network addresses.</td>
</tr>
</tbody>
</table>
Chapter 8 - IPv6 Assets
Add IPv6 Mapping Records

Add IPv6 Mapping Records
/api/2.0/fo/asset/ip/v4_6
[POST]

Add IPv6 mapping records to the subscription. Each mapping record associates one IPv6
domain with one IPv4 address in the special mapping range 0.0.0.1-0.254.255.255. A maximum of 10,000 mapping records can be added per API request.

Permissions - Managers can add IPv6 mapping records, when the IPv6 Support feature is
enabled for the user’s subscription. Other user roles do not have these permissions.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>output_format={CSV</td>
<td>XML}</td>
</tr>
<tr>
<td>truncation_limit={value}</td>
<td>(Optional) The maximum number of mapping records to be returned by the API request. A valid value is an integer between 1 and 1,000,000. When unspecified, 5,000 records will be returned.</td>
</tr>
<tr>
<td>action=add</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>csv_data={value}</td>
<td>The CSV data file containing the IPv6 mapping records that you want to add. This parameter or xml_data must be specified. See How to Add IPv6 Records in CSV. The parameters csv_data and xml_data cannot be specified in the same request.</td>
</tr>
</tbody>
</table>

DTD
<platform API server>/api/2.0/fo/asset/ip/v4_v6/asset/ip/v4_v6/ip_map_list_output.dtd

Sample IPv6 Mapping Records List Output
How to Add IPv6 Records in CSV
How to Add IPv6 Records in XML
Remove IPv6 Mapping Records

/api/2.0/fo/asset/ip/v4_6

[POST]

Remove IPv6 mapping records from the subscription. A maximum of 10,000 mapping records can be removed per API request.

Important: When an IPv6 mapping record is removed, any scan data associated with your IPv6 host is removed from your subscription and this data is not recoverable.

It's not necessary to specify both the IPv4 address and the IPv6 address for each record to be deleted in the data file (CSV or XML). If you specify only the IPv4 address, any associated record will be deleted. If you specify only the IPv6 address, any associated record will be deleted. If you specify both the IPv4 and IPv6 addresses, any record containing either address will be deleted. If no IP addresses specified in a mapping record to be deleted match any IP addresses already defined in mapping records in the subscription, the mapping record listed in the data file will be silently ignored.

Permissions - Managers can remove all IPv6 mapping records, when the IPv6 Support feature is enabled for the user’s subscription. Other user roles do not have these permissions.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>xml_data={value}</td>
<td>The CSV data file containing the IPv6 mapping records that you want to add. This parameter or csv_data must be specified. See How to Add IPv6 Records in XML.</td>
</tr>
<tr>
<td></td>
<td>The parameters csv_data and xml_data cannot be specified in the same request.</td>
</tr>
<tr>
<td>all_or_nothing={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

**DTD**

<platform API server>/api/2.0/simple_return.dtd

**Sample XML Output**

- How to Add IPv6 Records in CSV
- How to Add IPv6 Records in XML
### Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=remove</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>csv_data={value}</td>
<td>The CSV data file containing the IPv6 mapping records that you want to remove from your subscription. This parameter or xml_data must be specified. See How to Remove IPv6 Records in CSV</td>
</tr>
<tr>
<td>xml_data={value}</td>
<td>The CSV data file containing the IPv6 mapping records that you want to remove from your subscription. This parameter or csv_data must be specified. See How to Remove IPv6 Records in XML</td>
</tr>
</tbody>
</table>

### DTD

```xml
<platform API server>/api/2.0/simple_return.dtd
```

### Sample XML Output

- How to Remove IPv6 Records in XML
- How to Add IPv6 Records in XML
Chapter 9 - Networks

The Network API is used to manage networks when the Network Support feature is enabled in the user’s subscription.

Network List
Create Network
Update Network
Assign Scanner Appliance to Network

Network List

/api/2.0/fo/network/?action=list

[GET] [POST]

List custom networks in your account.

Permissions - A Manager will view all custom networks in the subscription, a Unit Manager will view custom networks in their business unit’s assigned asset groups, and a Scanner/Reader will view custom networks in their account’s assigned asset groups.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>ids={value1,value2}</td>
<td>(Optional) Filter the list to view specific networks.</td>
</tr>
</tbody>
</table>

Sample - List custom networks

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl"
"https://qualysapi.qualys.com/api/2.0/fo/network/?action=list&ids=7343,7345,7350"

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE NETWORK_LIST SYSTEM
"https://qualysapi.qualys.com/network_list_output.dtd">
<RESPONSE>
Create a new custom network.

Permissions - This API is available to Managers only.

Know more - Before you’re ready to start scanning, you’ll need to 1) assign scanner appliance(s) to your network, and 2) add host assets to your network (assign asset groups to it).

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=create</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request=0</td>
<td>(Optional) Show (echo) the request’s input parameters in the XML output.</td>
</tr>
<tr>
<td>name=value</td>
<td>(Required) A user-defined friendly name for your network. A successful request will return a unique network ID and this is used to manage your network using the API.</td>
</tr>
</tbody>
</table>
Sample - Create custom network

API request:
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -d "action=create&name=My+Network"
"https://qualysapi.qualys.com/api/2.0/fo/network/
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-01-14T04:37:24Z</DATETIME>
    <TEXT>Network created with ID</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>id</KEY>
        <VALUE>1103</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```

DTD
```
<platform API server>/api/2.0/simple_return.dtd
```
Update Network

/api/2.0/fo/network/?action=update
[POST]

Create a new custom network.

Permissions - This API is available to Managers only.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=update</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request=0</td>
<td>1] (Optional) Show (echo) the request’s input parameters (names and values) in the XML output. When unspecified, parameters are not included in the XML output. Specify 1 to view parameters in the XML output.</td>
</tr>
<tr>
<td>name=[value]</td>
<td>(Required) Specify a new network name. (The network ID is assigned by our service and it can’t be changed.)</td>
</tr>
</tbody>
</table>

Sample - Update network

API request:

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -d "id=1130&action=update&name=Network+123" "https://qualysapi.qualys.com/api/2.0/fo/network/"
```

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-05-20T06:17:06Z</DATETIME>
    <TEXT>Network updated</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>id</KEY>
        <VALUE>1103</VALUE>
      </ITEM>
      <ITEM>
        <KEY>name</KEY>
        <VALUE>Network 123</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```
Chapter 9 - Networks
Assign Scanner Appliance to Network

/api/2.0/fo/appliance/?action=assign_network_id

[POST]

Assign a scanner appliance to a network. When the network support feature is enabled for your subscription, scanner appliances are assigned to networks. Each appliance can be assigned to 1 network only.

Permissions - This API is available to Managers only.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=assign_network_id</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>appliance_id={value}</td>
<td>(Required) ID of the scanner appliance you want to assign to a network.</td>
</tr>
<tr>
<td>network_id={value}</td>
<td>(Required) ID of the network you want to assign the scanner appliance to.</td>
</tr>
</tbody>
</table>

Sample - Assign scanner appliance to network

API request:


XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
<DATETIME>2018-03-16T22:50:49Z</DATETIME>
〈TEXT>Success: Network ID=[1103] assigned to Appliance with ID=[506]</TEXT>
</RESPONSE>  
</SIMPLE_RETURN>

Or, if unsuccessful, the response might look like this:

<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2018-03-16T22:53:41Z</DATETIME>
    <CODE>1905</CODE>
    <TEXT>parameter network_id has invalid value: 1103 (No such network ID)</TEXT>
  </RESPONSE>
</SIMPLE_RETURN>

**DTD**

<platform API server>/api/2.0/simple_return.dtd
Chapter 10 - Reports

Launch and manage reports in your account. Report Share must be enabled for your account.

Report List
Launch Report
Sample - Launch Report
Using Asset Tags
Report Template List
Launch Scorecard
Cancel Running Report
Download Saved Report
Delete Saved Report
Scheduled Reports List
Launch Scheduled Report
Asset Search Report
Chapter 10 - Reports

Report List

/api/2.0/fo/report/?action=list

[GET] [POST]

View a list of reports in the user’s account when Report Share feature is enabled. The report list output includes all report types, including scorecard reports.

User permissions - Managers and Auditors view all assets in the subscription, Unit Managers view assets in their own business unit, Scanners and Readers view assets in their own account.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request=0</td>
<td>1](Optional) Specifies whether to echo the request’s input parameters (names and values) in the XML output. When not specified, parameters are not included in the XML output. Specify 1 to view parameters in the XML output.</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Optional) Specifies a report ID of a report that is saved in the Report Share storage space. When specified, information on the selected report will be included in the XML output.</td>
</tr>
<tr>
<td>state={value}</td>
<td>(Optional) Specifies that reports with a certain state will be included in the XML output. By default, all states are included. A valid value is: Running (reports are in progress), Finished, Submitted, Canceled, or Errors.</td>
</tr>
<tr>
<td>user_login={value}</td>
<td>(Optional) Specifies a user login ID. This parameter is used to restrict the XML output to reports launched by the specified user login ID.</td>
</tr>
<tr>
<td>expires_before_datetime={date}</td>
<td>(Optional) Specifies the date and time (optional) when reports will expire in the future. Only reports that expire before this date/time will be included in the XML output. The date/time is specified in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2007-07-01” or “2007-01-25T23:12:00Z”.</td>
</tr>
<tr>
<td>client_id={value}</td>
<td>(Optional) Id assigned to the client (Consultant type subscriptions).</td>
</tr>
<tr>
<td>client_name={value}</td>
<td>(Optional) Name of the client (Consultant type subscriptions).</td>
</tr>
</tbody>
</table>

Note: The client_id and client_name parameters are mutually exclusive and cannot be specified together in the same request.
Sample - List reports

```
curl -H "X-Requested-With: Curl Sample"
  -b "QualysSession=71e6cda2a35d2cd404cddaf305ea0208; path=/api; secure" "https://qualysapi.qualys.com/api/2.0/fo/report/?action=list"

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE REPORT_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/report/report_list_output.dtd">

<REPORT_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2017-10-30T22:32:15Z</DATETIME>
    <REPORT_LIST>
      <REPORT>
        <ID>42703</ID>
        <TITLE><![CDATA[Test now]]></TITLE>
        <TYPE>Scan</TYPE>
        <USER_LOGIN>acme_aa</USER_LOGIN>
        <LAUNCH_DATETIME>2017-10-30T17:59:22Z</LAUNCH_DATETIME>
        <OUTPUT_FORMAT>PDF</OUTPUT_FORMAT>
        <SIZE>129.1 MB</SIZE>
        <STATUS>
          <STATE>Finished</STATE>
        </STATUS>
        <EXPIRATION_DATETIME>2017-11-06T17:59:24Z</EXPIRATION_DATETIME>
      </REPORT>
      <REPORT>
        <ID>42700</ID>
        <TYPE>Scorecard</TYPE>
        <USER_LOGIN>acme_ts2</USER_LOGIN>
        <LAUNCH_DATETIME>2017-10-29T22:12:42Z</LAUNCH_DATETIME>
        <OUTPUT_FORMAT>SECURE_PDF</OUTPUT_FORMAT>
        <SIZE>18.1 KB</SIZE>
        <STATUS>
          <STATE>Finished</STATE>
        </STATUS>
        <EXPIRATION_DATETIME>2017-11-05T17:59:24Z</EXPIRATION_DATETIME>
      </REPORT>
      <REPORT>
        <ID>42699</ID>
        <TYPE>Scorecard</TYPE>
        <USER_LOGIN>quays_ts2</USER_LOGIN>
```

418
Launch Report

/api/2.0/fo/report

[POST]

Launch a report in the user’s account. The Report Share feature must be enabled in the user’s subscription. When a report is launched with Report Share, the report is run in the background, and the report generation processing does not timeout until the report has completed.

User permissions - Managers and Auditors can launch scorecard reports on all assets in the subscription, Unit Managers can launch scorecard reports on assets in their own business unit, Scanners and Readers can launch scorecard reports on assets in their own account.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=launch</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>template_id={value}</td>
<td>(Required) The template ID of the report you want to launch. Use the /msp/report_template_list.php API to find the template ID you’re interested in. See Report Template List.</td>
</tr>
<tr>
<td>report_title={value}</td>
<td>(Optional) A user-defined report title. The title may have a maximum of 128 characters. For a PCI compliance report, the report title is provided by Qualys and cannot be changed.</td>
</tr>
<tr>
<td>output_format={value}</td>
<td>(Required) One output format may be specified. Supported formats for various reports are below. map report: pdf, html (a zip file), mht, xml, or csv scan report: pdf, html (a zip file), mht, xml, csv, or docx remediation report: pdf, html (a zip file), mht, or csv compliance report (not PCI): pdf, html (a zip file), or mht PCI compliance report: pdf or html (a zip file) compliance policy report: pdf, html (a zip file), mht, xml, or csv Qualys patch report: pdf, online, xml or csv</td>
</tr>
<tr>
<td>hide_header={0</td>
<td>1}</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>pdf_password={value}</td>
<td>(Required for secure PDF distribution, Manager or Unit Manager only)  The password to be used for encryption. Requirements:  - the password must have a minimum of 8 characters (ascii), and a maximum of 32 characters  - the password must contain alpha and numeric characters  - the password cannot match the password for the user’s Qualys account.  - the password must follow the password security guidelines defined for your subscription (log into your account and go to Users &gt; Setup &gt; Security)</td>
</tr>
<tr>
<td>recipient_group={value}</td>
<td>(Optional for secure PDF distribution, Manager or Unit Manager only)  The report recipients in the form of one or more distribution group names, as defined using the Qualys UI. Multiple distribution groups are comma separated. A maximum of 50 distribution groups may be entered.  The recipient_group parameter can only be specified when the pdf_password parameter is also specified.  The recipient_group parameter cannot be specified in the same request as recipient_group_id</td>
</tr>
<tr>
<td>recipient_group_id={value}</td>
<td>(Optional for secure PDF distribution, Manager or Unit Manager only)  The report recipients in the form of one or more distribution group IDs. Multiple distribution group IDs are comma separated. Where do I find this ID? Log in to your Qualys account, go to Users &gt; Distribution Groups and select Info for a group in the list.  The recipient_group_id parameter can only be specified when the pdf_password parameter is also specified.  The recipient_group_id parameter cannot be specified in the same request as recipient_group</td>
</tr>
<tr>
<td>MAP REPORT</td>
<td></td>
</tr>
<tr>
<td>report_type=Map</td>
<td>(Optional)  Specifies the target domain for the map report. Include the domain name only; do not enter “www.” at the start of the domain name. When the special “none” domain is specified as a parameter value, the ip_restriction parameter is required.</td>
</tr>
<tr>
<td>domain={value}</td>
<td>(Required for map report)  Specifies the target domain for the map report. Include the domain name only; do not enter “www.” at the start of the domain name. When the special “none” domain is specified as a parameter value, the ip_restriction parameter is required.</td>
</tr>
<tr>
<td>ip_restriction={value}</td>
<td>(Optional for map report)  For a map report, specifies certain IPs/ranges to include in the report. This parameter is required when the domain parameter is specified with the value “none” (for the special “none” domain).  Multiple IPs and/or ranges are comma separated.</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>report_refs={value}</td>
<td>(Required for map report) For a map report, specifies the map references (1 or 2) to include. A map reference starts with the string “map/” followed by a reference ID number. When two map references are given, the report compares map results. Two map references are comma separated.</td>
</tr>
<tr>
<td>scan_report - scan based findings</td>
<td></td>
</tr>
<tr>
<td>report_type=Scan</td>
<td>(Optional)</td>
</tr>
<tr>
<td>report_refs={value}</td>
<td>(Required for Manual scan report) For a Manual scan report, this parameter specifies the scan references to include. A scan reference starts with the string “scan/” followed by a reference ID number. Multiple scan references are comma separated.</td>
</tr>
<tr>
<td>ip_restriction={value}</td>
<td>(Optional for Manual scan report) For a scan report, the report content will be restricted to the specified IPs/ranges. Multiple IPs and/or ranges are comma separated.</td>
</tr>
<tr>
<td>scan_report - host based findings</td>
<td></td>
</tr>
<tr>
<td>report_type=Scan</td>
<td>(Optional)</td>
</tr>
<tr>
<td>ips={value}</td>
<td>(Optional) Specify IPs/ranges to change (overwrite) the report target, as defined in the report template. Multiple IPs/ranges are comma separated. When specified, hosts defined in the report template are not included in the report.</td>
</tr>
<tr>
<td></td>
<td>You can specify ips and/or asset_group_ids, or asset tags (see “Using Asset Tags”).</td>
</tr>
<tr>
<td>asset_group_ids={value}</td>
<td>(Optional) Specify asset group IDs to change (overwrite) the report target, as defined in the report template. When specified, hosts defined in the report template are not included in the report.</td>
</tr>
<tr>
<td></td>
<td>You can specify ips and/or asset_group_ids, or asset tags (see “Using Asset Tags”).</td>
</tr>
<tr>
<td>ips_network_id={value}</td>
<td>(Optional, and valid only when the Network Support feature is enabled for the user’s account) The ID of a network that is used to restrict the report’s target to the IPs/ranges specified in the “ips” parameter. Set to a custom network ID (note this does not filter IPs/ranges specified in “asset_group_ids”). Or set to “0” (the default) for the Global Default Network - this is used to report on hosts outside of your custom networks.</td>
</tr>
</tbody>
</table>
### PATCH REPORT

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ips={value}</td>
<td>(Optional for patch report) Specify IPs/ranges to change (override) the report target, as defined in the patch report template. Multiple IPs/ranges are comma separated. When specified, hosts defined in the report template are not included in the report. You can specify ips and/or asset_group_ids, or asset tags (see &quot;Using Asset Tags&quot;).</td>
</tr>
<tr>
<td>asset_group_ids={value}</td>
<td>(Optional for patch report) Specify IPs/ranges to change (override) the report target, as defined in the patch report template. Multiple asset group IDs are comma separated. When specified, hosts defined in the report template are not included in the report. You can specify ips and/or asset_group_ids, or asset tags (see &quot;Using Asset Tags&quot;).</td>
</tr>
</tbody>
</table>

### REMEDIATION REPORT

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>report_type=Remediation</td>
<td>(Optional)</td>
</tr>
<tr>
<td>ips={value}</td>
<td>(Optional for remediation report) Specify IPs/ranges you want to include in the report. Multiple IPs and/or ranges are comma separated. You can specify ips and/or asset_group_ids, or asset tags (see &quot;Using Asset Tags&quot;).</td>
</tr>
<tr>
<td>asset_group_ids={value}</td>
<td>(Optional for remediation report) Specify asset group IDs that identify hosts you want to include in the report. Multiple asset group IDs are comma separated. You can specify ips and/or asset_group_ids, or asset tags (see &quot;Using Asset Tags&quot;).</td>
</tr>
<tr>
<td>assignee_type={User</td>
<td>All}</td>
</tr>
</tbody>
</table>

### COMPLIANCE REPORT

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>report_type=Compliance</td>
<td>(Optional) For compliance type report. Compliance type reports are Qualys Top 20 Report, SANS Top 20 Report, Qualys PCI Executive Report, and Qualys PCI Technical Report.</td>
</tr>
</tbody>
</table>
### Parameter | Description
--- | ---
ips={value} | (Optional for compliance report) For a compliance report (except a PCI report), specify the IPs/ranges you want to include in the report. Multiple IPs and/or ranges are comma separated.

You can specify ips and/or asset_group_ids, or asset tags (see “Using Asset Tags”).

Optional: Qualys Top 20 Report, SANS Top 20 Report

Invalid: PCI Executive Report, PCI Technical Report

asset_group_ids={value} | (Optional for compliance report) For a compliance report (except a PCI report), specify asset groups IDs which identify hosts to include in the report. Multiple asset group IDs are comma separated.

You can specify ips and/or asset_group_ids, or asset tags (see “Using Asset Tags”).

Optional: Qualys Top 20 Report, SANS Top 20 Report

Invalid: PCI Executive Report, PCI Technical Report

report_refs={value} | (Required for PCI compliance report) For a PCI compliance report, either the technical or executive report, this parameter specifies the scan reference to include. A scan reference starts with the string “scan/” followed by a reference ID number. The scan reference must be for a scan that was run using the PCI Options profile. Only one scan reference may be specified.

Required: PCI Executive Report, PCI Technical Report

Invalid: Qualys Top 20 Report, SANS Top 20 Report

---

**COMPLIANCE POLICY REPORT**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>report_type=Policy</td>
<td>(Optional)</td>
</tr>
<tr>
<td>policy_id={value}</td>
<td>(Required) Specifies the policy to run the report on. A valid policy ID must be entered.</td>
</tr>
<tr>
<td>asset_group_ids={value}</td>
<td>(Optional) Specify asset group IDs if you want to include only certain asset groups in your report. These asset groups must be assigned to the policy you are reporting on. Multiple asset group IDs are comma separated. You can specify ips and/or asset_group_ids, or asset tags (see “Using Asset Tags”).</td>
</tr>
<tr>
<td>ips={value}</td>
<td>(Optional) Specify IPs/ranges if you want to include only certain IP addresses in your report. These IP addresses must be assigned to the policy you’re reporting on. Multiple entries are comma separated. You can specify ips and/or asset_group_ids, or asset tags (see “Using Asset Tags”).</td>
</tr>
</tbody>
</table>
### Parameter Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>host_id={value}</td>
<td>(Optional) In the policy report output, show only results for a single host instance. Specify the ID for the host to include in the report. A valid host ID must be entered. This parameter must be specified with instance_string.</td>
</tr>
<tr>
<td>instance_string={value}</td>
<td>(Optional) Specifies a single instance on the selected host. The instance string may be &quot;os&quot; or a string like &quot;oracle10:1:1521:ora10204u&quot;. Use the &quot;Compliance Posture Information&quot; API (with the endpoint/api/2.0/fo/compliance/posture/info) to find the appropriate instance string. This parameter must be specified with host_id.</td>
</tr>
</tbody>
</table>

**DTD**

```
<platform API server>/api/2.0/simple_return.dtd
```

**Sample - Launch Report**

```
curl -H "X-Requested-With: Curl Sample"
-d "action=launch&template_id=55469&output_format=pdf"
-b "QualysSession=71e6cda2a35d2cd404cddaf305ea0208; path=/api;
secure" "https://qualysapi.qualys.com/api/2.0/fo/report/"

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE GENERICS SYSTEM
"https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <DATETIME>2017-06-20T21:45:23Z</DATETIME>
  <TEXT>New report launched</TEXT>
  <ITEM_LIST>
    <ITEM>
      <KEY>ID</KEY>
      <VALUE>1665</VALUE>
    </ITEM>
  </ITEM_LIST>
</RESPONSE>
</SIMPLE_RETURN>
```
Chapter 10 - Reports
Using Asset Tags

It’s possible to select asset tags for both vulnerability and compliance reports. Use the following tag parameters to launch your report using asset tags.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>use_tags=[0</td>
<td>1]</td>
</tr>
<tr>
<td>tag_include_selector=</td>
<td>(Optional) Select &quot;any&quot; (the default) to include hosts that match at least one of the selected tags. Select &quot;all&quot; to include hosts that match all of the selected tags. tag_include_selector is valid only when use_tags=1 is specified.</td>
</tr>
<tr>
<td>tag_exclude_selector=</td>
<td>(Optional) Select &quot;any&quot; (the default) to exclude hosts that match at least one of the selected tags. Select &quot;all&quot; to exclude hosts that match all of the selected tags. tag_exclude_selector is valid only when use_tags=1 is specified.</td>
</tr>
<tr>
<td>tag_set_by={id</td>
<td>name}</td>
</tr>
<tr>
<td>tag_set_include={value}</td>
<td>(Optional) Specify a tag set to include. Hosts that match these tags will be included. You identify the tag set by providing tag name or IDs. Multiple entries are comma separated. tag_set_include is valid only when use_tags=1 is specified.</td>
</tr>
<tr>
<td>tag_set_exclude={value}</td>
<td>(Optional) Specify a tag set to exclude. Hosts that match these tags will be excluded. You identify the tag set by providing tag name or IDs. Multiple entries are comma separated. tag_set_exclude is valid only when use_tags=1 is specified.</td>
</tr>
</tbody>
</table>

API request:
```
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE GENERIC SYSTEM
```

426
Report Template List
/msp/report_template_list.php
[GET] [POST]

List available report templates, including template titles and IDs, in the user account. The report list includes templates for all report types.

**DTD**
<platform API server>/report_template_list.dtd

**Sample - Report template list**

**API request:**
```bash
curl -u username:password -H "X-Requested-With: curl"
"https://qualysapi.qualys.com/msp/report_template_list_list.php"
```

**XML output:**
```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE REPORT_TEMPLATE_LIST SYSTEM
"https://qualysapi.qualys.com/report_template_list_list.dtd">
<REPORT_TEMPLATE_LIST>
<REPORT_TEMPLATE>
  <ID>235288</ID>
  <TYPE>Auto</TYPE>
  <TEMPLATE_TYPE>Scan</TEMPLATE_TYPE>
  <TITLE><![CDATA[Windows Authentication QIDs]]></TITLE>
  <USER>
    <LOGIN><![CDATA[acme_jk]]></LOGIN>
  </USER>
</REPORT_TEMPLATE>
<REPORT_TEMPLATE>
  <ID>...</ID>
  <TYPE>...</TYPE>
  <TEMPLATE_TYPE>...</TEMPLATE_TYPE>
  <TITLE><![CDATA[...]]></TITLE>
  <USER>
    <LOGIN><![CDATA[...]]></LOGIN>
  </USER>
</REPORT_TEMPLATE>
```

"https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2014-02-20T21:45:23Z</DATETIME>
    <TEXT>New report launched</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>1665</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
Chapter 10 - Reports
Report Template List

<REPORT_TEMPLATE_LIST>

<REPORT_TEMPLATE>
<ID>235164</ID>
<TYPE>Auto</TYPE>
<TEMPLATE_TYPE>Policy</TEMPLATE_TYPE>
<TITLE><![CDATA[My Policy Report Template]]></TITLE>
<User>
<LOGIN><![CDATA[acme_vs]]></LOGIN>
<FIRSTNAME><![CDATA[Victor]]></FIRSTNAME>
<LASTNAME><![CDATA[Smith]]></LASTNAME>
</User>
<LAST_UPDATE>2017-12-09T22:47:58Z</LAST_UPDATE>
<GLOBAL>0</GLOBAL>
</REPORT_TEMPLATE>

<REPORT_TEMPLATE>
<ID>232556</ID>
<TYPE>Auto</TYPE>
<TEMPLATE_TYPE>Scan</TEMPLATE_TYPE>
<TITLE><![CDATA[Executive Report]]></TITLE>
<User>
<LOGIN><![CDATA[acme_jk]]></LOGIN>
<FIRSTNAME><![CDATA[Jason]]></FIRSTNAME>
<LASTNAME><![CDATA[Kim]]></LASTNAME>
</User>
<LAST_UPDATE>2017-11-11T17:11:55Z</LAST_UPDATE>
<GLOBAL>1</GLOBAL>
</REPORT_TEMPLATE>

<REPORT_TEMPLATE>
<ID>232557</ID>
<TYPE>Auto</TYPE>
<TEMPLATE_TYPE>Scan</TEMPLATE_TYPE>
<TITLE><![CDATA[Technical Report]]></TITLE>
<User>
<LOGIN><![CDATA[acme_jk]]></LOGIN>
<FIRSTNAME><![CDATA[Jason]]></FIRSTNAME>
<LASTNAME><![CDATA[Kim]]></LASTNAME>

...</User>
<LAST_UPDATE>2017-11-11T17:11:55Z</LAST_UPDATE>
<GLOBAL>1</GLOBAL>
</REPORT_TEMPLATE>

</REPORT_TEMPLATE_LIST>
Each `<REPORT_TEMPLATE>` element identifies template properties, including the report template ID, template type and title, in the sub-elements described below.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;ID&gt;</code></td>
<td>The template ID number.</td>
</tr>
<tr>
<td><code>&lt;TYPE&gt;</code></td>
<td>The template type: Auto (for automatic) or Manual.</td>
</tr>
</tbody>
</table>
| `<TEMPLATE_TYPE>` | The report template type:  
|               | Scan (for a scan report template)  
|               | Map (for a map report template)  
|               | Remediation (for a remediation report template)  
|               | Compliance (for a compliance report template)  
|               | Policy (for a compliance policy report template)  
|               | Patch (for a patch report template)                                        |
| `<TITLE>`     | The template title, as defined in the Qualys user interface.                |
| `<USER>`      | The template owner, identified by login, first name and last name. For a system template, the login “system” is reported. |
| `<LAST_UPDATE>` | The most recent date and time when the template was updated.             |
| `<GLOBAL>`    | For a global template, the value 1 appears. For a non global template, the value 0 appears. |

**Launch Scorecard**

`/api/2.0/fo/report/scorecard`

[POST]

Launch a vulnerability scorecard report in the user’s Report Share. It is not possible to launch any compliance scorecard reports or WAS scorecard reports using this API at this time.

When a scorecard report is launched, the report is run in the background, and the report generation processing does not timeout until the report has completed.

User Permissions - Managers and Auditors can launch scorecard reports on all assets in the subscription, Unit Managers can launch scorecard reports on assets in their own business unit, Scanners and Readers can launch scorecard reports on assets in their own account.

**Input Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=launch</td>
<td>(Required)</td>
</tr>
</tbody>
</table>
### Parameter Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>name={value}</td>
<td>(Required) Specifies the scorecard name for the vulnerability scorecard report that you want to launch. This name corresponds to a service-provided scorecard or a user-created scorecard. For a service-provided scorecard, specify one of these names: Asset Group Vulnerability Report, Ignored Vulnerabilities Report, Most Prevalent Vulnerabilities Report, Most Vulnerable Hosts Report, Patch Report.</td>
</tr>
<tr>
<td>report_title={value}</td>
<td>(Optional) Specifies a user-defined report title. The title may have a maximum of 128 characters. When unspecified, the report title will be the scorecard name.</td>
</tr>
<tr>
<td>output_format={value}</td>
<td>(Required) Specifies the output format of the report. One output format may be specified. A valid value is: pdf, html (a zip file), mht, xml, or csv. When output_format=pdf is specified, the Secure PDF Distribution may be used. See “Sample - Launch Report.”</td>
</tr>
<tr>
<td>hide_header={0</td>
<td>1}</td>
</tr>
</tbody>
</table>
### Parameter | Description
--- | ---
**pdf_password=value** | (Required for secure PDF distribution, Manager or Unit Manager only)
The password to be used for encryption. The password may have a maximum of 32 characters (ascii). The password cannot match the password for the user’s Qualys login account. The password must follow the password security guidelines defined for the user’s subscription.

**Conditions:**
a) The pdf_password parameter can only be specified by a Manager or Unit Manager.
b) The pdf_password parameter can only be specified when Report Share is enabled for your subscription and the option “Enable Secure PDF Distribution” is selected (log into your account and go to Users > Setup > Security).

**recipient_group=value** | (Optional for secure PDF distribution, Manager or Unit Manager only)
The report recipients in the form of one or more distribution group names, as defined in your Qualys account. Each distribution group identifies a list of users who will receive the secure PDF report. Multiple distribution groups are comma separated. A maximum of 50 distribution groups may be entered.

**Conditions:**
a) The recipient_group parameter can only be specified when the pdf_password parameter is also specified.
b) The recipient_group parameter can only be specified by a Manager or Unit Manager.
c) The recipient_group parameter can only be specified when Report Share is enabled for your subscription and the option “Enable Secure PDF Distribution” is selected (Setup—>Report Share).
d) The recipient_group parameter cannot be specified in the same request as recipient_group_id
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
</table>
| recipient_group_id={value} | (Optional for secure PDF distribution, Manager or Unit Manager only) The report recipients in the form of one or more distribution group IDs. Multiple distribution group IDs are comma separated. Where do I find this ID? Log in to your Qualys account, go to Users > Distribution Groups and select Info for a group in the list. Conditions:  
  a) The recipient_group_id parameter can only be specified when the pdf_password parameter is also specified.  
  b) The recipient_group_id parameter can only be specified by a Manager or Unit Manager.  
  c) The recipient_group_id parameter can only be specified when Report Share is enabled for your subscription and the option “Enable Secure PDF Distribution” is selected (Setup—>Report Share).  
  d) The recipient_group_id parameter cannot be specified in the same request as recipient_group |
| source={value}     | (Conditional) The source asset groups for the report. Specify asset_groups to select asset groups. Specify business_unit to select all the asset groups in a business unit.  
For a user scorecard, this parameter is optional. When unspecified, the source selection set in the scorecard attributes (as defined in your Qualys account) is used. Conditions:  
  a) The source parameter is required for a service-provided scorecard.  
  b) For a user scorecard, the source selection specified in the source parameter replaces an existing source selection set in the scorecard attributes (as defined in your Qualys account). If you set this parameter to asset_groups, you must specify one of these parameters: asset_groups or all_asset_groups. If you set this parameter to business_unit then you must specify one or more of these parameters: business_unit, division, function and/or location. |
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>asset_groups={value}</td>
<td>(Conditional) The titles of asset groups to be used as source asset groups for the scorecard report. One or more asset group titles in your account may be specified. Multiple asset group titles are comma separated.</td>
</tr>
<tr>
<td></td>
<td>Conditions:</td>
</tr>
<tr>
<td></td>
<td>a) The asset_groups parameter can only be specified when source=asset_groups.</td>
</tr>
<tr>
<td></td>
<td>b) These parameters cannot be specified for the same API request: asset_groups and all_asset_groups.</td>
</tr>
<tr>
<td>all_asset_groups=[1]</td>
<td>(Conditional) Set to 1 to select all asset groups available in your account as the source asset groups for the scorecard report.</td>
</tr>
<tr>
<td></td>
<td>Conditions:</td>
</tr>
<tr>
<td></td>
<td>a) The asset_groups parameter can only be specified when source=asset_groups.</td>
</tr>
<tr>
<td></td>
<td>b) These parameters cannot be specified for the same API request: asset_groups and all_asset_groups.</td>
</tr>
<tr>
<td>business_unit={value}</td>
<td>(Conditional for a Manager; not valid for other users) The title of a business unit containing the source asset groups for the scorecard report. All asset groups in the business unit will be included in the report source. You may enter the title of a business unit in your account that was created by a Manager user, or you may enter “Unassigned” for the unassigned business unit.</td>
</tr>
<tr>
<td></td>
<td>Conditions:</td>
</tr>
<tr>
<td></td>
<td>a) When source=business_unit, one or more of these parameters must be specified: business_unit, division, function and/or location.</td>
</tr>
<tr>
<td></td>
<td>b) The business_unit parameter can only be specified by a Manager.</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>division={value}</td>
<td>(Conditional) A business info tag identifying a division that asset group(s) belong to. The tag must be defined for an asset group in your account. When specified, only asset groups with this tag are included in the scorecard report source. For a user scorecard, the division tag replaces an existing tag set in the scorecard attributes (as defined in your Qualys account). If an empty value is set (division=), the existing division tag in the scorecard attributes is not included in the scorecard parameters submitted with the API request. Conditions: a) When source=business_unit, one or more of these parameters must be specified: business_unit, division, function and/or location. b) The division parameter can only be specified when source=business_unit.</td>
</tr>
<tr>
<td>function={value}</td>
<td>(Conditional) A business info tag identifying a business function for asset group(s). The tag must be defined for an asset group in your account. When specified, only asset groups with this tag are included in the scorecard report source. For a user scorecard, the function tag replaces an existing function tag set in the scorecard attributes (as defined in your Qualys account). If an empty value is set (function=), the existing function tag in the scorecard attributes is not included in the scorecard parameters submitted with the API request. Conditions: a) When source=business_unit, one or more of these parameters must be specified: business_unit, division, function and/or location. b) The function parameter can only be specified when source=business_unit.</td>
</tr>
</tbody>
</table>
### Parameter Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
</table>
| location={value} | (Conditional) A business info tag identifying a location where asset group(s) are located. The tag must be defined for an asset group in your account. When specified, only asset groups with this tag are included in the scorecard report source. For a user scorecard, the location tag replaces an existing location tag set in the scorecard attributes (as defined in your Qualys account). If an empty value is set (location=), the existing location tag in the scorecard attributes is not included in the scorecard parameters submitted with the API request. Conditions:  
  a) When source=business_unit, one or more of these parameters must be specified: business_unit, division, function and/or location.  
  b) The location parameter can only be specified when source=business_unit. |
| patch_qids={value} | (Conditional for Patch Report scorecard; not valid for other scorecards) Up to 10 QIDs for vulnerabilities or potential vulnerabilities with available patches. Multiple QIDs are comma separated. When the QIDs are detected on a host this means the host does not have the patches installed and it will be reported in the scorecard output. For a user-defined Patch Report, the patch QIDs list replaces the patch QIDs list set in the scorecard attributes (as defined in your Qualys account). If an empty value is set (patch_qids=), the existing patches QIDs list in the scorecard attributes is not included in the scorecard parameters submitted with the API request. Conditions:  
  a) The patch_qids parameter may be specified only for a Patch Report.  
  b) For a Patch Report, patch_qids or missing_qids must be specified. Both parameters may be specified together. |
Cancel Running Report

/\api/2.0/fo/report

[POST]

Cancel a running report in the user’s account. This is an option when Report Share is enabled in the user’s subscription.

User permissions - Managers can cancel any running report. Unit Managers can cancel a running report in their own business unit (report launched by user in their own business unit). Scanners and Readers can cancel their own running report.

Parameter | Description
--- | ---
missing\_qids=value | (Conditional for Patch Report scorecard; not valid for other scorecards)
One or two QIDs for missing software. Two QIDs are comma separated. Typically missing software QIDs are information gathered checks. When the QIDs are not detected on a host this means the host is missing software and it will be reported in the scorecard output.

For a user-defined Patch Report, the missing QIDs list replaces the missing QIDs list set in the scorecard attributes (as defined in your Qualys account). If an empty value is set (missing\_qids=), the existing missing QIDs list in the scorecard attributes is not included in the scorecard parameters submitted with the API request.

Conditions:

a) The missing\_qids parameter may be specified only for a Patch Report.

b) For a Patch Report, patch\_qids or missing\_qids must be specified. Both parameters may be specified together.

DTD

<platform API server>/api/2.0/simple_return.dtd
Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=cancel</td>
<td>(Required) Specifies the report ID of a running report that you want to cancel. The status of the report must be “running”.</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Required) Specifies the report ID of a running report that you want to cancel. The status of the report must be “running”.</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

Sample - Cancel running report

curl -H "X-Requested-With: Curl Sample"
   -d "action=cancel&id=1462"
   -b "QualysSession=71e6cda2a35d2cd404cddaf305ea0208; path=/api;secure" 
   "https://qualysapi.qualys.com/api/2.0/fo/scan/"

DTD

<platform API server>/api/2.0/simple_return.dtd

Download Saved Report

/api/2.0/fo/report/

[GET] [POST]

Download a saved report in the user’s account. You can download all report types (map, scan, patch, authentication, scorecard, remediation, compliance). This option is available when the Report Share feature is enabled in the user’s subscription.

User permissions - Managers can download any saved report. Unit Managers can download a saved report in their own business unit (reports launched by users in their own business unit). Scanners and Readers can download their own saved report.
Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=fetch</td>
<td>(Required)</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Required) Specifies the report ID of a saved report that you want to download. The status of the report must be &quot;finished&quot;.</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

Where do I get the report ID?

Run the report list API

API request:


XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE REPORT_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/report/report_list_output.dtd">
<REPORT_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-07-02T15:29:52Z</DATETIME>
    <REPORT_LIST>
      <REPORT>
        <ID>7592049</ID>
        <TITLE><![CDATA[FIXED Vuln Report]]></TITLE>
        <TYPE>Scan</TYPE>
        <USER_LOGIN>acme_ur15</USER_LOGIN>
        <LAUNCH_DATETIME>2018-07-02T14:52:45Z</LAUNCH_DATETIME>
        <OUTPUT_FORMAT>HTML</OUTPUT_FORMAT>
        <SIZE>-</SIZE>
        <STATUS>
          <STATE>Running</STATE>
          <MESSAGE><![CDATA[Rendering...]]></MESSAGE>
          <PERCENT>80</PERCENT>
        </STATUS>
        <EXPIRATION_DATETIME>2018-07-30T14:52:48Z</EXPIRATION_DATETIME>
      </REPORT>
      ...
    </REPORT_LIST>
  </RESPONSE>
</REPORT_LIST_OUTPUT>
```
Another option - go to the user interface
Within the user interface find the report you want to download (go to Reports > Reports) then choose View Report. In the Report Information window, at the top you’ll see the ID in the window URL after id= like this:


Sample - Download report

curl -H "X-Requested-With: Curl Sample" 
-b "QualysSession=71e6cda2a35d2cd404cddaf305ea0208; path=/api; secure" "https://qualysapi.qualys.com/api/2.0/fo/report/
?action=fetch&id=1462"

DTD

<platform API server>/asset_data_report.dtd
Delete Saved Report

/api/2.0/fo/report

[POST]

Delete a saved report in the user’s account. This option is available when the Report Share feature is enabled in the user’s subscription.

User permissions - Managers can delete any saved report. Unit Managers can delete a saved report in their own business unit (report launched by users in their own business unit). Scanners and Readers can delete their own saved report.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=delete</td>
<td>(Required)</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Required)  Specifies the report ID of a saved report in Report Share that you want to delete. The status of the report must be “finished”.</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

Sample - Delete saved report

```
curl -H "X-Requested-With: Curl Sample"
-d "action=delete&id=1234"
-b "QualysSession=71e6cda2a35d2cd404cddaf305ea0208; path=/api; secure" "https://qualysapi.qualys.com/api/2.0/fo/report/
```

DTD

```
<platform API server>/api/2.0/simple_return.dtd
```
Scheduled Reports List
/api/2.0/fo/schedule/report/ with action=list

[GET]  [POST]

List scheduled reports in your account.

**Input parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required) Show only 1 scheduled report that has the report ID you specify.</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Optional) Show only 1 scheduled report that has the report ID you specify.</td>
</tr>
<tr>
<td>is_active={true</td>
<td>false}</td>
</tr>
</tbody>
</table>

**Sample - List all scheduled reports in account**

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" "https://qualysapi.qualys.com/api/2.0/fo/schedule/report/?action=list"
```

**DTD**

`<platform API server>/api/2.0/fo/schedule/report/schedule_report_list_output.dtd`
Launch Scheduled Report

/api/2.0/fo/schedule/report/ with action=launch_now

[POST]

Launch a scheduled report now.

Input parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=launch_now</td>
<td>(Required)</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Required) A valid scheduled report ID.</td>
</tr>
</tbody>
</table>

Sample - Launch scheduled report

    curl -H "X-Requested-With: Curl" -u USERNAME:PASSWORD -X "POST" -d "action=launch_now&id=12345" "https://qualysapi.qualys.com/api/2.0/fo/schedule/report/"

DTD

<platform API server>/api/2.0/simple_return.dtd

Asset Search Report

/api/2.0/fo/report/asset/?action=search

[GET] [POST]

Download report on assets you’re interested in.

Input parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=search</td>
<td>(Required)</td>
</tr>
<tr>
<td>output_format=[csv</td>
<td>xml]</td>
</tr>
<tr>
<td>tracking_method=[value]</td>
<td>(Optional) Show only IP addresses/ranges which have a certain tracking method. A valid value is: IP, DNS, NETBIOS, EC2, or AGENT.</td>
</tr>
</tbody>
</table>
Chapter 10 - Reports

Asset Search Report

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ips={value}</td>
<td>(Optional) Use this parameter if you want to include only certain IP addresses in the report. One or more IPs/ranges may be specified. Multiple entries are comma separated. An IP range is specified with a hyphen (for example, 10.10.10.1-10.10.10.100). One of these parameters must be specified in a request: ips, asset_groups, asset_group_ids, or use_tags.</td>
</tr>
<tr>
<td>ips_network_id={value}</td>
<td>(Optional) The network ID applied on IPs. The default value is ALL.</td>
</tr>
<tr>
<td>asset_group_ids={value}</td>
<td>(Optional) The IDs of asset groups containing the hosts to be included in the asset search report. Multiple IDs are comma separated. One of these parameters must be specified in a request: ips, asset_groups, asset_group_ids, or use_tags.</td>
</tr>
<tr>
<td>asset_groups={value}</td>
<td>(Optional) The titles of asset groups containing the hosts to be included in the asset search report. Multiple titles are comma separated. One of these parameters must be specified in a request: ips, asset_groups, asset_group_ids, or use_tags.</td>
</tr>
<tr>
<td>assets_in_my_network_only={0</td>
<td>1}</td>
</tr>
<tr>
<td>ec2_instance_status={value}</td>
<td>(Optional) Specify the EC2 instance status to be searched. Possible values: RUNNING, TERMINATED, PENDING, STOPPING, SHUTTING_DOWN, STOPPED. Values are case-sensitive. See EC2 search samples</td>
</tr>
<tr>
<td>ec2_instance_id={value}</td>
<td>(Optional) Specify the EC2 instance ID to be searched. See EC2 search samples</td>
</tr>
<tr>
<td>ec2_instance_id_modifier={value}</td>
<td>(Optional) Show only hosts with ec2_instance_id that is either: beginning with, containing, matching, ending with, not empty. See EC2 search samples</td>
</tr>
<tr>
<td>display_ag_titles={0</td>
<td>1}</td>
</tr>
<tr>
<td>ports={value}</td>
<td>(Optional) Shows the hosts that has the specified open ports. One or more ports may be specified. Multiple ports are comma separated. You can specify up to 10 values.</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>services={value}</td>
<td>(Optional) Shows the hosts that has the specified services running on it. One or more services may be specified. Multiple services are comma separated. You can specify upto 10 values.</td>
</tr>
<tr>
<td>qids={value}</td>
<td>(Optional) Shows vulnerabilities (QIDs) in the KnowledgeBase applicable to the host. Allows up to 20 values.</td>
</tr>
<tr>
<td>qid_with_text={value}</td>
<td>(Optional) Shows vulnerabilities (QIDs) with the specified text in the KnowledgeBase applicable to the host. qid_with_text is valid only when qids parameter is specified.</td>
</tr>
<tr>
<td>qid_with_modifier={value}</td>
<td>(Optional) Show only hosts with QID that is either: beginning with, containing, matching, ending with. qid_with_modifier is valid only when qid_with_text is specified.</td>
</tr>
<tr>
<td>use_tags={0</td>
<td>1}]</td>
</tr>
<tr>
<td>tag_set_by={id</td>
<td>name}</td>
</tr>
<tr>
<td>tag_include_selector={any</td>
<td>all}</td>
</tr>
<tr>
<td>tag_exclude_selector={any</td>
<td>all}</td>
</tr>
<tr>
<td>tag_set_include={value}</td>
<td>(Required when use_tags=1) Specify a tag set to include. Hosts that match these tags will be included. You identify the tag set by providing tag name or IDs. Multiple entries are comma separated.</td>
</tr>
<tr>
<td>tag_set_exclude={value}</td>
<td>(Optional when use_tags=1) Specify a tag set to exclude. Hosts that match these tags will be excluded. You identify the tag set by providing tag name or IDs. Multiple entries are comma separated.</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>first_found_days={value}</td>
<td>(Optional) Specify a number of days along with the first_found_modifier so that the range includes the first found date to be searched for. first_found_days is valid only when first_found_modifier is specified.</td>
</tr>
<tr>
<td>first_found_modifier=</td>
<td>(Optional) Show only hosts whose first found date is within or not within the specified days. first_found_modifier is valid only when first_found_days is specified.</td>
</tr>
<tr>
<td>within</td>
<td>not within</td>
</tr>
<tr>
<td>last_vm_scan_days={value}</td>
<td>(Optional) Specify a number of days so that it includes the last vm scan date to be searched for. last_vm_scan_days is valid only when last_vm_scan_modifier is specified.</td>
</tr>
<tr>
<td>last_vm_scan_modifier=</td>
<td>(Optional) Show only hosts whose last_vm_scan_date is within or not within the specified days. last_vm_scan_modifier is valid only when last_vm_scan_days is specified.</td>
</tr>
<tr>
<td>within</td>
<td>not within</td>
</tr>
<tr>
<td>last_pc_scan_days={value}</td>
<td>(Optional) Specify a number of days so that the specified value along with the modifier forms the date range that includes the last scan date to be searched for. This parameter is valid only when the policy compliance module is enabled for the user account.</td>
</tr>
<tr>
<td>last_pc_scan_modifier=</td>
<td>(Optional) Show only hosts whose last_pc_scan_date is within or not within the specified days. This parameter is valid only when the policy compliance module is enabled for the user account.</td>
</tr>
<tr>
<td>within</td>
<td>not within</td>
</tr>
<tr>
<td>last_scap_scan_days={value}</td>
<td>(Optional) Specify a number of days so that the specified value along with the modifier forms the date range that includes the last SCAP scan date to be searched for. This parameter is valid only when the policy compliance module is enabled for the user account.</td>
</tr>
<tr>
<td>last_scap_scan_modifier=</td>
<td>(Optional) Show only hosts whose last_scap_scan_date is within or not within the specified days. This parameter is valid only when the policy compliance module is enabled for the user account.</td>
</tr>
<tr>
<td>within</td>
<td>not within</td>
</tr>
<tr>
<td>dns_name={value}</td>
<td>(Optional) Specify the DNS name of the host that needs to be searched. dns_name is valid only when dns_modifier is specified.</td>
</tr>
</tbody>
</table>
Chapter 10 - Reports
Asset Search Report

Sample - Request Asset Search report

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl"
"https://qualysapi.qualys.com/api/2.0/fo/report/asset/?action=sear
ch&output_format=xml&echo_request=1&ips=10.10.10.10-10.10.10.20"

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<ASSET_SEARCH_REPORT>
<HEADER>

Parameter | Description
----------|--------------------------------------------------
dns_modifier={value} | (Optional) Show only hosts with dns_name that is either: beginning with, containing, matching, ending with, not empty. dns_modifier is valid only when dns_name is specified.

netbios_name={value} | (Optional) Specify the NETBIOS name of the host to be searched. netbios_name is valid only when netbios_modifier is specified.

netbios_modifier={value} | (Optional) Show only hosts with netbios_name that is either: beginning with, containing, matching, ending with, not empty. netbios_modifier is valid only when netbios_name is specified.

os_cpe_name={value} | (Optional) Specify the OS CPE name of the host to searched. os_cpe_name is valid only when os_cpe_name is specified.

os_cpe_modifier={value} | (Optional) Show only hosts with os_cpe_name that is either: beginning with, containing, matching, ending with, not empty. os_cpe_modifier is valid only when os_cpe_name is specified.

os_name={value} | (Optional) Specify the operating system name of the host to be searched. os_name is valid only when os_modifier is specified.

os_modifier={value} | (Optional) Show only hosts with os_name that is either: beginning with, containing, matching, ending with. os_modifier is valid only when os_name is specified.
<REQUEST>
  <DATETIME>2018-06-03T20:21:13Z</DATETIME>
  <USER_LOGIN>john_sm</USER_LOGIN>

<RESOURCE>https://qualysapi.qualys.com/api/2.0/fo/report/asset/
</RESOURCE>
<PARAM_LIST>
  <PARAM>
    <KEY>action</KEY>
    <VALUE>search</VALUE>
  </PARAM>
  <PARAM>
    <KEY>output_format</KEY>
    <VALUE>xml</VALUE>
  </PARAM>
  <PARAM>
    <KEY>echo_request</KEY>
    <VALUE>1</VALUE>
  </PARAM>
  <PARAM>
    <KEY>ips</KEY>
    <VALUE>10.10.10.10-10.10.10.15</VALUE>
  </PARAM>
</PARAM_LIST>
</REQUEST>

<COMPANY>Corsa</COMPANY>
<USERNAME>John Smith</USERNAME>
<GENERATION_DATETIME>2018-06-03T20:21:13Z</GENERATION_DATETIME>
<TOTAL>2</TOTAL>

<FILTERS>
  <IP_LIST>
    <RANGE>
      <START>10.10.10.10</START>
      <END>10.10.10.15</END>
    </RANGE>
  </IP_LIST>
</FILTERS>

<HOST_LIST>
  <HOST>
    <IP><![CDATA[10.10.10.10]]></IP>
    <TRACKING_METHOD>IP address</TRACKING_METHOD>
    <OPERATING_SYSTEM><![CDATA[Linux 2.4-2.6 / Embedded Device / F5 Networks Big-IP]]></OPERATING_SYSTEM>
    <LAST_SCAN_DATE>2018-06-03T09:11:21Z</LAST_SCAN_DATE>
  </HOST>
</HOST_LIST>
Chapter 10 - Reports

Asset Search Report

<FIRST_FOUND_DATE>2018-06-03T07:11:46Z</FIRST_FOUND_DATE>

</HOST>

<HOST>
  <IP><![CDATA[10.10.10.11]]></IP>
  <TRACKING_METHOD>IP address</TRACKING_METHOD>
  <DNS><![CDATA[10-10-10-11.bogus.tld]]></DNS>
  <NETBIOS><![CDATA[SYS_10_10_10_11]]></NETBIOS>
  <OPERATING_SYSTEM><![CDATA[Windows 2000 Server Service Pack 4]]></OPERATING_SYSTEM>
  <LAST_SCAN_DATE>2018-06-03T07:12:47Z</LAST_SCAN_DATE>
  <FIRST_FOUND_DATE>2018-05-12T15:16:54Z</FIRST_FOUND_DATE>
</HOST>

</HOST_LIST>
</ASSET_SEARCH_REPORT>

DTD:
<platform API server>/asset_search_report_v2.dtd

Sample - Asset Search report CSV

CSV output:

----BEGIN_RESPONSE_HEADER_CSV
"Launch Datetime","User Login","Resource","Parameter Name","Parameter Value"

","output_format","csv"

","echo_request","1"

","ips","10.10.10.10-10.10.10.20"

----END_RESPONSE_HEADER_CSV

"Company","UserName","ReportDate","AssetGroups","IPAddresses","DNS Hostname","NetBIOSHostname","TargetTrackingMethod","TargetOperatingSystem","TargetPort","TargetQID","QIDTitle","TargetLastScanDate","TargetFirstFoundDate","OSCP","Tags","TargetComplianceLastScanDate","Total"

"Corsa","John Smith","2018-06-07T22:51:23Z","10.10.10.10-10.10.10.20","2"

"IP","DNSHostname","NetBIOSHostname","OperatingSystem","OSCP","Port/Service/Default Service","TrackingMethod","LastScanDate","LastComplianceScanDate","First Found","Tags"
Sample - Search EC2 asset with certain EC2 instance ID

**API request:**

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -d "action=search&output_format=xml&tracking_method=EC2&use_tags=1&tag_set_by=name&tag_set_include=useasttag&ec2_instance_id=i-0f87b069d856f4&ec2_instance_id_modifier=containing" "https://qualysapi.qualys.com/api/2.0/fo/report/asset/
```

**XML output:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE ASSET_SEARCH_REPORT SYSTEM "https://qualysapi.qualys.com/asset_search_report_v2.dtd">
<ASSET_SEARCH_REPORT>
<HEADER>
<COMPANY><![CDATA[qualys-test]]></COMPANY>
<USERNAME>qualys_ps</USERNAME>
<GENERATION_DATETIME>2018-04-11T10:17:32Z</GENERATION_DATETIME>
<TOTAL>1</TOTAL>
<FILTERS>
<ASSET_TAGS>
<INCLUDED_TAGS scope="any">
<ASSET_TAG><![CDATA[useasttag]]></ASSET_TAG>
</INCLUDED_TAGS>
</ASSET_TAGS>
<TRACKING_METHOD><![CDATA[EC2]]></TRACKING_METHOD>
</FILTERS>
</HEADER>
<HOST_LIST>
<HOST>
<IP><![CDATA[10.73.188.6]]></IP>
<HOST_TAGS><![CDATA[EC2, Virginia, agec2, sada-0117-targets, sada-new-0308, useasttag;]]></HOST_TAGS>
<TRACKING_METHOD>EC2</TRACKING_METHOD>
<DNS><![CDATA[ip-10-73-188-6.ec2.internal]]></DNS>
<EC2_INSTANCE_ID><![CDATA[i-0f87b069d856f4]]></EC2_INSTANCE_ID>
<LAST_SCAN_DATE />
</HOST>
```
Chapter 10 - Reports

Asset Search Report

Sample - Search EC2 assets with certain status

Search all EC2 assets which are currently in TERMINATED state and having instance ID i-0b121b9211d7e25cb.

API request:

```bash
curl -u "USERNAME:PASSWORD" -k -H "X-Requested-With: Curl" -d "action=search&output_format=xml&tracking_method=EC2&use_tags=1&tag_set_by=name&tag_set_include=useasttag&ec2_instance_status=TERMINATED&ec2_instance_id=i-0b121b9211d7e25cb&ec2_instance_id_modifier=containing" "https://qualysapi.qualys.com/api/2.0/fo/report/asset/
```

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE ASSET_SEARCH_REPORT SYSTEM "https://qualysapi.qualys.com/asset_search_report_v2.dtd">
<ASSET_SEARCH_REPORT>
  <HEADER>
    <COMPANY><![CDATA[qualys-test]]></COMPANY>
    <USERNAME>sada-customer customer</USERNAME>
    <GENERATION_DATETIME>2018-04-11T10:49:05Z</GENERATION_DATETIME>
    <TOTAL>1</TOTAL>
    <FILTERS>
      <ASSET_TAGS>
        <INCLUDED_TAGS scope="any">
          <ASSET_TAG><![CDATA[useasttag]]></ASSET_TAG>
        </INCLUDED_TAGS>
      </ASSET_TAGS>
      <TRACKING_METHOD><![CDATA[EC2]]></TRACKING_METHOD>
    </FILTERS>
  </HEADER>
  <HOST_LIST>
    <HOST>
      <IP><![CDATA[10.90.2.175]]></IP>
      <HOST_TAGS><![CDATA[EC2, Vriginia, por-6586, sada-0117-targets, sada-new-0308, useasttag;]]></HOST_TAGS>
      <TRACKING_METHOD>EC2</TRACKING_METHOD>
      <DNS><![CDATA[i-0b121b9211d7e25cb]]></DNS>
      <EC2_INSTANCE_ID><![CDATA[i-0b121b9211d7e25cb]]></EC2_INSTANCE_ID>
    </HOST>
  </HOST_LIST>
</ASSET_SEARCH_REPORT>
```
Sample - Search assets with SCAP scan performed

**API request:**

curl -u "username:password" -H "X-Requested-With:" "action=search&output_format=xml&asset_groups=Winodws+7+Scap&last_scap_scan_days=300&last_scap_scan_modifier=within" "https://qualysapi.qualys.com/api/2.0/fo/report/asset/"

**XML output:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE ASSET_SEARCH_REPORT SYSTEM "https://qualysapi.qualys.com/asset_search_report_v2.dtd">
<ASSET_SEARCH_REPORT
<HEADER>
<COMPANY><![CDATA[qualys]]></COMPANY>
<USERNAME>POC Manager</USERNAME>
<GENERATION_DATETIME>2018-11-06T00:42:13Z</GENERATION_DATETIME>
<TOTAL>26</TOTAL>
<FILTERS>
<ASSET_GROUPS>
<ASSET_GROUP_TITLE><![CDATA[Winodws 7 Scap]]></ASSET_GROUP_TITLE>
</ASSET_GROUPS>
<FILTER_LAST_SCAP_SCAN_DATE><![CDATA[Within 300]]></FILTER_LAST_SCAP_SCAN_DATE>
</FILTERS>
</HEADER>

<HOST_LIST>
<HOST>
<IP><![CDATA[10.10.10.10]]></IP>
<TRACKING_METHOD>IP address</TRACKING_METHOD>
<DNS><![CDATA[bridge.qualys.com]]></DNS>
<NETBIOS><![CDATA[WIN7-10-10]]></NETBIOS>
<OPERATING_SYSTEM><![CDATA[Windows 7 Ultimate 64 bit Edition Service Pack 1]]></OPERATING_SYSTEM>
<OS_CPE><![CDATA[cpe:/o:microsoft:windows_7::sp1:x64-ultimate:]]></OS_CPE>
<LAST_COMPLIANCE_SCAN_DATE>2018-09-
14T21:57:53Z</LAST_COMPLIANCE_SCAN_DATE>
   <LAST_SCAP_SCAN_DATE>2018-08-
28T10:57:06Z</LAST_SCAP_SCAN_DATE>
   <FIRST_FOUND_DATE>2018-04-03T23:18:26Z</FIRST_FOUND_DATE>
</HOST>
Chapter 11 - VM Report Templates

The Report Template API is used to manage report templates and their settings in the user’s subscription.

API Support for Report Templates

Scan Template
PCI Scan Template
Patch Template
Map Template

API Support for Report Templates

You can now use APIs to create custom reports with views on your scan results and the current vulnerabilities on your hosts. Use various report templates provided by Qualys as a starting point.

APIs are now available to perform various actions on templates for the following report types: Scan Template, PCI Scan Template, Patch Template, Map Template

The Report Template API allows users to perform the following actions.

<table>
<thead>
<tr>
<th>Action</th>
<th>Supported Access Method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create</td>
<td>POST</td>
<td>Create a report template. A unique template ID is generated for the new template.</td>
</tr>
<tr>
<td>Update</td>
<td>PUT</td>
<td>Update an existing report template.</td>
</tr>
<tr>
<td>Delete</td>
<td>POST</td>
<td>Delete an existing report template.</td>
</tr>
<tr>
<td>Export</td>
<td>GET</td>
<td>Export a specific report template based on the template ID, or all templates for the report type.</td>
</tr>
</tbody>
</table>

Once you have your template the way you want you can run reports using the templates using the Report API /api/2.0/fo/report.
Scan Template

/api/2.0/fo/report/template/scan/

Perform actions such as create, update, delete and export on the Scan Template.

Scan Template Request

A summary of API Endpoint URLs is provided below.

<table>
<thead>
<tr>
<th>Action</th>
<th>API Endpoint /required parameters</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create Scan Template</td>
<td><code>&lt;base_url&gt;/api/2.0/fo/report/template/scan/</code> Required parameters:</td>
<td>POST</td>
</tr>
<tr>
<td></td>
<td>action=create report_format=xml</td>
<td></td>
</tr>
<tr>
<td>Update Scan Template</td>
<td><code>&lt;base_url&gt;/api/2.0/fo/report/template/scan/</code> Required parameters:</td>
<td>PUT</td>
</tr>
<tr>
<td></td>
<td>template_id={value} action=update report_format=xml</td>
<td></td>
</tr>
<tr>
<td>Delete Scan Template</td>
<td><code>&lt;base_url&gt;/api/2.0/fo/report/template/scan/</code> Required parameters:</td>
<td>POST</td>
</tr>
<tr>
<td></td>
<td>template_id={value} action=delete</td>
<td></td>
</tr>
<tr>
<td>Export Scan Template</td>
<td><code>&lt;base_url&gt;/api/2.0/fo/report/template/scan/</code> Required parameters:</td>
<td>GET</td>
</tr>
<tr>
<td></td>
<td>action=export report_format=xml</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Optional parameter: template_id={value}</td>
<td></td>
</tr>
<tr>
<td></td>
<td>When unspecified all templates for the report type get exported.</td>
<td></td>
</tr>
</tbody>
</table>

Scan Template settings

These parameters (all are optional) are used for a create or update request to define scan template settings. When creating a new template the default value is shown in bold where applicable.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>The template title and owner.</td>
</tr>
<tr>
<td>title</td>
<td>A string value for the title. Length is maximum 64 characters.</td>
</tr>
<tr>
<td>owner</td>
<td>Username of the owner of this template. Validity of the owner to create reports is based on the user role or business unit. See About template owner.</td>
</tr>
</tbody>
</table>
### Chapter 11 - VM Report Templates

#### Scan Template

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>scan_selection</td>
<td>Specify HostBased for Host Based Findings (default for new template) or ScanBased for Scan Based Findings. Choosing Host Based Findings allows you to report on the latest vulnerability data from all of your scans. Choosing Scan Based Findings allows you to run a report based on saved scan results.</td>
</tr>
<tr>
<td>include_trending</td>
<td>Specify 1 to include trending. Choose a timeframe (daily, weekly or monthly) to analyze the vulnerability status for the timeframe selected. This parameter is required only if scan_selection=HostBased.</td>
</tr>
<tr>
<td>limit_timeframe</td>
<td>Specify 1 to only include scan results from the specified time frame. This ensures that only vulnerability information gathered in the timeframe that you've specified is included in the report. If unspecified, vulnerability information for hosts that were last scanned prior to the report timeframe may be included. This parameter is required only if scan_selection=HostBased.</td>
</tr>
<tr>
<td>selection_type</td>
<td>Specify whether to include trending information for number of weeks, days or months or a specific date. Specifying none will create a report without any trending information included. Specifying scans will include trending information for the last two detections. This parameter is required only if scan_selection=HostBased.</td>
</tr>
<tr>
<td>selection_range</td>
<td>Specify the range for the selection type. Specify a number of units (1</td>
</tr>
<tr>
<td>asset_groups</td>
<td>Specify the name of the asset group(s) to report on. Multiple asset groups are comma separated. We'll report on all the IPs in the asset groups. This parameter is required only if scan_selection=HostBased.</td>
</tr>
<tr>
<td>asset_group_ids</td>
<td>Specify the ID of the asset group(s) to report on. Multiple asset group IDs are comma separated. We'll report on all the IPs in the asset groups. This parameter is required only if scan_selection=HostBased.</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>network={value}</td>
<td>(Valid only when the Networks feature is enabled for your account.) A network name containing the IPs to include. For a new template the default network is Global Default Network.</td>
</tr>
<tr>
<td>ips={value}</td>
<td>Specify the IPs or IP ranges to report on. Multiple IPs or IP ranges are comma separated. This parameter is required only if scan_selection=HostBased.</td>
</tr>
<tr>
<td>tag_set_by={name</td>
<td>id}</td>
</tr>
<tr>
<td>tag_include_selector=</td>
<td>Specify ALL to match all the asset tags for the hosts you want to report on (This is an AND operation). Specifying ANY will match any of the assets tags (This is an OR operation). This parameter is required only if scan_selection=HostBased.</td>
</tr>
<tr>
<td>{ALL</td>
<td>ANY}</td>
</tr>
<tr>
<td>tag_set_include={value}</td>
<td>Specify asset tags for the hosts you want to report on. We'll find the hosts in your account that match your tag selection and include them in the report. Multiple tags can be provided using comma separated values. This parameter is required only if scan_selection=HostBased.</td>
</tr>
<tr>
<td>tag_exclude_selector=</td>
<td>Specify ALL to match all the asset tags for the hosts you want do not want to report on (This is an AND operation). Specifying ANY will match any of the assets tags (This is an OR operation). This parameter is required only if scan_selection=HostBased.</td>
</tr>
<tr>
<td>{ALL</td>
<td>ANY}</td>
</tr>
<tr>
<td>tag_set_exclude={value}</td>
<td>Specify asset tags for the hosts you do not want to report on. We'll find the hosts in your account that match your tag selection and exclude them from the report. Multiple tags can be provided using comma separated values. This parameter is required only if scan_selection=HostBased.</td>
</tr>
<tr>
<td>host_with_cloud_agents=</td>
<td>What host findings to include in the report when CA module is enabled. Your options are: all - All data scan - Scan data, i.e. include findings from scans that didn’t use Agentless Tracking agent - Agent data, i.e. include findings from the agent when merging is enabled (i.e. Show unified view hosts option in UI under Users &gt; Setup &gt; Cloud Agent Setup)</td>
</tr>
<tr>
<td>{all</td>
<td>scan</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>display_text_summary={0</td>
<td>1}</td>
</tr>
<tr>
<td>graph_business_risk={0</td>
<td>1}</td>
</tr>
<tr>
<td>graph_vuln_over_time={0</td>
<td>1}</td>
</tr>
<tr>
<td>graph_status={0</td>
<td>1}</td>
</tr>
<tr>
<td>graph_potential_status={0</td>
<td>1}</td>
</tr>
<tr>
<td>graph_severity={0</td>
<td>1}</td>
</tr>
<tr>
<td>graph_potential_severity=[0</td>
<td>1]</td>
</tr>
<tr>
<td>graph_ig_severity={0</td>
<td>1}</td>
</tr>
<tr>
<td>graph_top_categories={0</td>
<td>1}</td>
</tr>
<tr>
<td>graph_top_vulns={0</td>
<td>1}</td>
</tr>
<tr>
<td>graph_os={0</td>
<td>1}</td>
</tr>
<tr>
<td>graph_services={0</td>
<td>1}</td>
</tr>
<tr>
<td>graph_top_ports={0</td>
<td>1}</td>
</tr>
<tr>
<td>display_custom_footer={0</td>
<td>1}</td>
</tr>
<tr>
<td>display_custom_footer_text={value}</td>
<td>Specify custom text like a disclosure statement or data classification (e.g. Public, Confidential). The text you enter will appear in all reports generated from this template, except reports in XML and CSV formats. Length is maximum 4000 characters.</td>
</tr>
<tr>
<td>sort_by={host</td>
<td>vuln</td>
</tr>
<tr>
<td>cvss={a11</td>
<td>cvssv2</td>
</tr>
</tbody>
</table>
### Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>host_details={0</td>
<td>1}</td>
</tr>
<tr>
<td>metadata_ec2_instances= {0</td>
<td>1}</td>
</tr>
<tr>
<td>include_text_summary={0</td>
<td>1}</td>
</tr>
<tr>
<td>include_vuln_details={0</td>
<td>1}</td>
</tr>
<tr>
<td>include_vuln_details_threat={0</td>
<td>1}</td>
</tr>
<tr>
<td>include_vuln_details_impact={0</td>
<td>1}</td>
</tr>
<tr>
<td>include_vuln_details_solution={0</td>
<td>1}</td>
</tr>
<tr>
<td>include_vuln_details_vpatch={0</td>
<td>1}</td>
</tr>
<tr>
<td>include_vuln_details_compliance={0</td>
<td>1}</td>
</tr>
<tr>
<td>include_vuln_details_exploit={0</td>
<td>1}</td>
</tr>
<tr>
<td>include_vuln_details_malware={0</td>
<td>1}</td>
</tr>
<tr>
<td>include_vuln_details_results={0</td>
<td>1}</td>
</tr>
<tr>
<td>include_vuln_details_reopened={0</td>
<td>1}</td>
</tr>
</tbody>
</table>
## Chapter 11 - VM Report Templates

### Scan Template

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>`include_vuln_details_appendix=0</td>
<td>1`</td>
</tr>
<tr>
<td>`exclude_account_id=0</td>
<td>1`</td>
</tr>
<tr>
<td><strong>Filters</strong></td>
<td></td>
</tr>
<tr>
<td>`selective_vulns={complete</td>
<td>custom}`</td>
</tr>
<tr>
<td><code>search_list_ids={value}</code></td>
<td>Specify search list ID or QID. Multiple search list IDs or QIDs can be provided using values separated by a comma. This parameter is required only if <code>selective_vulns=custom</code>.</td>
</tr>
<tr>
<td>`exclude_qid_option=0</td>
<td>1`</td>
</tr>
<tr>
<td><code>exclude_search_list_ids={value}</code></td>
<td>Specify QID to be excluded from the report. Multiple QIDs can be provided using values separated by a comma. This parameter is required only if <code>exclude_qid_option=1</code>.</td>
</tr>
<tr>
<td><code>included_os={value}</code></td>
<td>Specify the operating system name to filter hosts. For example, to only report on Linux hosts make sure you provide the operating system name for Linux. Multiple operating system names can be provided using values separated by a comma. Specify ALL to include all operating systems. See Identified OS.</td>
</tr>
<tr>
<td>`status_new=0</td>
<td>1`</td>
</tr>
<tr>
<td>`status_active=0</td>
<td>1`</td>
</tr>
<tr>
<td>`status_reopen=0</td>
<td>1`</td>
</tr>
<tr>
<td>`status_fixed=0</td>
<td>1`</td>
</tr>
<tr>
<td>`vuln_active=0</td>
<td>1`</td>
</tr>
<tr>
<td>`vuln_disabled=1</td>
<td>1`</td>
</tr>
</tbody>
</table>
### Chapter 11 - VM Report Templates

#### Scan Template

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>vuln_ignored={0</td>
<td>1}</td>
</tr>
<tr>
<td>potential_active={0</td>
<td>1}</td>
</tr>
<tr>
<td>potential_disabled={0</td>
<td>1}</td>
</tr>
<tr>
<td>potential_ignored={0</td>
<td>1}</td>
</tr>
<tr>
<td>ig_active={0</td>
<td>1}</td>
</tr>
<tr>
<td>ig_disabled={0</td>
<td>1}</td>
</tr>
<tr>
<td>ig_ignored={0</td>
<td>1}</td>
</tr>
<tr>
<td>display_non_running_kernels={0</td>
<td>1}</td>
</tr>
<tr>
<td>exclude_non_running_kernels={0</td>
<td>1}</td>
</tr>
<tr>
<td>exclude_non_running_services={0</td>
<td>1}</td>
</tr>
<tr>
<td>exclude_qids_not_exploitable_due_to_configuration={0</td>
<td>1}</td>
</tr>
<tr>
<td>exclude_superceded_patches={0</td>
<td>1}</td>
</tr>
<tr>
<td>categories_list={value}</td>
<td>Specify the category name to filter hosts in your report based on various categories. For example, if you're only interested in Windows vulnerabilities make sure you provide the category name for Windows. Multiple category names can be provided using values separated by a comma. Specify ALL to include all categories. See Categories.</td>
</tr>
</tbody>
</table>

#### Services and Ports

<table>
<thead>
<tr>
<th>Services and Ports</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>required_services={value}</td>
<td>Specify the name of a required service. Multiple service names can be provided using values separated by a comma. We'll report QID: 38228 (when a required service is NOT detected). See Identified Services.</td>
</tr>
</tbody>
</table>
Chapter 11 - VM Report Templates

Scan Template

**Parameter** | **Description**
--- | ---
`unauthorized_services={value}` | Specify the name of an unauthorized service. Multiple service names can be provided using values separated by a comma. We'll report QID: 38175 (when an unauthorized service is detected). See Identified Services.

`required_ports={value}` | Specify required ports. Multiple ports can be provided using values separated by a comma. We'll report QID: 82051 (when a required port is NOT detected).

`unauthorized_ports={value}` | Specify unauthorized ports. Multiple ports can be provided using values separated by a comma. We'll report QID: 82043 (when an unauthorized port is detected).

**User Access**

| Parameter | Description |
--- | --- |
`global={0|1}` | Share this report template with other users by making it global. Specify 1 to make it global.

`report_access_users={value}` | Specify the username to share the report with a user who wouldn't already have access to the report. Multiple usernames can be provided using values separated by a comma. Each user you add will be able to view reports generated from this template even if they don't have access to the IPs in the report.

**DTD**

```xml
<platform API server>/api/2.0/fo/report/template/scan/scanreporttemplate_info.dtd
```

**Sample - Create scan template**

**API request:**

```bash
```

**XML output:**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
 <RESPONSE>
  <DATETIME>2017-04-06T05:41:32Z</DATETIME>
  <CODE>Scan Report Template(s) Created Successfully [89876]</CODE>
  <TEXT></TEXT>
 </RESPONSE>
</SIMPLE_RETURN>
```
Sample - Update Scan template

API request:
```
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2017-04-04T10:52:34Z</DATETIME>
    <CODE>Scan Report Template Updated Successfully [8209]</CODE>
  </RESPONSE>
</SIMPLE_RETURN>
```

Sample - Delete Scan template

API request:
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl" -d "action=delete&template_id=8209" "https://qualysapi.qualys.com/api/2.0/fo/report/template(scan/"
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2017-04-04T10:54:37Z</DATETIME>
    <CODE>Scan Report Template(s) Deleted Successfully [8209]</CODE>
  </RESPONSE>
</SIMPLE_RETURN>
```

Sample - Export Scan template

Exports the report template based on the template ID. When the template ID is not specified, exports all templates for the report type.
API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With:curl"
"https://qualysapi.qualys.com/api/2.0/fo/report/template/scan/?action=export&template_id=89470&report_format=xml"

XML output:

<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE REPORTTEMPLATE SYSTEM
"https://qualysapi.qualys.com/api/2.0/fo/report/template/scan/reporttemplate_info.dtd">
<REPORTTEMPLATE>
  <SCANTEMPLATE>
    <TITLE>
      <INFO key="title"><![CDATA[Scan-Report-To-Create-Do not Change]]></INFO>
    </TITLE>
    <TARGET>
      <INFO key="scan_selection"><![CDATA[HostBased]]></INFO>
      <INFO key="include_trending"><![CDATA[1]]></INFO>
      <INFO key="selection_type"><![CDATA[days]]></INFO>
      <INFO key="selection_range"><![CDATA[5]]></INFO>
      <INFO key="limit_timeframe"><![CDATA[1]]></INFO>
      <INFO key="asset_groups"><![CDATA[PBPS-Targets]]></INFO>
      <INFO key="tag_set_by"><![CDATA[id]]></INFO>
      <INFO key="tag_set_include"><![CDATA[8644659]]></INFO>
      <INFO key="tag_set_exclude"><![CDATA[8262228]]></INFO>
      <INFO key="tag_include_selector"><![CDATA[ALL]]></INFO>
      <INFO key="tag_exclude_selector"><![CDATA[ALL]]></INFO>
      <INFO key="network"><![CDATA[-100]]></INFO>
      <INFO key="ips"><![CDATA[10.10.0.1,10.10.0.5]]></INFO>
      <INFO key="host_with_cloud_agents"><![CDATA[all]]></INFO>
    </TARGET>
    <DISPLAY>
      <INFO key="graph_business_risk"><![CDATA[1]]></INFO>
      <INFO key="graph_vuln_over_time"><![CDATA[1]]></INFO>
      <INFO key="display_text_summary"><![CDATA[1]]></INFO>
      <INFO key="graph_status"><![CDATA[1]]></INFO>
      <INFO key="graph_potential_status"><![CDATA[1]]></INFO>
      <INFO key="graph_severity"><![CDATA[1]]></INFO>
      <INFO key="graph_potential_severity"><![CDATA[1]]></INFO>
      <INFO key="graph_ig_severity"><![CDATA[1]]></INFO>
      <INFO key="graph_top_categories"><![CDATA[1]]></INFO>
      <INFO key="graph_top_vulns"><![CDATA[1]]></INFO>
      <INFO key="graph_os"><![CDATA[1]]></INFO>
    </DISPLAY>
  </SCANTEMPLATE>
</REPORTTEMPLATE>
Chapter 11 - VM Report Templates
Scan Template

<INFO key="graph_services"><![CDATA[1]]></INFO>
<INFO key="graph_top_ports"><![CDATA[1]]></INFO>
<INFO key="display_custom_footer"><![CDATA[1]]></INFO>
<INFO key="display_custom_footer_text"><![CDATA[Test@123]]></INFO>
<INFO key="sort_by"><![CDATA[host]]></INFO>
<INFO key="cvss"><![CDATA[all]]></INFO>
<INFO key="host_details"><![CDATA[0]]></INFO>
<INFO key="include_text_summary"><![CDATA[1]]></INFO>
<INFO key="include_vuln_details"><![CDATA[1]]></INFO>
<INFO key="include_vuln_details_threat"><![CDATA[1]]></INFO>
<INFO key="include_vuln_details_impact"><![CDATA[1]]></INFO>
<INFO key="include_vuln_details_solution"><![CDATA[1]]></INFO>
<INFO key="include_vuln_details_compliance"><![CDATA[1]]></INFO>
<INFO key="include_vuln_details_exploit"><![CDATA[1]]></INFO>
<INFO key="include_vuln_details_malware"><![CDATA[1]]></INFO>
<INFO key="include_vuln_details_results"><![CDATA[1]]></INFO>
<INFO key="include_vuln_details_appendix"><![CDATA[1]]></INFO>
<INFO key="exclude_account_id"><![CDATA[1]]></INFO>
<INFO key="include_vuln_details_reopened"><![CDATA[1]]></INFO>
<INFO key="metadata_ec2_instances"><![CDATA[0]]></INFO>
</DISPLAY>
<FILTER>
<INFO key="selective_vulns"><![CDATA[complete]]></INFO>
<INFO key="search_list_ids"><![CDATA[]]></INFO>
<INFO key="exclude_qid_option"><![CDATA[1]]></INFO>
<INFO key="exclude_search_list_ids"><![CDATA[]]></INFO>
<INFO key="included_os"><![CDATA[ALL]]></INFO>
<INFO key="status_new"><![CDATA[1]]></INFO>
<INFO key="status_active"><![CDATA[1]]></INFO>
<INFO key="status_reopen"><![CDATA[1]]></INFO>
<INFO key="status_fixed"><![CDATA[1]]></INFO>
<INFO key="vuln_active"><![CDATA[1]]></INFO>
<INFO key="vuln_disabled"><![CDATA[1]]></INFO>
<INFO key="vuln_ignored"><![CDATA[1]]></INFO>
<INFO key="potential_active"><![CDATA[1]]></INFO>
<INFO key="potential_disabled"><![CDATA[1]]></INFO>
<INFO key="potential_ignored"><![CDATA[1]]></INFO>

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Scan Template

<INFO key="ig_active"><![CDATA[1]]></INFO>
<INFO key="ig_disabled"><![CDATA[1]]></INFO>
<INFO key="ig_ignored"><![CDATA[0]]></INFO>
<INFO key="display_non_running_kernels"><![CDATA[1]]></INFO>
<INFO key="exclude_non_running_kernel"><![CDATA[0]]></INFO>
<INFO key="exclude_non_running_services"><![CDATA[1]]></INFO>
<INFO key="exclude_superceded_patches"><![CDATA[1]]></INFO>
<INFO key="exclude_qids_not_exploitable_due_to_configuration"><![CDATA[1]]></INFO>
<INFO key="categories_list"><![CDATA[ALL]]></INFO>
</FILTER>
<SERVICESPORTS>
<INFO key="required_services"><![CDATA[ActiveSync,akak trojan,Apple Airport Management,Applix TM1 Server]]></INFO>
<INFO key="unauthorized_services"><![CDATA[aml,Arkeiad Network Backup,auth]]></INFO>
<INFO key="services_info"><![CDATA[aml,Arkeiad Network Backup,auth]]></INFO>
<INFO key="required_ports"><![CDATA[12]]></INFO>
<INFO key="unauthorized_ports"><![CDATA[21]]></INFO>
</SERVICESPORTS>
<USERACCESS>
<INFO key="report_access_users"><![CDATA[start_rm2,start_su]]></INFO>
<INFO key="global"><![CDATA[1]]></INFO>
</USERACCESS>
</SCANTEMPLATE>
</REPORTTEMPLATE>
## PCI Scan Template

/api/2.0/fo/report/template/pciscan/

Perform actions such as create, update, delete and export on the PCI Scan Template.

### PCI Scan Template Request
A summary of API Endpoint URLs is provided below.

<table>
<thead>
<tr>
<th>Action</th>
<th>API Endpoint /required parameters</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create PCI Scan Template</td>
<td><code>&lt;base_url&gt;/api/2.0/fo/report/template/pciscan/</code>&lt;br&gt;Required parameters:&lt;br&gt;action=create&lt;br&gt;report_format=xml</td>
<td>POST</td>
</tr>
<tr>
<td>Update PCI Scan Template</td>
<td><code>&lt;base_url&gt;/api/2.0/fo/report/template/pciscan/</code>&lt;br&gt;Required parameters:&lt;br&gt;template_id={value}&lt;br&gt;action=update&lt;br&gt;report_format=xml</td>
<td>PUT</td>
</tr>
<tr>
<td>Delete PCI Scan Template</td>
<td><code>&lt;base_url&gt;/api/2.0/fo/report/template/pciscan/</code>&lt;br&gt;Required parameters:&lt;br&gt;template_id={value}&lt;br&gt;action=delete</td>
<td>POST</td>
</tr>
<tr>
<td>Export PCI Scan Template</td>
<td><code>&lt;base_url&gt;/api/2.0/fo/report/template/pciscan/</code>&lt;br&gt;Required parameters:&lt;br&gt;action=export&lt;br&gt;report_format=xml&lt;br&gt;Optional parameter:&lt;br&gt;template_id={value}&lt;br&gt;When unspecified all templates for the report type get exported.</td>
<td>GET</td>
</tr>
</tbody>
</table>
**PCI Scan Template settings**

Go to **Scan Template settings**. The same parameters used to define PCI Scan Template settings. All parameters (all are optional).

In addition the following parameters are used for PCI Risk Ranking.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>custom_pci_ranking={0</td>
<td>1}</td>
</tr>
<tr>
<td>customized_ranking_medium_from={0</td>
<td>1</td>
</tr>
<tr>
<td>customized_ranking_high_from={0</td>
<td>1</td>
</tr>
<tr>
<td>customized_ranking_comments={value}</td>
<td>When custom PCI risk ranking is enabled, a comment on the custom ranking is required. Enter any string up to 400 characters.</td>
</tr>
<tr>
<td>customized_ranking_qid_searchlist_comments={&lt;search list id1/name1&gt;</td>
<td>&lt;SEVERITY&gt;</td>
</tr>
</tbody>
</table>

**DTD**

`<platform API server>/api/2.0/fo/report/template/pciscan/pciscanreporttemplate_info.dtd`

**Samples**

Refer to **Scan template examples** for create, update, delete and export sample requests. Requests and outputs for PCI Scan template are similar.
Chapter 11 - VM Report Templates

Patch Template
/api/2.0/fo/report/template/patch/

Perform actions such as create, update, delete and export on the Patch Template.

Patch Template Request
A summary of API Endpoint URLs is provided below.

<table>
<thead>
<tr>
<th>Action</th>
<th>API Endpoint /required parameters</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create Patch Template</td>
<td><code>&lt;base_url&gt;/api/2.0/fo/report/template/patch/</code> Required parameters: action=create report_format=xml</td>
<td>POST</td>
</tr>
<tr>
<td>Update Patch Template</td>
<td><code>&lt;base_url&gt;/api/2.0/fo/report/template/patch/</code> Required parameters: template_id={value} action=update report_format=xml</td>
<td>PUT</td>
</tr>
<tr>
<td>Delete Patch Template</td>
<td><code>&lt;base_url&gt;/api/2.0/fo/report/template/patch/</code> Required parameters: template_id={value} action=delete</td>
<td>POST</td>
</tr>
<tr>
<td>Export Patch Template</td>
<td><code>&lt;base_url&gt;/api/2.0/fo/report/template/patch/</code> Required parameters: action=export report_format=xml Optional parameter: template_id={value} When unspecified all templates for the report type get exported.</td>
<td>GET</td>
</tr>
</tbody>
</table>

Patch Template settings
These parameters (all are optional) are used for a create or update request to define Patch template settings. When creating a new template the default value is shown in bold where applicable.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>The template title and owner.</td>
</tr>
<tr>
<td>title={value}</td>
<td>A string value for the title. Length is maximum 64 characters.</td>
</tr>
<tr>
<td>owner={value}</td>
<td>Username of the owner of this template. Validity of the owner to create reports is based on the user role or business unit. See About template owner.</td>
</tr>
</tbody>
</table>
### Parameter | Description
--- | ---
**Target** | What target assets to include in the report.

patch_evaluation= | Specify classic to choose Classic patch evaluation or specify qidbased to choose QID based patch evaluation.

qidbased | classic

**asset_groups** | Asset groups to include in the report. Multiple asset groups are comma separated.

**asset_group_ids=** | Specify the ID of the asset group(s) to report on. Multiple asset group IDs are comma separated. We'll report on all the IPs in the asset groups.

**tag_set_by=** | Specify the name of the tags or the ID of the tags for the hosts you want to report on. Multiple tag names or tag IDs are comma separated.

name | id

**tag_include_selector=** | Specify ALL to match all the asset tags for the hosts you want to report on (This is an AND operation). Specifying ANY will match any of the assets tags (This is an OR operation).

ALL | ANY

**tag_set_include=** | Specify asset tags for the hosts you want to report on. We'll find the hosts in your account that match your tag selection and include them in the report. Multiple tags can be provided using comma separated values.

**tag_exclude_selector=** | Specify ALL to match all the asset tags for the hosts you want do not want to report on (This is an AND operation). Specifying ANY will match any of the assets tags (This is an OR operation).

ALL | ANY

**tag_set_exclude=** | Specify asset tags for the hosts you do not want to report on. We'll find the hosts in your account that match your tag selection and exclude them from the report. Multiple tags can be provided using comma separated values.

**network=** | (Valid only when the Networks feature is enabled for your account.) A network name containing the IPs to include. For a new template the default network is Global Default Network.

**ips=** | IP addresses to include in the report. Multiple IPs are comma separated.

**Display** | Display options to include in the report.

**group_by=** | Sort and group the results of the report by any of the following:

HOST | PATCH | OS | AG

host | Patch | Operating System | Asset Group

**include_table_of_qids_fixed=** | Specify 1 to include QIDs that will be fixed by each patch.

**include_patch_links=** | Specify 1 to include the available links for each patch.

0 | 1
### Chapter 11 - VM Report Templates

#### Patch Template

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>include_patches_from_unspecified_vendors=0</td>
<td>Specify 1 to include patches from unspecified vendors.</td>
</tr>
<tr>
<td>patch_severity_by=</td>
<td>Specify assigned to display severity which is assigned to the QID for the patch detection. Specify highest to display the severity which is highest across all QIDs found on the host that can be patched.</td>
</tr>
<tr>
<td>patch_cvss_score_by=</td>
<td>Specify the CVSS version score you want to display in reports. assigned - CVSS score assigned to the QID for the patch detection highest - CVSS score highest across all QIDs found on the host that can be patched. none - Do not display CVSS scores.</td>
</tr>
<tr>
<td>cvss={all</td>
<td>cvssv2</td>
</tr>
<tr>
<td>display_custom_footer=</td>
<td>Specify 1 to include custom text in the report footer.</td>
</tr>
<tr>
<td>display_custom_footer_text=</td>
<td>Specify custom text like a disclosure statement or data classification (e.g. Public, Confidential). The text you enter will appear in all reports generated from this template, except reports in XML and CSV formats. Length is maximum 4000 characters.</td>
</tr>
<tr>
<td>exclude_account_id=</td>
<td>Specify 1 to exclude the account login ID in the filename of downloaded reports. Use this option to remove the login ID from the filename.</td>
</tr>
<tr>
<td>selective_vulns={complete</td>
<td>custom}</td>
</tr>
<tr>
<td>search_list_ids=</td>
<td>Specify QID to be included in the report. Multiple QIDs can be provided using values separated by a comma. This parameter is required only if selective_vulns=custom.</td>
</tr>
<tr>
<td>exclude_qid_option=</td>
<td>Specify 1 to exclude QIDs from the report.</td>
</tr>
<tr>
<td>exclude_search_list_ids=</td>
<td>Specify QID to be excluded from the report. Multiple QIDs can be provided using values separated by a comma. This parameter is required only if exclude_qid_option=1.</td>
</tr>
<tr>
<td>display_non_running_kernels=</td>
<td>Specify 1 to include a list of all vulnerabilities found on non-running kernels.</td>
</tr>
</tbody>
</table>
### Parameter

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>exclude_non_running_kernels={0</td>
<td>1}</td>
</tr>
<tr>
<td>exclude_non_running_services={0</td>
<td>1}</td>
</tr>
<tr>
<td>exclude_qids_not_exploitable_due_to_configuration={0</td>
<td>1}</td>
</tr>
<tr>
<td>selective_patches={complete</td>
<td>custom}</td>
</tr>
<tr>
<td>exclude_patch_qid_option={0</td>
<td>1}</td>
</tr>
<tr>
<td>patch_search_list_ids={value}</td>
<td>Specify patch QID to be included in the report. Multiple patch QIDs can be provided using values separated by a comma. This parameter is required only if selective_patches=custom.</td>
</tr>
<tr>
<td>exclude_patch_search_list_ids={value}</td>
<td>Specify patch QID to be excluded from the report. Multiple patch QIDs can be provided using values separated by a comma. This parameter is required only if exclude_patch_qid_option=1.</td>
</tr>
<tr>
<td>found_since_days={7</td>
<td>30</td>
</tr>
</tbody>
</table>

#### User Access

- **global={0|1}** 
  Share this report template with other users by making it global. Specify 1 to make it global.

- **report_access_users={value}** 
  Specify the username to share the report with a user who wouldn't already have access to the report. Multiple usernames can be provided using values separated by a comma. Each user you add will be able to view reports generated from this template even if they don’t have access to the IPs in the report.

### DTD

```
<platform API server>/api/2.0/fo/report/template/patch/patchreporttemplate_info.dtd
```
Samples
Refer to Scan template examples for create, update, delete and export sample requests. Requests and outputs for Patch template are similar.

Map Template
/api/2.0/fo/report/template/map/

Perform actions such as create, update, delete and export on the Map Template.

Map Template Request
A summary of API Endpoint URLs is provided below.

<table>
<thead>
<tr>
<th>Action</th>
<th>API Endpoint /required parameters</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create Map Template</td>
<td>&lt;base_url&gt;/api/2.0/fo/report/template/map/ Required parameters: action=create report_format=xml</td>
<td>POST</td>
</tr>
<tr>
<td>Update Map Template</td>
<td>&lt;base_url&gt;/api/2.0/fo/report/template/map/ Required parameters: template_id={value} action=update report_format=xml</td>
<td>PUT</td>
</tr>
<tr>
<td>Delete Map Template</td>
<td>&lt;base_url&gt;/api/2.0/fo/report/template/map/ Required parameters: template_id={value} action=delete</td>
<td>POST</td>
</tr>
<tr>
<td>Export Map Template</td>
<td>&lt;base_url&gt;/api/2.0/fo/report/template/map/ Required parameters: action=export report_format=xml Optional parameter: template_id={value} When unspecified all templates for the report type get exported.</td>
<td>GET</td>
</tr>
</tbody>
</table>
**Map Template settings**

These parameters (all are optional) are used for a create or update request to define Map template settings. When creating a new template the default value is shown in bold where applicable.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title</strong></td>
<td></td>
</tr>
<tr>
<td>title={value}</td>
<td>A string value for the title. Length is maximum 64 characters.</td>
</tr>
<tr>
<td>owner={value}</td>
<td>Username of the owner of this template. Validity of the owner to create reports is based on the user role or business unit. See About template owner.</td>
</tr>
<tr>
<td>global={0</td>
<td>1}</td>
</tr>
<tr>
<td><strong>Display</strong></td>
<td></td>
</tr>
<tr>
<td>map_sort_by={ipaddress</td>
<td>dns</td>
</tr>
<tr>
<td>map_related_info_lastscandate={0</td>
<td>1}</td>
</tr>
<tr>
<td>map_related_info_assetgroups={0</td>
<td>1}</td>
</tr>
<tr>
<td>map_related_info_authenticationrecords={0</td>
<td>1}</td>
</tr>
<tr>
<td>map_related_info_discoverymethod={0</td>
<td>1}</td>
</tr>
<tr>
<td>display_custom_footer={0</td>
<td>1}</td>
</tr>
<tr>
<td>display_custom_footer_text={value}</td>
<td>Specify custom text like a disclosure statement or data classification (e.g. Public, Confidential). The text you enter will appear in all reports generated from this template, except reports in XML and CSV formats. Length is maximum 4000 characters.</td>
</tr>
<tr>
<td>map_exclude_account_id={0</td>
<td>1}</td>
</tr>
<tr>
<td><strong>Filters</strong></td>
<td>Filter options to help you specify what to include.</td>
</tr>
<tr>
<td>map_included_hosttypes_innetblock={0</td>
<td>1}</td>
</tr>
<tr>
<td>map_included_hosttypes_scannable={0</td>
<td>1}</td>
</tr>
</tbody>
</table>
### Included Discovery Methods

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>map_idm_tcp={0</td>
<td>1}</td>
</tr>
<tr>
<td>map_idm_udp={0</td>
<td>1}</td>
</tr>
<tr>
<td>map_idm_traceroute={0</td>
<td>1}</td>
</tr>
<tr>
<td>map_idm_other={0</td>
<td>1}</td>
</tr>
<tr>
<td>map_idm_dns={0</td>
<td>1}</td>
</tr>
<tr>
<td>map_idm_icmp={0</td>
<td>1}</td>
</tr>
<tr>
<td>map_idm_auth={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

### Included Status Levels

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>map_included_statuses_added={0</td>
<td>1}</td>
</tr>
<tr>
<td>map_included_statuses_removed={0</td>
<td>1}</td>
</tr>
<tr>
<td>map_included_statuses_active={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

### Included OS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>included_os={value}</td>
<td>Specify the operating system name to filter hosts. For example, to only report on Linux hosts make sure you provide the operating system name for Linux. Multiple operating system names can be provided using values separated by a comma. Specify ALL to include all operating systems. See Identified OS.</td>
</tr>
</tbody>
</table>

### DNS Exclusions

- `none` = None
- `DNS` = DNS
- `DNS-DNSZone` = DNS and/or DNS Zone Transfer

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>dns_exclusions={none</td>
<td>DNS</td>
</tr>
</tbody>
</table>

---

*Parameter Description*

- `map_included_hosttypes_live={0|1}` Specify 1 to filter the report by host types - Live.
- `map_included_hosttypes_approved={0|1}` Specify 1 to filter the report by host types - Approved.
- `map_included_hosttypes_outrightnetblock={0|1}` Specify 1 to filter the report by host types - Not In Netblock.
- `map_included_hosttypes_notscannable={0|1}` Specify 1 to filter the report by host types - Not Scannable.
- `map_included_hosttypes_notlive={0|1}` Specify 1 to filter the report by host types - Not Live.
- `map_included_hosttypes_rogue={0|1}` Specify 1 to filter the report by host types - Rouge.

- `map_idm_tcp={0|1}` Specify 1 to filter the report by discovery methods - TCP.
- `map_idm_udp={0|1}` Specify 1 to filter the report by discovery methods - UDP.
- `map_idm_traceroute={0|1}` Specify 1 to filter the report by discovery methods - TraceRoute.
- `map_idm_other={0|1}` Specify 1 to filter the report by discovery methods - Other.
- `map_idm_dns={0|1}` Specify 1 to filter the report by discovery methods - DNS.
- `map_idm_icmp={0|1}` Specify 1 to filter the report by discovery methods - ICMP.
- `map_idm_auth={0|1}` Specify 1 to filter the report by discovery methods - AUTH.

- `map_included_statuses_added={0|1}` Specify 1 to filter the report by statuses - Added.
- `map_included_statuses_removed={0|1}` Specify 1 to filter the report by statuses - Removed.
- `map_included_statuses_active={0|1}` Specify 1 to filter the report by statuses - Active.

- `included_os={value}` Specify the operating system name to filter hosts. For example, to only report on Linux hosts make sure you provide the operating system name for Linux. Multiple operating system names can be provided using values separated by a comma. Specify ALL to include all operating systems. See Identified OS.
Samples
Refer to Scan template examples for create, update, delete and export sample requests. Requests and outputs for Map template are similar.

About template owner
The user who created the report template is the owner by default. Managers and Unit Managers have the option to specify/change the owner while creating a report template the first time or by updating an existing report template. Use the parameter “owner” to assign a template owner.

Global report templates may be owned by Managers and Unit Managers. Non-global report templates may be owned by Managers, Unit Managers, Scanners and Readers.

Managers / Unit Managers can assign only those users as template owners who are part of their hierarchy and are added in their subscription.
Identified OS

Operating Systems identified by our service as of March 2017 are listed below.

Looking for a more current listing? Sure thing. Just log in to your Qualys account and go to Help > About.

Tip - In API requests replace spaces in OS names with underscores. For example, Apple IOS must be specified as Apple_IOS.

3Com
3Com HomeConnect
3Com NBX
3Com OfficeConnect
3Com SuperStack
3Com Switch
3Com Wireless Access Point
AB
AB ControlLogix
Adic
Adic Scalar
Adic Storage
ADIC Storage
Adtran
Adtran Device
Adtran NetVanta
Adtran TSUIQ
ADTX
ADTX ArrayMasStor
AIX
AIX 4.2-4.3
AIX 4.3
AIX 4.3.2.0-4.3.3.0
AIX 4.33
AIX 4.3-5.1
AIX 4.x
AIX 4.x-5.x
AIX 5.1
AIX 5.1-5.2
AIX 5.1-5.3
AIX 5.2
AIX 5.3
AIX 5.3.0.4
AIX 5.x
AIX 6.x
Alcatel
Alcatel OmniStack

Alcatel OmniSwitch
Allied
Allied Telesyn Switch
Alteon
Alteon ACE Switch
Alteon Switch
Altium
Altium Wireless Device
Amazon Linux
AMX
AMX Modero
APC
APC InfraStruXure
APC MasterSwitch
APC Network
APC Network Management Card AOS
APC Smart-UPS
AppCelera
AppCelera ICX
Apple
Apple Airport Wireless Access Point
Apple iOS
Apple Wireless Access Point
Arescom
Arescom Device
Arescom NetDSL
Ascend
Ascend Router
Ascent
Ascent Router
ASUS
ASUS Wireless
ASUS Wireless Access Point
Aten
Aten KVM Switch
ATT NetGate
ATTO Device
AudioCodes
AudioCodes VOIP
Avaya
Avaya Device
Avaya G350
Avaya IP Phone
Avaya Wireless Access Point
Avocent
Avocent CCM Appliance
Axis
Axis Network Camera
Axis Printer
Axis Storpoint CD
Axis Video Server
Axis Wireless Access Point
Axonix SuperCD
Bay Networks
Bay Networks Router
Bay Networks Switch
Belkin
Belkin Wireless Access Point
BeOS 5
BlueCoat Security Gateway
BlueSocket Embedded Linux 2.4-2.6
BorderWare Firewall
Brocade Device
Brother Printer
BSD
BSD Unix
BSDI BSD
BT Voyager
Buffalo Wireless Access Point
Cabletron
Cabletron SmartSTACK
Cabletron Switch
Caldera
Caldera Open Linux
Caldera Open UNIX 7
Caldera Open UNIX 8
Canon
Canon Network Printer
Canon Print Server
Canon Printer
Cayman3000
CEKAB Device
CentOS
CentOS
CheckPoint
CheckPoint FW1
CheckPoint FW1 NG
CheckPoint FW1 on Solaris
CheckPoint SecurePlatform
Cintech Switch
Cirronet Wireless Access Point
Cisco
Cisco Analog Phone Gateway
Cisco Analog Telephone Adaptor
Cisco Arrowpoint WebNS
Cisco ASA
Cisco Catalyst
Cisco Content Engine
Cisco Content Services Switch
Cisco Content Switching Solution
Cisco Content/File Engine
Cisco Controller
Cisco File Engine
Cisco Firewall Services Module
Cisco IOS
Cisco IP Phone
Cisco IP/TV Program Manager
Cisco Local Director
Cisco PIX
Cisco VPN
Cisco WGB350
Cisco Wireless Access Point
ClearPath MCP
CNT UltraNet Edge
Cognitive Printer
CometLabs Switch
Compaq
Compaq Insight Manager
Compaq Switch
Computone Device
Connect2Air Wireless Access Point
ControlLogix ENET
Crossroads Storage Router
Custom Micro Device
CyberGuard Firewall
CyberGuard Firewall
Datamax I-Class
Datamax Printer
Dawning SNI
Debian
Dell
Dell Laser
Dell PowerConnect
Dell PowerVault
Dell Remote Access Controller
Digi
Digi One PortServer
Digi One SP
Digi Port Server
Divar Video Camera
D-Link
D-Link DSL Modem
D-Link Print Server
D-Link Router
D-Link Switch
D-Link Wireless Access Point
Draytek Router
DVD Server
Efficient Router
EFI Printer
EMC's Network-Attached Storage Device
Enterasys
Entry-Master Card Access Control System
Epson Printer
ExtendedNet Print Server
Extreme
Extreme Alpine
Extreme Networks Device
Extreme Networks ExtremeWare
Extreme Networks Switch
F5 Networks Big-IP
Fabric OS
FaxPress
Fiery Printer
File Engine
Fortigate
Foundry Networks
FreeBSD
Fujitsu
Fujitsu Blade
Gestetner
Gestetner Printer
Gigafast
Gigafast Wireless Access Point
Gigafast Wireless Access Point
Google Appliance
Hawking Wireless Access Point
Honeyd HoneyPot
HP
HP 3000 MPE
HP AdvanceStack Switch
HP Deskjet Printer
HP Fabric OS
HP Guardian Service Processor
HP iLO
HP Inkjet Printer
HP JetDirect
HP LaserJet
HP OpenVMS
HP ProCurve
HP RILO
HP Surestore Library
HP Switch
HP Tru64

HP-UX
HP-UX 10
HP-UX 10.20
HP-UX 11
Huawei Switch
IBM
IBM 2210
IBM 4400 Printer
IBM 4690
IBM Infoprint
IBM Mainframe
IBM Network Printer
IBM OS/2
IBM OS/390
IBM OS/400
IBM Remote Supervisor Adapter
IBM Remote Supervisor Adapter II
IBM Tape Library
IBM Token-Ring Stackable Hub
IBM z/VM
i-data Print Server
Indyme MTS Messaging Telephony
Intermete
Intel
Intel NetportExpress Print Server
Intel Switch
Intermete EasyLAN Printer
Intermete Wireless Access Point
Inter-Tel EasyLAN Printer
IP Phone
IRIX
IRIX 6.2
IRIX 6.5
IRIX behind Firewall or Load
Balancer
IronPort
Juniper Networks
Juniper Networks Application
Acceleration Platform DX
Juniper Networks JUNOS
Kentrox
Kentrox Q2200 Router
Konica
Konica Minolta
Konica Printer
Kyocera
Kyocera Mita
Kyocera Printer
Lancast
Lancast Media Converter
Lanier
Lanier Printer
Lantronix
Lantronix CoBox
Lantronix ETS32PR
Lantronix MSS100
Lantronix Printer
Leitch
Lexmark
Lexmark Optra
Lexmark Print Server
Lexmark Printer
LinkCom
LinkCom Xpress Print Server
Linxsys
Linxsys Router
Linxsys Wireless
Linux
Linux 1.2.8-1.2.13
Linux 2.0
Linux 2.0.29
Linux 2.0.30+
Linux 2.0.34-38
Linux 2.1.19-2.2.20
Linux 2.2
Linux 2.2.20
Linux 2.4
Linux 2.4.0-2.5.20
Linux 2.4.20-2.4.25
Linux 2.4.20-3
Linux 2.4.22
Linux 2.4.7
Linux 2.4.x
Linux 2.4-2.6
Linux 2.6
Linux 2.x

Linux 3.0
Linux Based MRV LX Series Server
Linux behind
Lucent
Lucent Cajun
Lucent MAX
Lucent Orinoco
Lucent PBX
Lucent Router
Lucent WAP
LynxOS
MacOS
MacOS 10.0.x-10.1.x
MacOS 10.10
MacOS 10.11
MacOS 10.12
MacOS 10.3-10.4
MacOS 8
MacOS 9
MacOS X
magicolor
magicolor 2300 Printer
magicolor 3300 Printer
magicolor Printer
MarkNet Pro Printer
Meditech MAGIC
MGE Uninterruptible Power Supply Systems
MiLAN
MiLAN Print Server
MiLAN Switch
MiraPoint
Motorola HomeNet WR850G
Moxa
Moxa Async Server
Moxa NPort Serial Server
Multi-Tech
Multi-Tech CommPlete
Multi-Tech MultiVOIP
Muratec MFX Printer
NCR Unix
NEC Projector
NetApp
Neoteris Instant Virtual Extranet
NetBlazer
NetApp behind FW1
NetBSD
Chapter 11 - VM Report Templates

Map Template

NETBuilder Bridge
Netgear
Netgear GSM
Netgear Print Server
Netgear Printer
Netgear Router
Netgear Smart Switch
Netgear Switch
Netgear Wireless Access Point
Netopia
Netopia Router
Netphone
Netphone IP Phone
NetScaler
NetScaler VPN Device
NetScreen
NetScreen 100
NetScreen 50
NetScreen 5XP
NetSilicon Device
NetSilicon Device
NetWare
NetWare 4.11-5.0 SP5
NetWare 5
NetWare 5.0
NetWare 5.1
NetWare 6
NetWare 6.5
NetWare Print Server
Network Camera
Network Print Server
Network Printer
Network Scanner
NGS 500 Router
NIB Network Printer
Nokia
Nokia IPSO
Nokia Wireless Access Point
Nortel
Nortel Device
Nortel Networks BayStack
Nortel Passport
Nortel Router
Nortel Switch
NRG
NRG Network
NRG Printer
Okidata Printer
OkiLAN Print Server
Open Networks Router
OpenBSD
Oracle Enterprise Linux
Oracle Enterprise Linux 4.5
Oracle Enterprise Linux 5.2
ORiNOCO Wireless Access Point
Orinoco Wireless Access Point
Packeteer
Packeteer PacketSeeker
Packeteer PacketShaper
Panasonic Network Camera
Paradyne Device
Perle Jetstream
PocketPro Print Server
Point Six Point Server
Polycom
Polycom Device
Polycom MGC
Polycom VSX
Power Measurement ION Meter
Powerware
Powerware ConnectUPS
Powerware UPS Device
Precidia Device
Primergy RSB
Printronix Printer
Procom NetFORCE
pSOSSystem
QNX
Quantum
Quantum NAS SnapServer
Quantum PX506 Tape Library
Quick Eagle Device
RadiSys iRMX
Radware Device
Raptor Firewall
Red Hat
Redline
Redline Networks Processor
Ricoh
RICOH Aficio
Ricoh Aficio
Ricoh Printer
Ringdale Device
RIO Xtreme
RiverStone Networks Router
RoamAbout R2
Rockwell
Rockwell Automation
S3Wireless Wireless Access Point
Savin Printer
Scannex NetBuffer
Schneider Electric Controller
SCO
SCO OpenServer
SCO Unix
SCO UnixWare
SCO UnixWare Firewall
SensaTronics Environmental Monitor
Sentry Remote Power Manager
Shark supercomputer
Sharp Printer
Shore Microsystems Link Protector
Sidewinder G2
Siemens
Siemens 5940 Router
Siemens HiPath 3000
Siemens I-Gate
Siemens IP Phone
Siemens Wireless Access Point
Signature System
Silex Pricom Print Server
SIMATIC NET CP
SMC
SMC Networks SMC8624T
SMC Router
SMC Wireless Access Point
SMC2671 Wireless Access Point
SNAP Ethernet Brain
Snap Server
Solaris
Solaris 10
Solaris 11
Solaris 2
Solaris 2.5.1
Solaris 2.5-2.5.1
Solaris 2.6
Solaris 2.6-10
Solaris 2.6-7
Solaris 2.6-8
Solaris 2.7
Solaris 5
Solaris 5.8
Solaris 6-8
Solaris 7
Solaris 7-10
Solaris 8
Solaris 8-10
Solaris 9
Solaris 9-10
Solaris behind
Spectrum24 Wireless Access Point
Stallion EasyServer
StarDot NetCam
Summit Switch
Sun
Sun Cobalt Linux
Sun Lights Out
SUN StorEdge RAID
SuperScript Printer
SuSE
SuSE Linux 10
SuSE Linux 11
SuSE Linux 7
SuSE Linux 8
SuSE Linux 9
Sveasoft Firmware
Symantec Raptor Firewall
Symbol Wireless Access Point
Symon NetLite
SYSTEC CAN-Ethernet Gateway
Tandberg
Tandberg Device
Tandem
Tandem NSK
Tektronix Phaser Printer
Telindus Router
Tenor Switch
TINI
TiVo
TiVo Series
TopLayer Appsafe
Toshiba NWcamera
Transition Networks Device
Trendnet Print Server
Trendware Print Server
Tru64
Tru64 Unix 4.0d
Tru64 Unix 5.x
Tut Modem
TV Program Manager
U.S. Robotics
U.S. Robotics Access point
U.S. Robotics ADSL Wireless Gateway
U.S. Robotics Broadband Router
U.S. Robotics Wireless Access Point
### Chapter 11 - VM Report Templates

#### Map Template

<table>
<thead>
<tr>
<th>Ubuntu</th>
<th>Windows NT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ubuntu Linux 10</td>
<td>Windows NT4</td>
</tr>
<tr>
<td>Ubuntu Linux 11</td>
<td>Windows RT</td>
</tr>
<tr>
<td>Ubuntu Linux 7</td>
<td>Windows Vista</td>
</tr>
<tr>
<td>Ubuntu Linux 8</td>
<td>Windows XP</td>
</tr>
<tr>
<td>Ubuntu Linux 9</td>
<td>WKTI RDS Encoder</td>
</tr>
<tr>
<td>Ubuntu Linux LTS</td>
<td>Xerox</td>
</tr>
<tr>
<td>Uninterruptible Power Supply Device</td>
<td>Xerox Device</td>
</tr>
<tr>
<td>UNIX System V</td>
<td>UNIX System V 4</td>
</tr>
<tr>
<td>UNIX System V Release 4.2</td>
<td>UNIX System V 4</td>
</tr>
<tr>
<td>UNIX SystemUNIX System V 4</td>
<td>UNIX System V 4</td>
</tr>
<tr>
<td>Uptime Devices Monitoring System</td>
<td>Uptime Devices Sensorprobe</td>
</tr>
<tr>
<td>UptimeDevices Sensorprobe</td>
<td>Xerox Plotter</td>
</tr>
<tr>
<td>VAX</td>
<td>Xerox Phaser Printer</td>
</tr>
<tr>
<td>VAX VMS 6.1</td>
<td>Xerox WorkCentre</td>
</tr>
<tr>
<td>VAX VMS 6.1 behind Sidewinder G2</td>
<td>Xerox WorkCentre Printer</td>
</tr>
<tr>
<td>VAX VMS 6.2</td>
<td>XES Printer</td>
</tr>
<tr>
<td>VAX VMS 7.1</td>
<td>XJet Print Server</td>
</tr>
<tr>
<td>VAX VMS 7.1 behind Sidewinder G2</td>
<td>ZebraNet Print Server</td>
</tr>
<tr>
<td>Verilink WANsuite Router</td>
<td>ZOT Print Server</td>
</tr>
<tr>
<td>Vertical Horizon Stack</td>
<td>Vertical Horizon Stack</td>
</tr>
<tr>
<td>VirtualAccess LinxpeedPro</td>
<td>VirtualAccess LinxpeedPro</td>
</tr>
<tr>
<td>VMware</td>
<td>VMware</td>
</tr>
<tr>
<td>VMWare ESX 3.5</td>
<td>VMware</td>
</tr>
<tr>
<td>VMWare ESX 4.0</td>
<td>VMware ESX 4.0</td>
</tr>
<tr>
<td>VMWare ESX 4.1</td>
<td>VMware ESX 4.1</td>
</tr>
<tr>
<td>VMware ESX Server</td>
<td>VMware ESX Server</td>
</tr>
<tr>
<td>VMWare ESXi 4.0</td>
<td>VMware ESXi 4.0</td>
</tr>
<tr>
<td>VMWare ESXi 4.1</td>
<td>VMware ESXi 4.1</td>
</tr>
<tr>
<td>VMware ESXi 5.0</td>
<td>VMware ESXi 5.0</td>
</tr>
<tr>
<td>VMware ESXi 5.0</td>
<td>VMware ESXi 5.0</td>
</tr>
<tr>
<td>VxWorks Based Device</td>
<td>VxWorks Based Device</td>
</tr>
<tr>
<td>WatchGuard Firewall</td>
<td>WatchGuard Firewall</td>
</tr>
<tr>
<td>Web Smart Switch</td>
<td>Web Smart Switch</td>
</tr>
<tr>
<td>WebNet uServer</td>
<td>WebNet uServer</td>
</tr>
<tr>
<td>Windows</td>
<td>Windows</td>
</tr>
<tr>
<td>Windows 10</td>
<td>Windows</td>
</tr>
<tr>
<td>Windows 2000</td>
<td>Windows</td>
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<tr>
<td>Windows 2003</td>
<td>Windows</td>
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<tr>
<td>Windows 2008</td>
<td>Windows</td>
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<tr>
<td>Windows 2012</td>
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<td>Windows 7</td>
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<tr>
<td>Windows 8</td>
<td>Windows</td>
</tr>
<tr>
<td>Windows 95</td>
<td>Windows</td>
</tr>
<tr>
<td>Windows 98</td>
<td>Windows</td>
</tr>
<tr>
<td>Windows 9x</td>
<td>Windows</td>
</tr>
<tr>
<td>Windows CE</td>
<td>Windows</td>
</tr>
<tr>
<td>Windows Longhorn</td>
<td>Windows</td>
</tr>
<tr>
<td>Windows ME</td>
<td>Windows</td>
</tr>
</tbody>
</table>

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**Identified Services**

Services identified by our service as of March 2017 are listed below.

Looking for a more current listing? Just log in to your Qualys account and go to Help > About.

**Tip** - In API requests replace spaces in service names with underscores. For example, Blackberry Attachment must be specified as Blackberry_Attachment

<table>
<thead>
<tr>
<th>Service Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ActiveSync</td>
</tr>
<tr>
<td>ADDP</td>
</tr>
<tr>
<td>afpovertcp</td>
</tr>
<tr>
<td>akak_trojan</td>
</tr>
<tr>
<td>amandaidx</td>
</tr>
<tr>
<td>aml</td>
</tr>
<tr>
<td>Apple_Airport_Management</td>
</tr>
<tr>
<td>Applix</td>
</tr>
<tr>
<td>Applix_axnet</td>
</tr>
<tr>
<td>Applix_TM1_Admin_Server</td>
</tr>
<tr>
<td>Applix_TM1_Server</td>
</tr>
<tr>
<td>Arkeiad_Network_Backup</td>
</tr>
<tr>
<td>ARUGIZER_BACKDOOR</td>
</tr>
<tr>
<td>auth</td>
</tr>
<tr>
<td>Berlios_Global_Positioning_System_Daemon</td>
</tr>
<tr>
<td>BIGFIX_ENTERPRISE_SERVER</td>
</tr>
<tr>
<td>BITCOIN</td>
</tr>
<tr>
<td>bitkeeper</td>
</tr>
<tr>
<td>Blackberry_Attachment</td>
</tr>
<tr>
<td>BMC_Patrol</td>
</tr>
<tr>
<td>BO2K_backdoor</td>
</tr>
<tr>
<td>bofra Worm</td>
</tr>
<tr>
<td>bpcd</td>
</tr>
<tr>
<td>bpjava_msvc</td>
</tr>
<tr>
<td>ca_brightstor</td>
</tr>
<tr>
<td>CA_License_Management-Agent</td>
</tr>
<tr>
<td>CA_Unicenter_Services</td>
</tr>
<tr>
<td>CENTUM_CS_3000</td>
</tr>
<tr>
<td>chargen</td>
</tr>
<tr>
<td>chargen_udp</td>
</tr>
<tr>
<td>CHECKPOINT_FW-1_CLIENT_AUTH_SERVER</td>
</tr>
<tr>
<td>chindi</td>
</tr>
<tr>
<td>cisco_cnr</td>
</tr>
<tr>
<td>CISCO_CNR_AICSERVAGT</td>
</tr>
<tr>
<td>Cisco_Secure_ACS</td>
</tr>
<tr>
<td>cisco_ta</td>
</tr>
<tr>
<td>citadel</td>
</tr>
<tr>
<td>Citrix_CMC</td>
</tr>
<tr>
<td>Citrix_ICA</td>
</tr>
<tr>
<td>CoDeSys</td>
</tr>
<tr>
<td>Cognos_Powerplay_Enterprise_Server</td>
</tr>
<tr>
<td>Computer_Associates_License_Manager</td>
</tr>
<tr>
<td>COREid_Access_Server</td>
</tr>
<tr>
<td>crystal_info</td>
</tr>
<tr>
<td>Crystal_Reports_App_Server</td>
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<tr>
<td>Crystal_Reports_CMS</td>
</tr>
<tr>
<td>cvspserver</td>
</tr>
<tr>
<td>daap</td>
</tr>
<tr>
<td>dameware</td>
</tr>
<tr>
<td>darxite</td>
</tr>
<tr>
<td>daytime</td>
</tr>
<tr>
<td>daytime_udp</td>
</tr>
<tr>
<td>DC Directory Server</td>
</tr>
<tr>
<td>dcerpc</td>
</tr>
<tr>
<td>dchub</td>
</tr>
<tr>
<td>DHCP_or_Bootp_Server</td>
</tr>
<tr>
<td>DNS_Server</td>
</tr>
<tr>
<td>dtspcd</td>
</tr>
<tr>
<td>echo</td>
</tr>
<tr>
<td>echo_udp</td>
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<tr>
<td>edonkey_server</td>
</tr>
<tr>
<td>EMC_EmailXtender</td>
</tr>
<tr>
<td>finger</td>
</tr>
<tr>
<td>Forte_for_Java</td>
</tr>
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<td>ftp</td>
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<tr>
<td>FW1</td>
</tr>
<tr>
<td>FW1_NG_Services</td>
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<tr>
<td>gamsoft_telsrv</td>
</tr>
<tr>
<td>GCS_SysID</td>
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<tr>
<td>GIOP</td>
</tr>
<tr>
<td>girlfriend</td>
</tr>
<tr>
<td>gnutella</td>
</tr>
<tr>
<td>gopher</td>
</tr>
<tr>
<td>h323</td>
</tr>
<tr>
<td>healthd</td>
</tr>
<tr>
<td>HoneyD_HoneyPot</td>
</tr>
<tr>
<td>HP_DATAPROTECT</td>
</tr>
<tr>
<td>HP_printer_service</td>
</tr>
<tr>
<td>hparray</td>
</tr>
<tr>
<td>hpov_alarm</td>
</tr>
<tr>
<td>HPOV_BBC</td>
</tr>
<tr>
<td>HPOV_CODA</td>
</tr>
<tr>
<td>hpov_topmd</td>
</tr>
<tr>
<td>hpov_trcsvc</td>
</tr>
</tbody>
</table>
http
http_over_ssl
IBM_SolidDB
IBM_DB2_Universal_Database
IBM_TIVOLI_STORAGE_MANAGER
icecast
ident
imap
INDUSOFT
Infopulse_Gatekeeper
ipmi
ipp
irc
ISA_Proxy
isakmp
ISAKMP_over_TCP
iSCSI
iSNS
jabber
Kadmin-4
kazaa
Kerberos-5
l2tp
LANDesk
LANDESK_CBA_PDS
LANDESK_MANAGEMENT_AGENT
LANDESK_MANAGEMENT_AGENT
ldap
ldap_over_ssl
limewire
linuxconf
lpd
managesoft
McAfee_ePolicy_Orchestrator
melange_chat
MERCUR_Control-Service
Micromuse_Netcool_Object_Server
microsoft-ds
Microsoft_Message_Queue_Server
minisql
modbus
MODBUS_UDP
mseries
msdtc
MSMQ_Ping
msrpc
msrpc-over-http
msrpc_udp
mssql
mssql_monitor
MYDESKTOP
mysql
named_udp
ncp
nessus
netbios_ns
netbios_ssn
netbus
netop
netstat
Netviewer_PC_Duo
nfs
ntcp
ntp
ocsp
ocsssd
Omniquad_Server
open_vpn
openvpn
oracle
Oracle_Express_Server
Oracle_Express_Server_xsdagent
Oracle_Express_Server_xsddaemon
oracle_intelligent_agent
ORACLE_RMI
pcanywhere
pen
Polycom_MGC_Management
pop2
pop3
PostgreSQL
pptp
PRORAT_TROJAN
proxy_http
proxy_telnet
psmond
pvserver
Quote_of_the_Day
quote_of_the_day_udp
radius
radius_tcp
radmin
rccmd
RealMedia_EncoderServer
Red_Carpet_Daemon
RELIABLE_DATAGRAM_SOCKETS_OVER_TCP
Resonate_CD_Agent
resource_monitor_api
Resource_Monitoring_and_Control

trojan_fireby
unknown
unknown_over_ssl
UPNP
ut_game_queryport
uucp
VMware_Authentication_Daemon
vnc
vnetd
voip sip
Volume_Manager_Storage_Administrator

VMware_Authentication_Daemon
vnc
vnetd
voip sip
Volume_Manager_Storage_Administrator

SAP_MAXDB
SAP Protocol

SAPgui
SGI_Performance_Copilot

shell
SHOUTcast

skinny
skype
slapper

SMS
smtp

smux
snmp
snmp2

socks4
socks5

SPLASHTOP_REMOTE_DESKTOP
spychat
Spytech_SpyAnywhere

ssdp

ssh
ssh_over_ssl
swagentd

swat

sybase_adaptive_server
Symantec EMS client server
Symantec AntiVirus
Symantec AntiVirus_Rtvscan
Symantec AntiVirus_Rtvscan_UDP
SymGalUR
systat
talk
telnet
telnet_over_ssl
tftp
time
time_udp
timestamp_over_http
trendmicro_officescan
Categories

Vulnerability Categories as defined by our service as of March 2017 are listed below.

Want a current listing? No problem. Just log in to your Qualys account, go to the KnowledgeBase, click the Search button, and open the Category menu.

Looking for category descriptions? We’ve got you covered. Log in to your Qualys account, go to Help > Online Help and search for Categories and you’ll see the article on Vulnerability Categories with all the details.

Tip - In API requests replace spaces in category names with underscores. For example, Amazon Linux must be specified as Amazon_LINUX

AIX
Amazon Linux
Backdoors and trojan horses
Brute Force Attack
CentOS
CGI
Cisco
Database
Debian
DNS and BIND
E-Commerce
Fedora
File Transfer Protocol
Finger
Firewall
Forensics
General remote services
Hardware
HP-UX
Information gathering
Internet Explorer
Local
Mail services
Malware
News Server
NFS
OEL
Office Application
Proxy
RedHat
RPC
Security Policy
SNMP
Solaris
SMB / NETBIOS
SUSE
TCP/IP
Ubuntu
VMware
Web Application
Web Application Firewall
Web server
Windows
X-Window
Chapter 12 - VM Remediation Tickets

List, edit and delete remediation tickets, created using the VM app, in the user’s account.

Remediation Tickets overview

Ticket Parameters

View Ticket List

Edit Tickets

Delete Tickets

View Deleted Ticket List

Get Ticket Information

Remediation Tickets overview

Qualys provides fully secure audit trails that track vulnerability status for all detected vulnerabilities. As follow up audits occur, vulnerability status levels - new, active, fixed, and re-opened - are updated automatically and identified in trend reports, giving users access to the most up-to-date security status. Using Remediation Workflow, Qualys automatically updates vulnerability status in remediation tickets, triggering ticket updates and closure in cases where vulnerabilities are verified as fixed.

Ticket information includes

**Ticket Due Date** - Each ticket has a due date for ticket resolution. The number of days allowed for ticket resolution is set as part of the policy rule configuration. Overdue tickets are those tickets for which the due date for resolution has passed.

**Ticket state/status** - Several events trigger ticket updates as described earlier. Certain ticket updates result in changes to ticket state/status as indicated below.

Open refers to new and reopened tickets. Tickets are reopened in these cases: 1) when the service detected vulnerabilities for tickets with state/status Resolved or Closed/Fixed, and 2) when users or the service reopened Closed/Ignored tickets.

Resolved refers to tickets marked as resolved by users.

Closed/Fixed refers to tickets with vulnerabilities verified as fixed by the service.

Closed/Ignored refers to tickets ignored by users or the service (based on a user policy). Also, users can ignore vulnerabilities on hosts. If tickets exist for vulnerabilities set to ignore status, the service sets them to Closed/Ignored, and if tickets do not exist for these issues the service adds new tickets and changes them to Closed/Ignored.

**Invalid tickets** - Tickets are invalid due to the changing status of the IP address or ticket owner. Regarding the IP address, a ticket is marked invalid when the ticket’s IP address is removed from the ticket owner’s account (applies to Unit Manager, Scanner, or Reader). Regarding the ticket owner, a ticket is marked invalid when the ticket owner’s account is inactive, deleted, or the user’s role was changed to Contact.
Ticket Parameters

Many ticket parameters are available for making API requests to view, update and delete active tickets and defining tickets to take actions on. Overdue and Invalid tickets are selected automatically, unless otherwise requested.

- All ticket parameters are optional and valid for these requests: ticket_list.php, ticket_edit.php and ticket_delete.php.
- At least one parameter is required.
- Multiple parameters are combined with a logical “and”.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ticket_numbers= nnn,nnn-nnn,...</td>
<td>Tickets with certain ticket numbers. Specify one or more ticket numbers and/or ranges. Use a dash (-) to separate the ticket range start and end. Multiple entries are comma separated.</td>
</tr>
<tr>
<td>since_ticket_number= value</td>
<td>Tickets since a certain ticket number. Specify the lowest ticket number to be selected. Selected tickets will have numbers greater than or equal to the ticket number specified.</td>
</tr>
<tr>
<td>until_ticket_number= value</td>
<td>Tickets until a certain ticket number. Specify the highest ticket number to be selected. Selected tickets will have numbers less than or equal to the ticket number specified.</td>
</tr>
<tr>
<td>show_vuln_details=0</td>
<td>1]</td>
</tr>
</tbody>
</table>

Ticket Properties

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ticket_assignee= {value}</td>
<td>Tickets with a certain assignee. Specify the user login of an active user account.</td>
</tr>
<tr>
<td>overdue=0</td>
<td>1]</td>
</tr>
<tr>
<td>invalid=0</td>
<td>1]</td>
</tr>
</tbody>
</table>
## Chapter 12 - VM Remediation Tickets

### Ticket Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>states={state}</td>
<td>Tickets with certain ticket state/status. Specify one or more state/status codes. A valid value is OPEN (for state/status Open or Open/Reopened), RESOLVED (for state Resolved), CLOSED (for state/status Closed/Fixed), or IGNORED (for state/status Closed/Ignored). Multiple entries are comma separated. To select ignored vulnerabilities on hosts, specify: states=IGNORED</td>
</tr>
<tr>
<td>modified_since_datetime=</td>
<td>Tickets modified since a certain date/time. Specify a date (required) and time (optional) since tickets were modified. Tickets modified on or after the date/time are selected. date/time is specified in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2006-01-01” or “2006-05-25T23:12:00Z”.</td>
</tr>
<tr>
<td>unmodified_since_datetime=</td>
<td>Tickets not modified since a certain date/time. Specify a date (required) and time (optional) since tickets were not modified. Tickets not modified on or after the date/time are selected. date/time is specified in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2006-01-01” or “2006-05-25T23:12:00Z”.</td>
</tr>
</tbody>
</table>

### Ticket Host Info

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ips={nnn,nnn-nnn,...}</td>
<td>Tickets on hosts with certain IP addresses. Specify one or more IP addresses and/or ranges. Multiple entries are comma separated.</td>
</tr>
<tr>
<td>asset_groups={ag1,ag2,...}</td>
<td>Tickets on hosts with IP addresses which are defined in certain asset groups. Specify the title of one or more asset groups. Multiple asset groups are comma separated. The title “All” may be specified to select all IP addresses in the user account.</td>
</tr>
<tr>
<td>dns_contains={value}</td>
<td>Tickets on hosts that have a NetBIOS host name which contains a certain text string. Specify a text string to be used. This string may include a maximum of 100 characters (ascii).</td>
</tr>
<tr>
<td>netbios_contains={value}</td>
<td>Tickets on hosts that have a NetBIOS host name which contains a certain text string. Specify a text string to be used. This string may include a maximum of 100 characters (ascii).</td>
</tr>
</tbody>
</table>

### Vulnerability Info

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>vuln_severities={1,2,3,4,5}</td>
<td>Tickets for vulnerabilities with certain severity levels. Specify one or more severity levels. Multiple levels are comma separated.</td>
</tr>
</tbody>
</table>
View remediation tickets and related ticket information in the user’s account.

Basic HTTP authentication is required. Session based authentication is not supported using this API.

Using an account with more than 1,000 tickets (or potentially more than 1,000 tickets), it is recommended that you write a script that makes multiple ticket_list.php requests until all tickets are retrieved.

A maximum of 1,000 tickets can be returned from a single ticket_list.php request. If this maximum is reached, the function returns a “Truncated after 1,000 records” message at the end of the XML output with the last ticket number included. Using an account with more than 1,000 tickets (or potentially more than 1,000 tickets), it is recommended that you write a script that makes multiple ticket_list.php requests until all tickets have been retrieved.

Permissions - Managers can view all tickets in the subscription. Unit Managers can view tickets for IP addresses in the user’s same business unit. Scanners and Readers can view tickets for IP addresses in the user’s own account.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>potential_vuln_severities={1,2,3,4,5}</td>
<td>Tickets for potential vulnerabilities with certain severity levels. Specify one or more severity levels. Multiple levels are comma separated.</td>
</tr>
<tr>
<td>qids=qid,qid,...</td>
<td>Tickets for vulnerabilities with certain QIDs (Qualys IDs). Specify one or more QIDs. A maximum of 10 QIDs may be specified. Multiple QIDs are comma separated.</td>
</tr>
<tr>
<td>vuln_title_contains=value</td>
<td>Tickets for vulnerabilities that have a title which contains a certain text string. The vulnerability title is defined in the KnowledgeBase. Specify a text string. This string may include a maximum of 100 characters (ascii).</td>
</tr>
<tr>
<td>vuln_details_contains=value</td>
<td>Tickets for vulnerabilities that have vulnerability details which contain a certain text string. Vulnerability details provide descriptions for threat, impact, solution and results (scan test results, when available). Specify a text string. This string may include a maximum of 100 characters (ascii).</td>
</tr>
<tr>
<td>vendor_ref_contains=value</td>
<td>Tickets for vulnerabilities that have a vendor reference which contains a certain text string. Specify a text string. This string may include a maximum of 100 characters (ascii).</td>
</tr>
</tbody>
</table>
Input Parameters
Click here for ticket list input parameters

Samples
View Open tickets for owner:

https://qualysapi.qualys.com/msp/ticket_list.php?
ticket_assignee=comp_ja&states=OPEN

View ticket number range:

https://qualysapi.qualys.com/msp/ticket_list.php?
ticket_numbers=001800-002800

View tickets with severity 5 confirmed vulnerabilities:

https://qualysapi.qualys.com/msp/ticket_list.php?
vuln_severities=5

View tickets that have been marked as Closed/Fixed or Closed/Ignored since June 1, 2018:


List all ignored vulnerabilities in the user’s account:

https://qualysapi.qualys.com/msp/ticket_list.php?asset_groups=All&states=IGNORED

View tickets related to SSH vulnerabilities:

https://qualysapi.qualys.com/msp/ticket_list.php?
vuln_title_contains=SSH&vuln_details_contains=SSH

View Invalid tickets for hosts in the “Desktops” or “Servers” asset groups:


View Overdue tickets assigned to James Adrian (comp_ja) that have not been modified since May 30, 2018 at 16:30:00 (UTC/GMT) for vulnerabilities with a severity level of 3, 4 or 5 and to include vulnerability details in the results:

https://qualysapi.qualys.com/msp/ticket_list.php?
unmodified_since_datetime=2018-05-30T16:30:00Z
&vuln_severities=3,4,5&overdue=1&ticket_assignee=comp_ja
&show_vuln_details=1
Edit Tickets

Edit remediation tickets in the user’s account. Multiple tickets can be edited at one time in bulk. Many ticket parameters are supported for selecting what tickets you’d like to edit.

Basic HTTP authentication is required. Session based authentication is not supported using this API.

Editing tickets can be a time intensive task, especially when batch editing many tickets. To ensure best performance, a maximum of 20,000 tickets can be edited in one ticket_edit.php request. It’s recommended best practice that you choose to schedule batch updates to occur when ticket processing will least impact user productivity. If the ticket_edit.php request identifies more than 20,000 tickets to be edited, then an error is returned.

Permissions - Managers can edit all tickets in the subscription. Unit Managers can edit tickets for IP addresses in the user’s same business unit. Scanners and Readers do not have permissions to edit tickets.

Input Parameters

Click here to view ticket parameters for selecting tickets to edit

The following parameters are used to define the ticket data to be edited. At least one of the following edit parameters is required.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>change_assignee={value}</td>
<td>(Optional) Used to change the ticket assignee, specified by user login, in all selected tickets. The assignee’s account must have a user role other than Contact, and the hosts associated with the selected tickets must be in the user account.</td>
</tr>
<tr>
<td>change_state={value}</td>
<td>(Optional) Used to change the ticket state/status to the specified state/status in all selected tickets. A valid value is OPEN (for state/status Open and Open/Reopened), RESOLVED (for state Resolved), or IGNORED (for state/status Closed/Ignored). See “Ticket State/Status Transitions” below for information on valid changes.</td>
</tr>
</tbody>
</table>
Chapter 12 - VM Remediation Tickets

Edit Tickets

Ticket State/Status Transitions

The Qualys remediation workflow feature is a closed loop ticketing system for remediation management and policy compliance. Users may edit tickets to make certain ticket state changes as shown below.

<table>
<thead>
<tr>
<th>From State/Status</th>
<th>To State/Status</th>
<th>Open</th>
<th>Resolved</th>
<th>Closed/Ignored</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>valid</td>
<td>valid</td>
<td>valid</td>
<td>valid</td>
</tr>
<tr>
<td>Resolved</td>
<td>valid</td>
<td>valid</td>
<td>valid</td>
<td></td>
</tr>
<tr>
<td>Closed/Ignored</td>
<td>valid</td>
<td>invalid</td>
<td>valid</td>
<td></td>
</tr>
<tr>
<td>Closed/Fixed</td>
<td>valid</td>
<td>invalid</td>
<td>valid</td>
<td></td>
</tr>
</tbody>
</table>

Samples

Edit ticket and add comment:

https://qualysapi.qualys.com/msp/ticket_edit.php?ticket_numbers=00123456&add_comment=Host+patched,+ready+for+re-scan

Edit multiple tickets to change the ticket owner to Alice Cook (acme_ac) for tickets since ticket number #00215555 (tickets with numbers greater than or equal to #00215555) which are marked invalid:

https://qualysapi.qualys.com/msp/ticket_edit.php?since_ticket_number=00215555&invalid=1&change_assignee=acme_ac

Edit Open tickets on IP addresses in asset groups "New York" and "London" and change the ticket state to Ignored:

Edit Open tickets unmodified since August 1, 2017 that are assigned to Tim Burke (acme_tb) and change the ticket assignee to Alice Cook (acme_ac):


Reopen all Closed/Ignored tickets on host 10.10.10.120 in 7 days:

https://qualysapi.qualys.com/msp/ticket_edit.php?ips=10.10.10.120&reopen_ignored_days=7

**DTD**

<platform API server>/ticket_edit_output.dtd

**Delete Tickets**

/msp/ticket_delete.php

Delete remediation tickets in the user’s account. Multiple tickets can be deleted at one time in bulk. Many ticket parameters are supported for selecting what tickets you’d like to edit.

Basic HTTP authentication is required. Session based authentication is not supported using this API.

Deleting tickets can be a time intensive task, especially when batch deleting many tickets. To ensure best performance, a maximum of 20,000 tickets can be deleted in one ticket_delete.php request. It’s recommended best practice that you choose to schedule batch updates to occur when ticket processing will least impact user productivity. If the ticket_delete.php request identifies more than 20,000 tickets to be deleted, then an error is returned.

Permissions - Managers can delete all tickets in the subscription. Unit Managers can delete tickets for IP addresses in their same business unit. Scanners and Readers have no permissions to delete tickets.

**Input Parameters**

Click here to view ticket parameters for selecting tickets to delete

**Samples**

Delete certain ticket number:


Delete tickets between ticket #001000 and ticket #002500:
Chapter 12 - VM Remediation Tickets

View Deleted Ticket List

https://qualysapi.qualys.com/msp/ticket_delete.php?
since_ticket_number=1000&until_ticket_number=2500

Delete Closed/Fixed tickets owned by James Adrian (comp_ja):
https://qualysapi.qualys.com/msp/ticket_delete.php?
states=CLOSED&ticket_assignee=comp_ja

Delete tickets on vulnerabilities with an assigned severity level of 1 and potential vulnerabilities with an assigned severity level of 1-3:
https://qualysapi.qualys.com/msp/ticket_delete.php?
vuln_severities=1&potential_vuln_severities=1,2,3

Delete Overdue tickets assigned to James Adrian (comp_ja) that have not been modified since July 01, 2018 at 12:00:00 (UTC/GMT)
https://qualysapi.qualys.com/msp/ticket_delete.php?
unmodified_since_datetime=2018-07-01T12:00:00Z
&overdue=1&ticket_assignee=comp_ja

DTD
<platform API server>/ticket_delete_output.dtd

View Deleted Ticket List
/msp/ticket_list_deleted.php

View deleted tickets in the user's account. This function may be run by Managers. The functionality provided allows for real-time integration with third-party applications.

Basic HTTP authentication is required. Session based authentication is not supported using this API.

The XML results returned by the ticket_list_deleted.php function identifies deleted tickets by ticket number and deletion date/time.

A maximum of 1,000 deleted tickets can be returned from a single ticket_list_deleted.php request. If this maximum is reached, the function returns a “Truncated after 1,000 records” message at the end of the XML report with the last ticket number included.

Permissions - Manager user role is required.

Input Parameters
All parameters are optional. At least one parameter is required. Multiple parameters are combined with a logical “and”.

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Chapter 12 - VM Remediation Tickets

View Deleted Ticket List

Samples

View tickets deleted in ticket number range:

https://qualysapi.qualys.com/msp/ticket_list_deleted.php?
ticket_numbers=120-200

View tickets deleted since ticket number:

https://qualysapi.qualys.com/msp/ticket_list_deleted.php?
since_ticket_number=400

View tickets deleted since date:

https://qualysapi.qualys.com/msp/ticket_list_deleted.php?
deleted_since_datetime=2018-01-01

DTD

<platform API server>/ticket_list_deleted_output.dtd
Get Ticket Information

/msp/get_tickets.php

View remediation ticket information from the user’s account that can be integrated with third-party applications. Only remediation tickets that the user has permission to view are returned in the resulting ticket information report.

Basic HTTP authentication is required. Session based authentication is not supported using this API.

Qualys recommends that you run the get_tickets.php function two times a day, so that ticket updates due to the latest scan results and user productivity are made available in the ticket information reports.

Permissions - Managers can view all tickets in subscription. Unit Managers can view tickets for IP addresses in their same business unit. Scanners and Readers can view tickets for IP addresses in their own account.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ticket_numbers=</td>
<td>(Optional) Specifies ticket numbers for which ticket information will be retrieved. Ticket numbers are integers, assigned by the service automatically. A maximum of 1,000 ticket numbers may be specified. Multiple ticket numbers are comma separated. This parameter or since must be specified.</td>
</tr>
<tr>
<td>since={value}</td>
<td>(Optional) Specifies the start date/time of the time window for retrieving tickets. Only tickets that have been updated within this time window will be retrieved. The end date/time of the time window for retrieving tickets is the date/time when get_tickets.php is run. The start date/time is specified in YYYY-MM-DDTHH:MM:SSZ format (UTC/GMT), like “2005-01-10T02:33:11Z”. This parameter or ticket_numbers must be specified.</td>
</tr>
</tbody>
</table>
Chapter 12 - VM Remediation Tickets

Get Ticket Information

Samples
Retrieve remediation tickets that have been updated since July 1, 2018 at 1:00:00 AM (UTC/GMT) and that have any state (Open, Resolved, or Closed):

https://qualysapi.qualys.com/msp/get_tickets.php?
since=2018-07-01T01:00:00Z

Retrieve remediation tickets 002737, 002738, and 002740 with vulnerability details:

https://qualysapi.qualys.com/msp/get_tickets.php?
ticket_numbers=002737,002738,002740&vuln_details=1

DTD
<platform API server>/remediation_tickets.dtd
Chapter 13 - Compliance

Manage compliance policies, exceptions and reports. Policy Compliance (PC) is required.

Compliance Control List
Compliance Policy List
Compliance Policy - Export
Compliance Policy - Import
Compliance Policy - Merge
Compliance Policy - Manage Asset Groups
Compliance Posture Information
Control Criticality
Exceptions
SCAP Cyberscope Report
SCAP ARF Report
SCAP Policy List
Compliance Control List

/api/2.0/fo/compliance/control/?action=list

[GET] [POST]

View a list of compliance controls which are visible to the user. Controls in the XML output are sorted by control ID in ascending order. Optional input parameters support filtering the list.

Using the Qualys user interface, it’s possible to customize the list of frameworks at the subscription level. Under PC, go to Policies > Setup > Frameworks to customize the frameworks list. If the frameworks list is customized for your subscription, then the customized list of frameworks will appear in the controls list output returned by a control list API request.

Permissions - Users with PC enabled have the ability to view compliance controls.

Maximum Controls per API Request

The output of the Compliance Control API is paginated. By default, a maximum of 1,000 control records are returned per request. You can customize the page size (i.e. the number of control records) by using the parameter “truncation_limit=2000” for instance. In this case the results will be return with pages of 2,000 records.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request=[0</td>
<td>1]</td>
</tr>
<tr>
<td>details=[Basic</td>
<td>All</td>
</tr>
<tr>
<td></td>
<td>None - show control ID only</td>
</tr>
<tr>
<td></td>
<td>Basic (default) - show control ID and basic control information: the control category, sub-category, statement, and technology information</td>
</tr>
<tr>
<td></td>
<td>All - show control ID, basic control information, and framework mappings</td>
</tr>
<tr>
<td>ids={value}</td>
<td>(Optional) Show only certain control IDs and/or ID ranges. Multiple entries are comma separated. One or more control IDs/ranges may be specified. A control ID range entry is specified with a hyphen (for example, 3000-3250). Valid control IDs are required.</td>
</tr>
</tbody>
</table>
Chapter 13 - Compliance
Compliance Control List

Date Filters

The date/time is specified in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2010-03-01” or “2010-03-01T23:12:00Z”.

If you specify a date but no time as for example 2010-03-01, then the service automatically sets the time to 2010-03-01T00:00:00Z (the start of the day).

When date filters are specified using both input parameters for a single API request, both date filters are satisfied (ANDed).

DTD

<platform API server>/api/2.0/fo/compliance/control/control_list_output.dtd

Sample - Control List Output

This sample control list output was produced for CID 1044 with details=Basic.

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE CONTROL_LIST_OUTPUT SYSTEM "https://qualyspapi.qualys.com/api/2.0/fo/compliance/control/control_list_output.dtd">

<CONTROL_LIST_OUTPUT>

Parameter | Description
--- | ---
`id_min={value}` | (Optional) Show only controls which have a minimum control ID value. A valid control ID is required.

`id_max={value}` | (Optional) Show only controls which have a maximum control ID value. A valid control ID is required.

`updated_after_datetime={value}` | (Optional) Show only controls updated after a certain date/time. See “Date Filters” below.

`created_after_datetime={value}` | (Optional) Show only controls created after a certain date/time. See “Date Filters” below.

`truncation_limit={value}` | (Optional) The maximum number of control records processed per request. When not specified, the truncation limit is set to 1,000 host records. You may specify a value less than the default (1-999) or greater than the default (1001-1000000).

If the requested list identifies more records than the truncation limit, then the XML output includes the `<WARNING>` element and the URL for making another request for the next batch of records.

You can specify `truncation_limit=0` for no truncation limit. This means that the output is not paginated and all the records are returned in a single output. WARNING: This can generate very large output and processing large XML files can consume a lot of resources on the client side. In this case it is recommended to use the pagination logic and parallel processing. The previous page can be processed while the next page is being downloaded.

```
Chapter 13 - Compliance
Compliance Control List

<RESPONSE>
   <DATETIME>2010-03-16T22:53:05Z</DATETIME>
   <CONTROL_LIST>
      <CONTROL>
         <ID>1044</ID>
         <UPDATE_DATE>2010-02-12T00:00:00Z</UPDATE_DATE>
         <CREATED_DATE>2007-10-12T00:00:00Z</CREATED_DATE>
         <CATEGORY>Access Control Requirements</CATEGORY>
         <SUBCATEGORY><![CDATA[Authorizations (Multi-user ACL/role)]]></SUBCATEGORY>
         <STATEMENT><![CDATA[Status of the 'O7_DICTIONARY_ACCESSIBILITY' setting in init.ora (ORACLE Data Dictionary)]]></STATEMENT>
      </CONTROL>
      <TECHNOLOGY_LIST>
         <TECHNOLOGY>
            <ID>7</ID>
            <NAME>Oracle 9i</NAME>
            <RATIONALE><![CDATA[The "O7_DICTIONARY_ACCESSIBILITY" setting allows control/restrictions to be placed on the user's SYSTEM privileges. If this parameter is set to TRUE, SYS schema access will be allowed, which is the default for Oracle operations. Restricting this system privilege with a setting of FALSE will allow users or roles granted SELECT ANY TABLE access to objects in the normal schema, but disallow access to objects in the SYS schema, unless access is specifically granted.]]></RATIONALE>
         </TECHNOLOGY>
         <TECHNOLOGY>
            <ID>8</ID>
            <NAME>Oracle 10g</NAME>
            <RATIONALE><![CDATA[The "O7_DICTIONARY_ACCESSIBILITY" setting allows control/restrictions to be placed on the user's SYSTEM privileges. If this parameter is set to TRUE, SYS schema access will be allowed, which is the default for Oracle operations. Restricting this system privilege with a setting of FALSE will allow users or roles granted SELECT ANY TABLE access to objects in the normal schema, but disallow access to objects in the SYS schema, unless access is specifically granted.]]></RATIONALE>
         </TECHNOLOGY>
         <TECHNOLOGY>
            <ID>9</ID>
            <NAME>Oracle 11g</NAME>
            <RATIONALE><![CDATA[The "O7_DICTIONARY_ACCESSIBILITY" setting allows control/restrictions to be placed on the user's SYSTEM privileges. If this parameter is set to TRUE, SYS schema access will be allowed, which is the default for Oracle operations. Restricting this system privilege with a setting of FALSE will allow users or roles granted SELECT ANY TABLE access to objects in the normal schema, but disallow access to objects in the SYS schema, unless access is specifically granted.]]></RATIONALE>
         </TECHNOLOGY>
      </TECHNOLOGY_LIST>
   </CONTROL_LIST>
</RESPONSE>
the normal schema, but disallow access to objects in the SYS schema, unless access is specifically granted.]]></RATIONAL>
</TECHNOLOGY>
</CONTROL>
<CONTROL>
<ID>1045</ID>
<UPDATE_DATE>2010-03-03T00:00:00Z</UPDATE_DATE>
<CREATED_DATE>2007-10-12T00:00:00Z</CREATED_DATE>
<CATEGORY>OS Security Settings</CATEGORY>
<SUBCATEGORY><![CDATA[System Settings (OSI layers 6-7)]]></SUBCATEGORY>
<STATEMENT><![CDATA[Status of the 'Clipbook' service (Guidance = Disabled)]></STATEMENT>
<TECHNOLOGY_LIST>
<TECHNOLOGY>
<ID>1</ID>
<NAME>Windows XP desktop</NAME>
<RATIONAL><![CDATA[The 'Clipbook' service is used to transfer Clipboard information across the LAN and is sent in clear text. The authentication required is a holdover from the 16-bit 'Network Dynamic Data Exchange' protocol, which is a 'network' password among systems sharing the LAN, with a default set allow READ for EVERYONE that has network access. As this Windows service is not required for any other system operations and increases system vulnerability it should be disabled unless there is a demonstrated need for its use set by the business.]]></RATIONAL>
</TECHNOLOGY>
<TECHNOLOGY>
<ID>2</ID>
<NAME>Windows 2003 Server</NAME>
<RATIONAL><![CDATA[The 'Clipbook' service is used to transfer Clipboard information across the LAN and is sent in clear text. The authentication required is a holdover from the 16-bit 'Network Dynamic Data Exchange' protocol, which is a 'network' password among systems sharing the LAN, with a default set allow READ for EVERYONE that has network access. As this Windows service is not required for any other system operations and increases system vulnerability it should be disabled unless there is a demonstrated need for its use set by the business.]]></RATIONAL>
</TECHNOLOGY>
<TECHNOLOGY>
<ID>12</ID>
<NAME>Windows 2000</NAME>
<RATIONAL><![CDATA[The 'Clipbook' service is used to transfer Clipboard information across the LAN and is sent in clear text. The authentication required is a holdover from the 16-bit network protocol, which is a 'network' password among systems sharing the LAN, with a default set allow READ for EVERYONE that has network access. As this Windows service is not required for any other system operations and increases system vulnerability it should be disabled unless there is a demonstrated need for its use set by the business.]]></RATIONAL>
</TECHNOLOGY>
</CONTROL>
"Network Dynamic Data Exchange" protocol, which is a 'network' password among systems sharing the LAN, with a default set allow READ for EVERYONE that has network access. As this Windows service is not required for any other system operations and increases system vulnerability it should be disabled unless there is a demonstrated need for its use set by the business.

Updates you'll see once Agent UDC support is available

New Agent UDC Support will be announced soon via the Qualys Technology blog once remaining components are released.

The XML output may include the USE_AGENT_ONLY element for these Windows and Unix control types: Directory Search Control and Directory Integrity Control. This is set to 1 when the "Use agent scan only" option is enabled for the control.

The XML output may include the AUTO_UPDATE element for these Windows and Unix control types: File Integrity Control and Directory Integrity Control. This is set to 1 when the "Auto update expected value" option is enabled for the control.

Sample - Control List Output when Agent UDC Support is available

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE CONTROL_LIST_OUTPUT SYSTEM
  "https://qualysapi.qualys.com/api/2.0/fo/compliance/control/control_list_output.dtd">
<CONTROL_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-10-05T10:23:54Z</DATETIME>
    <CONTROL_LIST>
      <CONTROL>
        <ID>100023</ID>
        <UPDATE_DATE>2018-11-16T06:27:14Z</UPDATE_DATE>
        <CREATED_DATE>2018-11-16T06:27:14Z</CREATED_DATE>
        <CATEGORY><![CDATA[Access Control Requirements]]></CATEGORY>
        <SUBCATEGORY><![CDATA[Account Creation/User Management]]></SUBCATEGORY>
        <STATEMENT><![CDATA[Directory Integrity Check]]></STATEMENT>
        <CRITICALITY>
          <LABEL><![CDATA[SERIOUS]]></LABEL>
          <VALUE>3</VALUE>
        </CRITICALITY>
        <CHECK_TYPE><![CDATA[Windows Directory Integrity Check]]></CHECK_TYPE>
        <COMMENT><![CDATA[test]]></COMMENT>
        <USE_AGENT_ONLY>1</USE_AGENT_ONLY>
        <AUTO_UPDATE>1</AUTO_UPDATE>
        <IGNORE_ERROR>0</IGNORE_ERROR>
      </CONTROL>
      ...
    </CONTROL_LIST>
  </RESPONSE>
</CONTROL_LIST_OUTPUT>
```
Database UDC for MS SQL and Oracle

You can now create custom controls for Oracle database and MSSQL database. To support database controls, we’ve added new elements to the XML output and DTDs for Control List Output and Policy Export Output.

You’ll see these changes:

- New database controls allow you to ignore errors and set the status to Pass or Fail. The new element ERROR_SET_STATUS indicates the Pass/Fail setting for each control. This appears in the XML output for Control List and Policy Export.

- The SQL query configured for a database control appears in the new DB_QUERY element, and the description configured for the control appears in the new DESCRIPTION element. These appear in the XML output for Control List and Policy Export.

Sample - Control API for MS SQL

API request:

curl -u "username:password" -H "Content-type: text/xml" -X "POST"
-d "action=list&details=All&ids=100022"
"https://qualysapi.qualys.com/api/2.0/fo/compliance/control/"
MSSQLControlAPI.xml

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE CONTROL_LIST_OUTPUT SYSTEM
"https://qualysapi.qualys.com/api/2.0/fo/compliance/control/control_list_output.dtd">  
<CONTROL_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2019-05-08T18:31:17Z</DATETIME>
    <CONTROL_LIST>
      <CONTROL>
        <ID>100022</ID>
        <UPDATE_DATE>2019-05-08T18:31:08Z</UPDATE_DATE>
        <CREATED_DATE>2019-04-29T20:21:11Z</CREATED_DATE>
        <CATEGORY>Access Control Requirements</CATEGORY>
        <SUB_CATEGORY><![CDATA[Account Creation/User Management]]></SUB_CATEGORY>
        <STATEMENT><![CDATA[CustomerData]]></STATEMENT>
        <CRITICALITY>
          <LABEL><![CDATA[URGENT]]></LABEL>
          <VALUE>5</VALUE>
        </CRITICALITY>
        <CHECK_TYPE><![CDATA[MSSQL Database Check]]></CHECK_TYPE>
        <COMMENT><![CDATA[testComment]]></COMMENT>
        <IGNORE_ERROR>1</IGNORE_ERROR>
        <ERROR_SET_STATUS>PASS</ERROR_SET_STATUS>
        <TECHNOLOGY_LIST>
          <TECHNOLOGY>
            <ID>22</ID>
            <NAME>Microsoft SQL Server 2008</NAME>
            <RATIONALE><![CDATA[select all from customer]]></RATIONALE>
          </TECHNOLOGY>
        </TECHNOLOGY_LIST>
      </CONTROL>
    </CONTROL_LIST>
  </RESPONSE>
</CONTROL_LIST_OUTPUT>
```
Chapter 13 - Compliance
Compliance Control List

Sample - Control API for Oracle

API request:

```bash
curl -u "username:password" -H "Content-type: text/xml" -X "POST"
-d "action=list&details=All&ids=100060"
"https://qualysapi.qualys.com/api/2.0/fo/compliance/control/"
```

XML output:

```xml
<CONTROL_LIST_OUTPUT>
<RESPONSE>
<DATETIME>2019-05-08T18:32:46Z</DATETIME>
<CONTROL_LIST>
<CONTROL>
<ID>100060</ID>
<UPDATE_DATE>2019-05-08T18:32:04Z</UPDATE_DATE>
<CREATED_DATE>2019-05-03T19:32:18Z</CREATED_DATE>
<CATEGORY>Database Settings</CATEGORY>
<SUBCATEGORY><![CDATA[DB Access Controls]]></SUBCATEGORY>
<STATEMENT><![CDATA[OracleselectAllCustomerData]]></STATEMENT>
<CRITICALITY>
<LABEL><![CDATA[MINIMAL]]></LABEL>
(VALUE>1</VALUE>
</CRITICALITY>
<CHECK_TYPE><![CDATA[Oracle Database Check]]></CHECK_TYPE>
COMMENT><![CDATA[Gather All Data]]></COMMENT>
<IGNORE_ERROR>1</ERROR_SET_STATUS>FAIL</ERROR_SET_STATUS>
</CONTROL>
<TECHNOLOGY_LIST>
<TECHNOLOGY>
<ID>7</ID>
<NAME>Oracle 9i</NAME>
<RATIONALE><![CDATA[GatherAllData]]></RATIONALE>
<DB_QUERY><![CDATA[SELECT * FROM Customers WHERE ROWNUM >= 3;]]></DB_QUERY>
<DESCRIPTION><![CDATA[select all the data]]></DESCRIPTION>
</TECHNOLOGY>
</CONTROL_LIST_OUTPUT>
```
<TECHNOLOGY>
  <ID>8</ID>
  <NAME>Oracle 10g</NAME>
  <RATIONALE><![CDATA[GatherAllData]]></RATIONALE>
  <DB_QUERY><![CDATA[select * from Customers;]]></DB_QUERY>
  <DESCRIPTION><![CDATA[select all the data]]></DESCRIPTION>
</TECHNOLOGY>
Compliance Policy List

/api/2.0/fo/compliance/policy/?action=list

[GET]  [POST]

View a list of compliance policies visible to the user. Policies in the XML output are sorted by compliance policy ID in ascending order. Optional input parameters support filtering the policy list output.

Maximum Policies per API Request
A maximum of 1,000 compliance policy records can be processed per request. If the requested list identifies more than 1,000 policies, then the XML output includes the <WARNING> element and instructions for making another request for the next batch of policy records.

Permissions

<table>
<thead>
<tr>
<th>User Role</th>
<th>Permissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager</td>
<td>View all compliance policies in subscription. View asset group information for all asset groups assigned to policies.</td>
</tr>
<tr>
<td>Auditor</td>
<td>View all compliance policies in subscription. View asset group information for all asset groups assigned to policies.</td>
</tr>
<tr>
<td>Unit Manager</td>
<td>View all compliance policies in subscription. View asset group information for asset groups assigned to policies, when the user has permission to view these asset groups. This user can view groups assigned to the user's business unit, and groups created by any user in the same business unit.</td>
</tr>
<tr>
<td>Scanner</td>
<td>View all compliance policies in subscription. View asset group information for asset groups assigned to policies, when the user has permission to view these asset groups. This user can view groups assigned to the user account, and groups created by the user.</td>
</tr>
<tr>
<td>Reader</td>
<td>View all compliance policies in subscription. View asset group information for asset groups assigned to policies, when the user has permission to view these asset groups. This user can view groups assigned to the user account, and groups created by the user.</td>
</tr>
</tbody>
</table>

User Permissions — Asset Group Information
Asset group information included in the policy list output includes the following, as defined for each asset group: asset group ID, title, and assigned IP addresses. Users are granted permission to view asset group information assigned to policies when the user has permission to view the asset groups.
For example, when a user makes a request for a compliance policy list and the user does not have permission to view asset groups that are assigned to the target policies, then the asset group information does not appear in the policy list output. The asset group IDs are not listed under the <POLICY> section, and the asset group title and assigned IP addresses are not listed under the <GLOSSARY> section.

In a case where a user makes a request for a compliance policy list and the user does not have permission to see one or more asset groups assigned to a target policy, the following information is provided in the compliance policy list output:

<POLICY> section. The attribute “has_hidden_data=1” is returned in the <POLICY> section in the <ASSET_GROUP_IDS> element. This indicates that the user does not have permission to see one or more asset groups in the policy. When this attribute is present, only the asset group IDs that the user has permission to see, if any, are listed in the <ASSET_GROUP_IDS> element.

<GLOSSARY> section. Asset group information is not displayed for asset groups assigned to compliance policies that the user does not have permission to see.

<WARNING_LIST> section. A warning message is returned for informational purposes. This indicates that at least one of the compliance policies in the output has one or more asset groups that the user does not have permission to see.

### Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
<tr>
<td>details={Basic</td>
<td>All</td>
</tr>
</tbody>
</table>

None — show policy ID only

Basic (default) — show policy ID and title, date/time when the policy was created and last modified, asset groups included, asset tags included, controls included, whether the Evaluate Now option was selected, whether the policy is locked, and glossary of compliance policy data in the output.

All — show the basic policy information, plus a technology list for each control, IP list for each asset group, and a user list

| ids={value} | (Optional) Show only certain policy IDs and/or ID ranges. One or more policy IDs/ranges may be specified. Multiple entries are comma separated. A policy ID range entry is specified with a hyphen (for example, 160-165). Valid policy IDs are required. |
| id_min={value} | (Optional) Show only policies which have a minimum policy ID value. A valid policy ID is required. |
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Compliance Policy List

DTD
<platform API server>/api/2.0/fo/compliance/policy/policy_list_output.dtd

Sample - Compliance Policy List

API request:
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl" -D headers.15
"https://qualysapi.qualys.com/api/2.0/fo/compliance/policy/?action=list"

XML output:

```xml
<POLICY_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2017-11-03T21:15:29Z</DATETIME>
    <POLICY_LIST>
      <POLICY>
        <ID>18948</ID>
        <TITLE><![CDATA[XP policy]]></TITLE>
        <CREATED>
          <DATETIME>2017-10-19T18:37:15Z</DATETIME>
          <BY>quays_as</BY>
        </CREATED>
        <LAST_MODIFIED>
          <DATETIME>2017-10-26T23:31:57Z</DATETIME>
          <BY>quays_as</BY>
        </LAST_MODIFIED>
        <LAST_EVALUATED>
          <DATETIME>2017-11-03T08:40:44Z</DATETIME>
        </LAST_EVALUATED>
        <STATUS><![CDATA[active]]></STATUS>
        <IS_LOCKED>0</IS_LOCKED>
        <EVALUATE_NOW><![CDATA[yes]]></EVALUATE_NOW>
        <ASSET_GROUP_IDS>6065</ASSET_GROUP_IDS>
        <TAG_SET_INCLUDE>
          <TAG_ID>7588415</TAG_ID>
        </TAG_SET_INCLUDE>
      </POLICY>
    </POLICY_LIST>
  </RESPONSE>
</POLICY_LIST_OUTPUT>
```

Parameter | Description
--- | ---
id_max={value} | (Optional) Show only policies which have a maximum policy ID value. A valid policy ID is required.
updated_after_datetime={value} | (Optional) Show only controls updated after a certain date/time. See Date Filters.
created_after_datetime={value} | (Optional) Show only controls created after a certain date/time. See Date Filters.
<TAG_INCLUDE_SELECTOR>ANY</TAG_INCLUDE_SELECTOR>
INCLUDE_AGENT_IPS>

<CONTROL_LIST>

<CONTROL>
    <ID>1045</ID>
    <STATEMENT><![CDATA[Status of the 'Clipbook' service (startup type)]]]></STATEMENT>
    <CRITICALITY>
        <LABEL><![CDATA[SERIOUS]]></LABEL>
        <VALUE>3</VALUE>
    </CRITICALITY>
</CONTROL>

<CONTROL>
    <ID>1048</ID>
    <STATEMENT><![CDATA[Status of the 'Shutdown: Clear virtual memory pagefile' setting]]></STATEMENT>
    <CRITICALITY>
        <LABEL><![CDATA[Critical]]></LABEL>
        <VALUE>4</VALUE>
    </CRITICALITY>
</CONTROL>

</CONTROL_LIST>
</POLICY>
</POLICY_LIST>

GLOSSARY

<ASSET_GROUP_LIST>
    <ASSET_GROUP>
        <ID>6065</ID>
        <TITLE><![CDATA[Windows XP]]></TITLE>
    </ASSET_GROUP>
</ASSET_GROUP_LIST>

<ASSET_TAG_LIST>
    <TAG>
        <TAG_ID>7588415</TAG_ID>
        <TAG_NAME>Windows XP</TAG_NAME>
    </TAG>
</ASSET_TAG_LIST>
</GLOSSARY>
</RESPONSE>
</POLICY_LIST_OUTPUT>
Compliance Policy - Export

/api/2.0/fo/compliance/policy/?action=export

[GET]  [POST]

Export compliance policies from your account to an XML file. Service provided controls are exported and you can choose to also export user defined controls. The output also includes an appendix with human readable look-ups for control descriptions, giving you explanation on the various aspects of control description and evaluation.

Permissions - If you’re not a Manager permission Manage PC module must be turned on in your account.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=export</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request=[0</td>
<td>1]</td>
</tr>
<tr>
<td>id={value} or title={value}</td>
<td>(Required) The ID or the title of the policy you want to export.</td>
</tr>
<tr>
<td>show_user_controls=[0</td>
<td>1]</td>
</tr>
<tr>
<td>show_appendix=[0</td>
<td>1]</td>
</tr>
<tr>
<td>show_user_controls=[0</td>
<td>1]</td>
</tr>
</tbody>
</table>

Sample - Export Policy

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X "POST" -d "action=export&id=853744" "https://qualysapi.qualys.com/api/2.0/fo/compliance/policy/"

XML output:

<?xml version="1.0 encoding=UTF-8" ?>
Sample - Export Policy with Appendix with lookups for control descriptions

API request:

curl -u "USERNAME:PASSWORD" GET -H "X-Requested-With: curl" -X "POST" -d "action=export&id=5438&show_appendix=1"
"https://qualysapi.qualys.com/api/2.0/fo/compliance/policy/">showApp.xml
Chapter 13 - Compliance
Compliance Policy - Export

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE POLICY_EXPORT_OUTPUT SYSTEM
  "https://qualysapi.qualys.com/api/2.0/fo/compliance/policy/policy_export_output.dtd">
<POLICY_EXPORT_OUTPUT>
  <RESPONSE>
    <DATETIME>2017-09-09T09:07:13Z</DATETIME>
    <POLICY>
      <TITLE><![CDATA[Solaris]]></TITLE>
      <EXPORTED><![CDATA[2017-09-09T09:07:12Z]]></EXPORTED>
      <COVER_PAGE> <![CDATA[ ]] </COVER_PAGE>
      <STATUS><![CDATA[active]]></STATUS>
      <TECHNOLOGIES total="4"> 
        <TECHNOLOGY>
          <ID>4</ID>
          <NAME>Solaris 9.x</NAME>
        </TECHNOLOGY>
        ...
      </TECHNOLOGIES>
      <SECTIONS>
        <SECTION>
          <NUMBER>3</NUMBER>
          <HEADING><![CDATA[Untitled]]></HEADING>
          <CONTROLS total="4"/>
        </SECTION>
      </SECTIONS>
      <!--Note : Remove APPENDIX section if you wish to import this XML as policy.-->
      <APPENDIX>
        <OP_ACRONYMS>
          <OP id="lt"> less than </OP>
          <OP id="gt"> greater than </OP>
          <OP id="le"> less than or equal to </OP>
          <OP id="ge"> greater than or equal to </OP>
          <OP id="ne"> not equal to </OP>
          <OP id="xeq"> list OR string list </OP>
          <OP id="eq"> equal to </OP>
          <OP id="in"> in </OP>
          <OP id="xre"> regular expression list </OP>
          <OP id="re"> regular expression </OP>
          <OP id="range"> in range </OP>
        </OP_ACRONYMS>
        <DATA_POINT_ACRONYMS>
          <K id="auth.useraccount.legacy-plus-accounts"> <![CDATA[ The following List String value(s) <B>X</B> indicate the current list of accounts defined within the <B>/etc/group</B>, <B>/etc/shadow</B>, and/or <B>/etc/passwd</B> files having a ]]> ]></K>
        </DATA_POINT_ACRONYMS>
      </APPENDIX>
    </POLICY>
  </RESPONSE>
</POLICY_EXPORT_OUTPUT>
```

The following List String value(s) <B>X</B> indicate the current list of accounts defined within the <B>/etc/group</B>, <B>/etc/shadow</B>, and/or <B>/etc/passwd</B> files having a
Sample - Export Library Policy to XML

You can export a library compliance policy from your account to an XML file. Just like with user created policies you must specify the input parameter show_user_controlls=1 to include UDCs in the output. When the policy includes a Qualys Custom Control you’ll see the UDC ID for the control in the output.

**API request:**
```
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl" -d "action=export&ids=991742279&show_user_controls=1" "https://qualysapi.qualys.com/api/2.0/fo/compliance/policy/"
```

**XML output:**
```
<POLICY>
<TITLE><![CDATA[Library Policy with 2 UDC v.2.0]]></TITLE>
<EXPORTED><![CDATA[2017-04-17T15:02:56Z]]></EXPORTED>
<COVER_PAGE></COVER_PAGE>
<STATUS><![CDATA[active]]></STATUS>
<TECHNOLOGIES total="2">
    <TECHNOLOGY>
        ...
    </TECHNOLOGY>
</TECHNOLOGIES>
</POLICY>
```
Updates you’ll see once Agent UDC support is available

New Agent UDC Support will be announced soon via the Qualys Technology blog once remaining components are released.

The XML output may include the USE_AGENT_ONLY element for these Windows and Unix control types: Directory Search Control and Directory Integrity Control. This is set to 1 when the "Use agent scan only" option is enabled for the control.

The XML output may include the AUTO_UPDATE element for these Windows and Unix control types: File Integrity Control and Directory Integrity Control. This is set to 1 when the "Auto update expected value" option is enabled for the control.
Sample - Export Policy when Agent UDC Support is available

API request:

curl -u username:password -H "X-Requested-With: curl" -d "action=export&policies=1448425&show_user_controls=1&show_appendix=0" "https://qualysapi.qualys.com/api/2.0/fo/compliance/policy/">

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE POLICY_EXPORT_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/compliance/policy/policy_export_output.dtd">
<POLICY_EXPORT_OUTPUT>
 <RESPONSE>
  <DATETIME>2018-10-05T10:41:43Z</DATETIME>
  <POLICY>
   <TITLE><![CDATA[Windows_Linux_UDC_Policy]]></TITLE>
   <EXPORTED><![CDATA[2018-10-05T10:41:43Z]]></EXPORTED>
   <COVER_PAGE><![CDATA[]]></COVER_PAGE>
   <STATUS><![CDATA[active]]></STATUS>
   <TECHNOLOGIES total="3">
    <TECHNOLOGY>
     <ID>45</ID>
     <NAME>Red Hat Enterprise Linux 6.x</NAME>
    </TECHNOLOGY>
    <TECHNOLOGY>
     <ID>52</ID>
     <NAME>AIX 7.x</NAME>
    </TECHNOLOGY>
    <TECHNOLOGY>
     <ID>81</ID>
     <NAME>Red Hat Enterprise Linux 7.x</NAME>
    </TECHNOLOGY>
   </TECHNOLOGIES>
   <SECTIONS total="1">
    <SECTION>
     <NUMBER>1</NUMBER>
     <HEADING><![CDATA[ddd]]></HEADING>
     <CONTROLS total="4">
      <USER_DEFINED_CONTROL>
       <ID>100041</ID>
       <UDC_ID>929a8c4e-5057-e3f3-8225-e92d4076f499</UDC_ID>
       <CHECK_TYPE>Unix Directory Search Check</CHECK_TYPE>
    </USER_DEFINED_CONTROL>
     </CONTROLS>
    </SECTION>
   </SECTIONS>
  </POLICY>
 </RESPONSE>
</POLICY_EXPORT_OUTPUT>
Database UDCs for MS SQL and Oracle

You can now create custom controls for Oracle database and MSSQL database. To support database controls, we’ve added new elements to the XML output and DTDs for Control List Output and Policy Export Output.

You’ll see these changes:

- New database controls allow you to ignore errors and set the status to Pass or Fail. The new element ERROR_SET_STATUS indicates the Pass/Fail setting for each control. This appears in the XML output for Control List and Policy Export.

- The SQL query configured for a database control appears in the new DB_QUERY element, and the description configured for the control appears in the new DESCRIPTION element. These appear in the XML output for Control List and Policy Export.

- In the Policy Export API output you’ll see these new elements added to the DP element in the Evaluate tag: Data Type (DT) and DB Column name (DBCOL).

Sample - Policy API

API request:

curl -u "username:password" -H "Content-type: text/xml" -X "POST" 
-d "action=export&id=1358790&show_user_controls=1" 
"https://qualysapi.qualys.com/api/2.0/fo/compliance/policy/" > PolicyExportAPI.xml

XML output:
<POLICY_EXPORT_OUTPUT>
  <RESPONSE>
    <DATETIME>2019-05-21T18:49:06Z</DATETIME>
    <POLICY>
      <TITLE><![CDATA[Objects Check]]></TITLE>
      <EXPORTED><![CDATA[2019-05-21T18:49:06Z]]></EXPORTED>
      <COVER_PAGE><![CDATA[]]></COVER_PAGE>
      <STATUS><![CDATA[active]]></STATUS>
      ...
      <USER_DEFINED_CONTROL>
        <ID>100338</ID>
        <UDC_ID>9e2f8a7-9d0c-4a64-8055-e49a3f888f838</UDC_ID>
        <CHECK_TYPE>Oracle Database Check</CHECK_TYPE>
        <CATEGORY>
          <ID>5</ID>
          <NAME><![CDATA[Services]]></NAME>
        </CATEGORY>
        <SUB_CATEGORY>
          <ID>1024</ID>
          <NAME><![CDATA[Support]]></NAME>
        </SUB_CATEGORY>
        <STATEMENT><![CDATA[SELECT * FROM user_tables;]]></STATEMENT>
        <CRITICALITY>
          <LABEL><![CDATA[MEDIUM]]></LABEL>
          <VALUE>2</VALUE>
        </CRITICALITY>
        <COMMENT><![CDATA[SELECT * FROM user_tables;]]></COMMENT>
      </USER_DEFINED_CONTROL>
      <IGNORE_ERROR>1</IGNORE_ERROR>
      <ERROR_SET_STATUS>PASS</ERROR_SET_STATUS>
      <TECHNOLOGIES total="1">
        <TECHNOLOGY>
          <ID>8</ID>
          <NAME>Oracle 10g
          <RATIONALE><![CDATA[rat:SELECT * FROM user_tables;]]></RATIONALE>
          <DB_QUERY><![CDATA[SELECT * FROM user_tables;]]></DB_QUERY>
          <DESCRIPTION><![CDATA[des:SELECT * FROM user_tables;]]></DESCRIPTION>
        </TECHNOLOGY>
      </TECHNOLOGIES>
    </POLICY>
  </RESPONSE>
</POLICY_EXPORT_OUTPUT>
<REFERENCE_LIST/>
</USER_DEFINED_CONTROL>

...

</RESPONSE>
</POLICY_EXPORT_OUTPUT>

DTD

<platform API server>/api/2/fo/compliance/policy/policy_export_output.dtd
Compliance Policy - Import

/api/2.0/fo/compliance/policy/?action=import

[POST]

Import a compliance policy, defined in an XML file, into your account. We’ll include all the service-provided controls from your XML file. You have the option to also include user-defined controls.

Permissions - If you’re not a Manager permission Manage PC module must be turned on in your account.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=import</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request=0</td>
<td>1]</td>
</tr>
<tr>
<td>xml_file</td>
<td>(Required) The file containing the policy details.</td>
</tr>
<tr>
<td>title= [value]</td>
<td>(Required) The title of the new policy.</td>
</tr>
<tr>
<td>create_user_controls=0</td>
<td>1]</td>
</tr>
</tbody>
</table>

Sample - Import policy

API request:

curl -H "X-Requested-With: Curl Sample" -H "Content-type: text/xml" --data-binary @policy.xml -u "USERNAME:PASSWORD" 
"https://qualysapi.qualys.com/api/2.0/fo/compliance/policy/?action=import&title=My+Policy"

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2017-09-15T21:32:40Z</DATETIME>
    <TEXT>Successfully imported compliance policy</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
    </ITEM
```
<VALUE>136992</VALUE>
</ITEM>
<ITEM>
  <KEY>Title</KEY>
  <VALUE>My Policy</VALUE>
</ITEM>
</ITEM_LIST>
</RESPONSE>
</SIMPLE_RETURN>
Compliance Policy - Merge

/api/2.0/fo/compliance/policy/?action=merge

[POST]

Merge (combine) 2 or more compliance policies using Qualys Policy Compliance (PC). You can choose to merge some or all parts of a new policy into an existing one. Also you can preview merge changes before saving them. This API is available to Managers and Auditors.

For example, say you imported a policy from our library (Policy A) and configured it to add asset groups, controls and sections. Later we might release an updated version of this policy (Policy B) with new controls and technologies. In this scenario you can use the Policy Merge API to add the new controls and technologies from Policy B into Policy A (your existing policy) without losing the asset groups, controls and sections you added.

Input Parameters

The policy merge input parameters give you flexibility with merging different parts of a new policy (Policy B) into an existing one (Policy A). For example you can choose to update controls with newer definitions, replace asset groups, and add new technologies and controls. By default no changes are applied to your existing policy unless parameters are specified (see below).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=merge</td>
<td>(Required)</td>
</tr>
<tr>
<td>id={value}</td>
<td>(Required) The ID of the policy that will be updated with merged content (let’s call this Policy A).</td>
</tr>
<tr>
<td>merge_policy_id={value}</td>
<td>(Required) Tell us the policy with the content that will be merged into Policy A (let’s call this Policy B). You can specify a policy ID using “merge_policy_id” or policy XML data. To upload XML data, use this syntax: --data-binary @path_to_xml_file.xml</td>
</tr>
<tr>
<td>or-policy XML data</td>
<td>These options are mutually exclusive: policy XML data and replace_asset_groups.</td>
</tr>
<tr>
<td>replace_cover_page={0</td>
<td>1}</td>
</tr>
<tr>
<td>replace_asset_groups={0</td>
<td>1}</td>
</tr>
<tr>
<td>add_asset_groups={0</td>
<td>1}</td>
</tr>
<tr>
<td>add_new_technologies={0</td>
<td>1}</td>
</tr>
</tbody>
</table>
Compliance Policy - Merge

DTD

<platform API server>/api/2.0/fo/compliance/policy/policy_merge_result_output.dtd"

Policy Merge Request 1 - preview merged policy

Policy ID 15993 (Policy A) will be updated with content merged from policy ID 15994 (Policy B) and the XML output will show the merged policy in preview mode. Policy changes will not be saved in Policy 15993 since the request includes "preview_merge=1".

API request:

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl"
"https://qualysapi.qualys.com/api/2.0/fo/compliance/policy/?
action=merge&id=15993&merge_policy_id=15994&replace_cover_page=1&add_new_asset_groups=1&add_new_technologies=1&update_section_heading=1&add_new_controls=1&update_existing_controls=1&preview_merge=1"

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE POLICY_MERGE_RESULT_OUTPUT SYSTEM
"https://qualysapi.qualys.com/api/2.0/fo/compliance/policy/policy_merge_result_output.dtd">
<POLICY_MERGE_RESULT_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-04-24T05:28:04Z</DATETIME>
    <NOTE>Policy changes were not merged or saved since the request had preview_merge=1.</NOTE>
    <NEW_COVER_PAGE><![CDATA[My Cover Page]]></NEW_COVER_PAGE>
    <ASSETGROUPS_ADDED>
      <ASSETGROUP>
        <ID>424422</ID>
        <NAME><![CDATA[<script>alert("xss");</script>]]></NAME>
      </ASSETGROUP>
    </ASSETGROUPS_ADDED>
  </RESPONSE>
</POLICY_MERGE_RESULT_OUTPUT>

Parameter | Description
---|---
add_new_controls=[0|1] | (Optional) Set add_new_controls=1 to add new controls, i.e. add controls from Policy B if they are not already in Policy A.
update_section_heading=[0|1] | (Optional) Set update_section_heading=1 to replace the section heading in Policy A with the one in Policy B, based on section number (applies only to common sections). This parameter must be specified with: add_new_controls or update_existing_controls.
update_existing_controls=[0|1] | (Optional) Set update_existing_controls=1 to replace the common controls in Policy A with the ones in Policy B. These are controls that exist in both policies. (Controls will not be removed).
preview_merge=[0|1] | (Optional) Set preview_merge=1 to view the changes merged into Policy A without saving them.
Chapter 13 - Compliance
Compliance Policy - Merge

</ASSET_GROUP>
<ASSET_GROUP>
  <ID>424577</ID>
  <NAME><![CDATA[10.10.32.26]]></NAME>
</ASSET_GROUP>
</ASSET_GROUPS_ADDED>
<TECHNOLOGIES_ADDED>
  <TECHNOLOGY>
    <ID>1</ID>
    <NAME>Windows XP desktop</NAME>
  </TECHNOLOGY>
</TECHNOLOGIES_ADDED>
</POLICY_MERGE_RESULT>
</RESPONSE>
Policy Merge Request 2 - save merged policy
Policy ID 15993 (Policy A) will be updated with content merged from policy ID 15994 (Policy B). The merged policy will be saved in policy 15993.

API request:
```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl"
"https://qualysapi.qualys.com/api/2.0/fo/compliance/policy/?
action=merge&id=15993&merge_policy_id=15994&replace_cover_page=1&
add_new_asset_groups=1&add_new_technologies=1&update_section_heading=1&
add_new_controls=1&update_existing_controls=1&preview_merge=0"
```

XML output:
```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE POLICY_MERGE_RESULT_OUTPUT SYSTEM
"https://qualysapi.qualys.com/api/2.0/fo/compliance/policy/policy_merge_result_output.dtd">
<POLICY_MERGE_RESULT_OUTPUT>
<RESPONSE>
<DATETIME>2018-04-24T05:31:26Z</DATETIME>
<POLICY_MERGE_RESULT>
<NOTE>Policy changes have been merged successfully.</NOTE>
<NEW_COVER_PAGE><![CDATA[My Cover Page]]></NEW_COVER_PAGE>
<ASSET_GROUPS_ADDED>
<ASSET_GROUP>
<ID>424422</ID>
...
</ASSET_GROUP>
</ASSET_GROUPS_ADDED>
</POLICY_MERGE_RESULT>
</RESPONSE>
</POLICY_MERGE_RESULT_OUTPUT>
```

Policy Merge Request 3 - pass policy XML, preview merged policy
Policy ID 15993 (Policy A) will be updated with content merged from the policy defined in the file “path_to_policy_xml_file.xml.” The merged changes will not be saved in policy 15993 since the request includes “preview_merge=1”.

API request:
```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: curl" -H
"Content-type: text/xml"
"https://qualysapi.qualys.com/api/2.0/fo/compliance/policy/?
action=merge&id=15993&replace_cover_page=1&replace_asset_groups=1&
add_new_technologies=1&update_section_heading=1&add_new_controls=1&
update_existing_controls=1&preview_merge=1" --data-binary
@/home/aamin/PC_XML/path_to_policy_xml_file.xml>
```
XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE POLICY_MERGE_RESULT_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/compliance/policy/policy_merge_result_output.dtd">
<POLICY_MERGE_RESULT_OUTPUT>
  <RESPONSE>
    <DATETIME>2018-04-24T05:38:26Z</DATETIME>
    <POLICY_MERGE_RESULT>
      <NOTE>Policy changes were not merged or saved since the request had preview_merge=1.</NOTE>
      <NEW_COVER_PAGE><![CDATA[My Cover Page]]></NEW_COVER_PAGE>
      <SECTIONS_UPDATED>
        <SECTION>
          <ID>1</ID>
          <HEADING><![CDATA[First section]]></HEADING>
        </SECTION>
        <SECTION>
          <ID>2</ID>
          <HEADING><![CDATA[Second section]]></HEADING>
        </SECTION>
      </SECTIONS_UPDATED>
      <SECTIONS>
        <SECTION>
          <ID>1</ID>
          <CONTROLS_UPDATED>
            <CONTROL>
              <ID>1061</ID>
            </CONTROL>
          </CONTROLS_UPDATED>
        </SECTION>
        <SECTION>
          <ID>2</ID>
          <CONTROLS_ADDED>
            <CONTROL>
              <ID>1045</ID>
            </CONTROL>
            <CONTROL>
              <ID>1048</ID>
            </CONTROL>
          </CONTROLS_ADDED>
        </SECTION>
      </SECTIONS>
    </POLICY_MERGE_RESULT>
  </RESPONSE>
</POLICY_MERGE_RESULT_OUTPUT>
```
Compliance Policy - Manage Asset Groups

/api/2.0/fo/compliance/policy/

[POST]

Add, remove and set asset groups for a policy. You must have permission to modify the policy you want to update.

Add asset group IDs to policy

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=add_asset_group_ids</td>
<td>(Required) Policy ID for the policy you want to update.</td>
</tr>
<tr>
<td>id={value}</td>
<td>Asset groups IDs for the asset groups you want to add to the policy specified in &quot;id&quot;. Multiple IDs are comma separated. Each asset group must have at least 1 assigned IP address.</td>
</tr>
<tr>
<td>asset_group_ids={value}</td>
<td>(Optional) Specify evaluate_now=1 to immediately evaluate the policy against assigned assets, and select the Evaluate Now check box in the UI Policy Editor. When this check box is selected we'll start policy evaluation each time you save changes to the policy from the UI or API.</td>
</tr>
<tr>
<td>evaluate_now={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

API request:

curl -H X-Requested-With: curl -u "USERNAME:PASSWD" -X POST -d "id=43400&asset_group_ids=649737,649736"

"https://qualysapi.qualys.com/api/2.0/fo/compliance/policy/?action=add_asset_group_ids"

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2014-09-11T09:06:17Z</DATETIME>
    <TEXT>Compliance Policy successfully modified.</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>43400</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```
Remove asset group IDs from policy

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=remove_asset_group_ids</td>
<td>(Required) Policy ID for the policy you want to update.</td>
</tr>
<tr>
<td>id={value}</td>
<td>Policy ID for the policy you want to update.</td>
</tr>
<tr>
<td>asset_group_ids={value}</td>
<td>Asset groups IDs for the asset groups you want to delete from the policy specified in “id”. Multiple IDs are comma separated.</td>
</tr>
<tr>
<td>evaluate_now={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

API request:
```
curl -H "X-Requested-With: curl" -u "USERNAME:PASSWD" -X POST -d "id=43400&asset_group_ids=649737,649736" 
"https://qualysapi.qualys.com/api/2.0/fo/compliance/policy/?action=remove_asset_group_ids"
```

XML output:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2014-09-11T09:06:17Z</DATETIME>
    <TEXT>Compliance Policy successfully modified.</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>43400</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```
Set asset group IDs for policy

Use this action to reset the asset groups for a specified policy. Any assigned asset groups not specified in this request will be removed.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=set_asset_group_ids</td>
<td>(Required) Policy ID for the policy you want to update.</td>
</tr>
<tr>
<td>id=[value]</td>
<td>Policy ID for the policy you want to update.</td>
</tr>
<tr>
<td>asset_group_ids=[value]</td>
<td>Asset groups IDs for the asset groups you want to assign to the policy specified in “id”. Multiple IDs are comma separated. Each asset group must have at least 1 assigned IP address.</td>
</tr>
<tr>
<td>evaluate_now=[0</td>
<td>1]</td>
</tr>
</tbody>
</table>

API request:

curl -H "X-Requested-With: curl" -u "USERNAME:PASSWD" -X POST -d "id=43400&asset_group_ids=649737,649736" "https://qualysapi.qualys.com//api/2.0/fo/compliance/policy/?action=set_asset_group_ids"

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2014-09-11T09:07:43Z</DATETIME>
    <TEXT>Compliance Policy successfully modified.</TEXT>
    <ITEM_LIST>
      <ITEM>
        <KEY>ID</KEY>
        <VALUE>43400</VALUE>
      </ITEM>
    </ITEM_LIST>
  </RESPONSE>
</SIMPLE_RETURN>
```
Chapter 13 - Compliance

Compliance Posture Information

/\api/2.0/fo/compliance/posture/info/?action=list

[GET] [POST]

View current compliance posture data (info records) for hosts within the user’s account. Each compliance posture info record includes a compliance posture ID and other attributes. Optional input parameters support filtering the posture info record output.

Each compliance posture info record in the output includes:

<table>
<thead>
<tr>
<th>Output</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compliance Posture ID</td>
<td>The service assigns a unique value to each compliance posture info record.</td>
</tr>
<tr>
<td>Host ID</td>
<td>Identifies a host.</td>
</tr>
<tr>
<td>Control ID</td>
<td>Identifies a technical control.</td>
</tr>
<tr>
<td>Technology ID</td>
<td>Identifies a technology.</td>
</tr>
<tr>
<td>Instance</td>
<td>Identifies a technology instance, when applicable.</td>
</tr>
<tr>
<td>Compliance Status</td>
<td>Passed, Failed or Error. An error, only assigned to a custom control, indicates control evaluation failed (and the ignore errors configuration option for the control was not selected).</td>
</tr>
<tr>
<td>First Fail Date</td>
<td>The first scan date when the control was reported as Fail. If the previous status was Pass then this is the date the status changed from Pass to Fail.</td>
</tr>
<tr>
<td>Last Fail Date</td>
<td>The most recent scan date when the control was reported as Fail.</td>
</tr>
<tr>
<td>First Pass Date</td>
<td>The first scan date when the control was reported as Pass. If the previous status was Fail then this is the date the status changed from Fail to Pass.</td>
</tr>
<tr>
<td>Last Pass Date</td>
<td>The most recent scan date when the control was reported as Pass.</td>
</tr>
<tr>
<td>Previous Status</td>
<td>The compliance status (Pass or Fail) for each control before the most recent compliance scan.</td>
</tr>
<tr>
<td>Exception</td>
<td>Identifies an exception assignee and status, if an exception has been created.</td>
</tr>
</tbody>
</table>

The user has the ability to select the amount of information to include in the posture information output. By default, basic posture information is included: the posture ID, host ID, control ID, technology ID, technology instance (when applicable), and the compliance status. If an exception has been created, this full exception information is also included: the exception assignee and status, the date/time when the exception was created, when it was last modified, the user who took these actions on the exception, and the date when the exception is set to expire. A glossary of compliance posture information identifies: basic host information and basic control information.
Use the details input parameter to select another level of detail to be included in the policy information output.

By default, the posture information output shows posture information for all hosts (IP addresses) in asset groups assigned to the selected policy, provided the user has permission to view the hosts themselves. If you have a sub-account like a Unit Manager, Scanner or Reader, the posture information output only includes hosts that the your account has permission to see. Optional input parameters allow you to set filters to restrict the posture information output to postures info records with certain IP addresses, host IDs, compliance control IDs, compliance posture IDs, posture info records with changes in status since a specified date, and posture info records with a certain compliance status (Passed, Failed or Error).

The optional glossary in the compliance posture information output includes:

<table>
<thead>
<tr>
<th>Output</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User List</td>
<td>List of users who created, modified, or added comments to exceptions in compliance posture info records which are included in the posture information output. For a policy that was edited, the user who most recently edited the exception is listed.</td>
</tr>
<tr>
<td>Host List</td>
<td>List of hosts in compliance posture info records which are included in the posture information output. This basic host information is included: host ID, IP address, and tracking method. When details=All is specified, this additional information is included: last vulnerability scan date/time, last compliance scan date/time.</td>
</tr>
<tr>
<td>Control List</td>
<td>List of controls in compliance posture info records which are included in the posture information output. When details=All is specified, this additional information is included: rationale information and technology information for each control.</td>
</tr>
<tr>
<td>Technology List</td>
<td>List of technologies for controls in compliance posture info records which are included in the posture list output. This information is included only when details=All is specified.</td>
</tr>
<tr>
<td>Evidence List</td>
<td>List of evidence information for control data points.</td>
</tr>
</tbody>
</table>

**Maximum Postures per API Request**

The output of the Compliance Posture Info API is paginated when your API request identifies a single policy to report on using the “policy_id” input parameter. In this case, a maximum of 5,000 posture info records are returned per request by default. You can customize the page size (i.e. the number of posture info records) by using the parameter “truncation_limit=10000” for instance if you want to return pages with 10,000 records.

**Permissions**

All users have permission view posture information for hosts (IP addresses) in asset groups assigned to the selected policy, when the hosts are available to the user based on user account settings.
Chapter 13 - Compliance

Compliance Posture Information

User Permissions: Asset Group IPs
All users have permission to view posture information for all hosts (IP addresses) in the asset groups assigned to the selected policy provided they have permission to view the hosts themselves. This permission is granted even when users do not have permission to view the asset groups assigned to the policy.

For example, when a user makes a request for compliance posture information for “Policy A” and this policy has one assigned asset group “Hong Kong”, and the user does not have permission to view this asset group, then the user does have permission to view compliance posture info records for all the IP addresses in the asset group “Hong Kong” provided the IP addresses in the group “Hong Kong” are visible to the user.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>policy_id=(value)</td>
<td>(policy_id or policy_ids is required) Show compliance posture info records for a specified policy. A valid policy ID is required. The parameters policy_id and policy_ids cannot be specified in the same request.</td>
</tr>
<tr>
<td>policy_ids=(value)</td>
<td>(policy_id or policy_ids is required) Show compliance posture info records for multiple policies - up to 10 policies may be requested. Provide a comma-separated list of valid policy IDs. When this parameter is specified, all posture data is downloaded (and the “truncation_limit” parameter is invalid). The parameters policy_id and policy_ids cannot be specified in the same request. When policy_ids is specified, truncation_limit is invalid. For CSV output, policy_id must be specified (and policy_ids is invalid).</td>
</tr>
</tbody>
</table>
**Parameter** | **Description**
--- | ---
echo_request={0/1} | (Optional) Show (echo) the request’s input parameters (names and values) in the XML output. When not specified, parameters are not included in the XML output. Specify 1 to view parameters in the XML output.

output_format={value} | (Optional) The output format. A valid value is: xml (default), csv (posture data and metadata i.e. summary and warning data), csv_no_metadata (posture data only, no metadata). For CSV output you can include only one policy for this reason policy_id is required.

details={Basic|All|None|Light} | (Optional) Show a certain amount of information for each compliance posture info record. A valid value is: None - show posture info and minimum exception information (assignee and status) if appropriate Basic (default) - show posture info, full exception information if appropriate, and a minimum glossary (basic info for hosts and controls) Light - show posture info, exception info if appropriate, and a limited glossary (host info and last scan date/time, control ID, and evidence info) All - show posture info (including the percentage of controls that passed for each host), exception info if appropriate, posture summary (the number of assets, controls, and control instances evaluated) and a glossary (host info and last scan date/time), control info, technology info, evidence info

include_dp_name={value} | (Optional) Show the name and ID for each data point in the XML output. This is useful for uniquely identifying data points.

show_remediation_info={0/1} | (Optional) Set to 1 to show remediation information in the XML or CSV output. By default, the output does not include the remediation information. When not specified, the remediation information is not included in the output.

cause_of_failure={0/1} | (Optional) Set flag to 1 to display the cause of failure of Directory Integrity Monitoring UDCs (user defined controls). When set to 0 or unspecified, cause of failure is not displayed for these UCDs. When set to 1 and Directory Integrity Monitoring UDC control failed assessment, cause of failure info is shown in XML response, i.e. added, removed directories, directories where content changed, permissions changed etc.
### Compliance Posture Information

**Parameter** | **Description**
--- | ---
truncation_limit={value} | (Optional) The parameter is valid only when the API request is for a single policy and the policy_id parameter is specified.

By default, a limit of 5,000 posture info records are returned per request (when “policy_id” is specified). You may specify a value less than the default (1-4999) or greater than the default (5001-1000000) to configure the number records returned per request.

If the requested list identifies more records than the truncation limit, then the XML output includes the `<WARNING>` element and the URL for making another request for the next batch of records.

You can specify truncation_limit=0 for no truncation limit. This means that the output is not paginated and all the records are returned in a single output. **WARNING:** This can generate very large output and processing large XML files can consume a lot of resources on the client side. In this case it is recommended to use the pagination logic and parallel processing. The previous page can be processed while the next page is being downloaded.

ips={value} | (Optional) Show only compliance posture info records for compliance hosts which have certain IP addresses/ranges. One or more IP addresses/ranges may be specified. Multiple IPs/ranges are comma separated.

host_ids={value} | (Optional) Show only compliance posture info records for compliance hosts which have certain host IDs and/or ID ranges. One or more host IDs/ranges may be specified. Multiple entries are comma separated. A host ID range entry is specified with a hyphen (for example, 123-125). Valid host IDs are required.

control_ids={value} | (Optional) Show only compliance posture info records for controls which have certain control IDs and/or ranges. One or more control IDs/ranges may be specified. Multiple entries are comma separated. An control ID range entry is specified with a hyphen (for example, 1200-1300). Valid control IDs are required.

ids={value} | (Optional) Show only compliance posture info records for certain compliance posture IDs and/or ID ranges. One or more posture IDs/ranges may be specified. Multiple entries are comma separated. A posture ID range entry is specified with a hyphen (for example, 1-10). Valid posture IDs are required.

id_min={value} | (Optional) Show only compliance posture info records which have a minimum ID value. A valid posture ID is required.

id_max={value} | (Optional) Show only compliance posture info records which have a maximum ID value. A valid posture ID is required.
### Parameter | Description
--- | ---
status_changes_since={date} | (Optional) Show compliance posture info records when the compliance status was changed since a certain date and time (optional). If the policy itself was changed, a warning message is generated.

The date/time is specified in YYYY-MM-DD[THH:MM:SSZ] format (UTC/GMT), like “2008-05-01” or “2008-05-01T23:12:00Z”.

asset_group_ids={value} | (Optional) Show only hosts in certain asset groups. Provide a comma-separated list of asset group IDs for the asset groups you want to download compliance posture data for. The asset groups specified do not need to be assigned to the one or more policies requested. Posture data will be returned as long as there are common hosts specified by “asset_group_ids” and asset groups that are assigned to the policies requested.

status={Passed|Failed|Error} | (Optional) Show only compliance posture info records which have a posture status of Passed, Failed or Error. By default, records with the status Passed, Failed and Error are listed.

criticality_labels={value} | (Optional) Show only compliance posture info records for controls which have certain criticality labels. One or more criticality labels (e.g. SERIOUS, CRITICAL, URGENT) may be specified. Multiple entries are comma separated.

The parameters criticality_labels and criticality_values cannot be specified in the same request.

criticality_values={value} | (Optional) Show only compliance posture info records for controls which have certain criticality values. One or more criticality values (0-5) may be specified. Multiple entries are comma separated.

The parameters criticality_labels and criticality_values cannot be specified in the same request.

tag_set_by={id|name} | (Optional) Specify “id” (the default) to select a tag set by providing tag IDs. Specify “name” to select a tag set by providing tag names.

tag_include_selector={all|any} | (Optional) Select “any” (the default) to include hosts that match at least one of the selected tags. Select “all” to include hosts that match all of the selected tags.

tag_exclude_selector={all|any} | (Optional) Select “any” (the default) to exclude hosts that match at least one of the selected tags. Select “all” to exclude hosts that match all of the selected tags.

tag_set_include={value} | (Optional) Specify a tag set to include. Hosts that match these tags will be included. You identify the tag set by providing tag name or IDs. Multiple entries are comma separated.

tag_set_exclude={value} | (Optional) Specify a tag set to exclude. Hosts that match these tags will be excluded. You identify the tag set by providing tag name or IDs. Multiple entries are comma separated.
DTD
<platform API server>/api/2.0/fo/compliance/posture/info/posture_info_list_output.dtd

Sample - Compliance Posture Info
Sample API request to uniquely identify Data Points using Name and ID.

API request:
```
curl -H "X-Requested-With: Curl" -u "USERNAME:PASSWORD" -d
headers.15
'https://qualysapi.qualys.com/api/2.0/fo/compliance/posture/info/?
action=list&policy_id=15472&details=All&include_dp_name=1'
```

XML Response:
```
...<DPD_LIST>
  <DPD>
    <LABEL>:dp_1</LABEL>
    <ID>136</ID>
    <NAME><![CDATA[secman.system.clearpageonshut]]></NAME>
    <DESC><![CDATA[This Integer value <B>X</B> indicates the current status of the setting <B>Shutdown: Clear virtual memory pagefile</B> using the registry key path <B>HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\Session Manager\Memory Management\ClearPageFileAtShutdown</B>. A value of <B>0</B> indicates the setting is <B>Disabled</B>; a value of <B>1</B> indicates the setting is <B>Enabled</B>.]]></DESC>
  </DPD>
...
```

Sample - Posture API
These changes have been done for Database UDC:

When the Posture API output includes database controls, the values returned for the database controls are shown in a tabular format. You'll see these new elements in the output: Header (H), Row (R) and Column (C).

API request:
```
curl -u "username:password" -H "Content-type: text/xml" -X "POST"
-d "action=list&policy_id=1303776&details=All&include_dp_name=1"
"https://qualysapi.qualys.com/api/2.0/fo/compliance/posture/info/"
```
Chapter 13 - Compliance
Compliance Posture Information

PostureInfo.xml

XML output:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE POSTURE_INFO_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/compliance/posture/info/posture_info_list_output.dtd">
<POSTURE_INFO_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2019-05-03T19:24:32Z</DATETIME>
    <INFO_LIST>
      <INFO>
        <ID>6413404</ID>
        <HOST_ID>1843205</HOST_ID>
        <CONTROL_ID>100022</CONTROL_ID>
        <TECHNOLOGY_ID>22</TECHNOLOGY_ID>
        <INSTANCE>MSSQL 2008:1:1433:MSSQLSERVER:master</INSTANCE>
        <STATUS>Failed</STATUS>
        <POSTURE_MODIFIED_DATE>2019-04-29T20:38:08Z</POSTURE_MODIFIED_DATE>
        <EVIDENCE>
          <BOOLEAN_EXPR><![CDATA[((:dp_2 matches $tp_2))]]></BOOLEAN_EXPR>
          <DPV_LIST>
            <DPV lastUpdated="2019-05-03T00:33:14Z">
              <LABEL>:dp_2</LABEL>
              <V>
                <C><![CDATA[CustomerID]]></C>
                <C><![CDATA[CustomerName]]></C>
                <C><![CDATA[ContactName]]></C>
                <C><![CDATA[Address]]></C>
                <C><![CDATA[City]]></C>
                <C><![CDATA[PostalCode]]></C>
                <C><![CDATA[Country]]></C>
              </V>
              <R>
                <C><![CDATA[1]]></C>
                <C><![CDATA[Alfreds Futterkiste]]></C>
                <C><![CDATA[Maria Anders]]></C>
                <C><![CDATA[Obere Str. 57]]></C>
                <C><![CDATA[Berlin]]></C>
                <C><![CDATA[12209]]></C>
                <C><![CDATA[Germany]]></C>
              </R>
              <R>
                <C><![CDATA[2]]></C>
                <C><![CDATA[Ana Trujillo Emparedados y helados]]></C>
                <C><![CDATA[Ana Trujillo]]></C>
                <C><![CDATA[Avda. de la Constitucion 2222]]></C>
                <C><![CDATA[Mexico D.F.]]></C>
                <C><![CDATA[05021]]></C>
                <C><![CDATA[Mexico]]></C>
              </R>
            </DPV>
          </DPV_LIST>
        </EVIDENCE>
      </INFO>
    </INFO_LIST>
  </RESPONSE>
</POSTURE_INFO_LIST_OUTPUT>
Control Criticality

Control Criticality is a feature in Policy Compliance that provides ratings for controls, including the ability to customize ratings at the control level and at the policy level. Several APIs include control criticality in the API output.

Control Criticality must be enabled in your account — By default, control criticality will not be enabled while we are updating the default criticality settings in the control library. If you want this feature, please contact Support or your Technical Account Manager.
Exceptions
/api/2.0/fo/compliance/exception/

[GET]  [POST]

List, request, update and delete exceptions in your account. Supported method differs per request type, i.e. list, create etc).

The Exception API is only available if you have Policy Compliance (PC) module enabled for your subscription. Non Manager users must be granted this permission in their account settings.

Permissions -

User Permissions

<table>
<thead>
<tr>
<th>User Role</th>
<th>Permissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager</td>
<td>List, request, update, delete exceptions for all hosts in subscription.</td>
</tr>
<tr>
<td>Auditor</td>
<td>List, request, update, delete exceptions for all hosts in subscription.</td>
</tr>
<tr>
<td>Unit Manager</td>
<td>List, request, update, delete exceptions for hosts in their assigned business unit.</td>
</tr>
<tr>
<td>Scanner, Reader</td>
<td>List, request, update exceptions for hosts in their account. Updates are limited to adding comments.</td>
</tr>
</tbody>
</table>

List exceptions

By default, all exceptions in the user’s account are listed. Use the optional parameters to filter the list output.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>exception_number</td>
<td>(Optional) Show a specific exception by specifying a valid exception number.</td>
</tr>
<tr>
<td>ip=[value]</td>
<td>(Optional) Show exceptions associated with a specific host by specifying a host IP address. You may enter individual IP address that belong to the Policy Compliance module.</td>
</tr>
<tr>
<td>network_name=[value]</td>
<td>(Optional) Show exceptions for a particular network by specifying the network name.</td>
</tr>
<tr>
<td>status=[value]</td>
<td>(Optional) Show exceptions with specified status value: pending, approved, rejected or expired. Tell me about exception status</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>control_id={value}</td>
<td>(Optional) Show exceptions for a specific control by specifying valid control ID. If the value is set to 23, the matching control IDs may include 23, 234, 2343, 233.</td>
</tr>
<tr>
<td>control_statement={value}</td>
<td>(Optional) Show exceptions for certain controls associated with a certain policy by specifying control statement. Partial control statement is also valid.</td>
</tr>
<tr>
<td>policy_id={value}</td>
<td>(Optional) Show exceptions for controls associated with a certain policy by specifying a valid policy ID.</td>
</tr>
<tr>
<td>technology_name={value}</td>
<td>(Optional) Show exceptions for controls with a certain technology by specifying the technology name.</td>
</tr>
<tr>
<td>assignee_id={value}</td>
<td>(Optional) Show exceptions with a certain assignee by specifying an assignee’s user ID.</td>
</tr>
<tr>
<td>created_by={value}</td>
<td>(Optional) Show exceptions that were created by a particular user by specifying the user ID.</td>
</tr>
<tr>
<td>modified_by={value}</td>
<td>(Optional) Show exceptions that were modified by a particular user by specifying the user ID.</td>
</tr>
<tr>
<td>details=[Basic</td>
<td>All</td>
</tr>
<tr>
<td>is_active=[0</td>
<td>1]</td>
</tr>
<tr>
<td>created_after_date={mm/dd/yyyy}</td>
<td>(Optional) Show exceptions created (requested) after the specified date. The valid date format is mm/dd/yyyy.</td>
</tr>
<tr>
<td>updated_after_date={mm/dd/yyyy}</td>
<td>(Optional) Show exceptions that were updated after the specified date. The valid date format is mm/dd/yyyy.</td>
</tr>
<tr>
<td>expired_before_date={mm/dd/yyyy}</td>
<td>(Optional) Show exceptions that will expire before the specified date. The valid date format is mm/dd/yyyy.</td>
</tr>
<tr>
<td>expired_after_date={mm/dd/yyyy}</td>
<td>(Optional) Show exceptions that will expire after the specified date. The valid date format is mm/dd/yyyy.</td>
</tr>
<tr>
<td>exception_numbers={value}</td>
<td>(Optional) Show a specific exception by specifying a valid exception number. Multiple entries are comma separated. An exception number range is specified with a hyphen (for example, 289-292).</td>
</tr>
<tr>
<td>exception_number_min={value}</td>
<td>(Optional) Show only exceptions that have a exception number greater than or equal to the specified value.</td>
</tr>
</tbody>
</table>
Tell me about exception status

Pending - An exception is in a Pending state when first requested by a user. Also, if a previously accepted or rejected exception is reopened, then it goes back to Pending.

Approved - An exception is in an Approved state when it is reviewed and accepted by an authorized user. You would accept an exception if it's determined that the host should be exempt from the specified control. As long as the host is exempt for the control, a status of PassedE appears in compliance reports. The status changes back to Failed when the exception expires.

Rejected - An exception is in a Rejected state when it is reviewed and rejected by an authorized user. You would reject an exception if it's determined that the host should not be exempt from the specified control. When an exception is rejected, a status of Failed continues to appear for the host/control in compliance reports.

Expired - An exception is in an Expired state when the exception was previously accepted but the time limit has been reached. When an exception is expired, a status of Failed appears again for the host/control in compliance reports.

Sample - List exceptions with failed status

API request:
```
curl -s -k -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl demo 2" -D headers.15 "https://qualysapi.qualys.com/api/2.0/fo/compliance/posture/info/?action=list&policy_id=1174&status=Failed"
```

XML response:
```
<?xml version="1.0" encoding="UTF-8" ?>
"https://qualysapi.qualys.com/api/2.0/fo/compliance/posture/info/posture_info_list_output.dtd">

  ...  

  <INFO>  
    <ID>1174</ID>  
    <HOST_ID>563352</HOST_ID>  
    <CONTROL_ID>1072</CONTROL_ID>  
    <TECHNOLOGY_ID>2</TECHNOLOGY_ID>  
    <INSTANCE></INSTANCE>  
    <STATUS>Failed</STATUS>  
    <POSTURE_MODIFIED_DATE>2015-09-01</POSTURE_MODIFIED_DATE>  
  </INFO>
```

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>exception_number_max=value</td>
<td>(Optional) Show only exceptions that have exception number less than or equal to the specified value.</td>
</tr>
<tr>
<td>truncation_limit=value</td>
<td>(Optional) Specify the maximum number of exceptions to be listed per request. When not specified, the truncation limit is set to 1000 records. You may specify a value less than the default (1-999) or greater than the default (1001-1000000).</td>
</tr>
</tbody>
</table>
Sample - List exception number, show all details

**API request:**
```bash
curl -s -k -u "USERNAME:PASSWORD" -H "X-Requested-With: curl demo 2" -D headers.15 "https://qualysapi.qualys.com/api/2.0/fo/compliance/exception/?action=list&exception_number=58&details=All"
```

**XML response:**
```xml
<?xml version="1.0" encoding="UTF-8" ?>
"https://qualysapi.qualys.com/api/2.0/fo/compliance/exception/exception_list_output.dtd">
<EXCEPTION_LIST_OUTPUT>
<RESPONSE>
  <DATETIME>2017-01-15T11:26:34Z</DATETIME>
  <EXCEPTION_LIST>
    <EXCEPTION>
      <EXCEPTION_NUMBER>58</EXCEPTION_NUMBER>
      <HOST>
        <IP_ADDRESS>10.10.30.159</IP_ADDRESS>
      </HOST>
      <TECHNOLOGY>
        <ID>11</ID>
        <NAME><![CDATA[Red Hat Enterprise Linux 5.x]]></NAME>
      </TECHNOLOGY>
      <POLICY>
        <ID>789422824</ID>
        <NAME><![CDATA[RHEL 5.x]]></NAME>
      </POLICY>
      <CONTROL>
        <CID>1073</CID>
        <STATEMENT><![CDATA[Status of the 'Maximum Password Age' setting (expiration) / Accounts having the 'password never expires' flag set]]></STATEMENT>
        <CRITICALITY>
          <VALUE>5</VALUE>
          <LABEL><![CDATA[URGENT]]></LABEL>
        </CRITICALITY>
      </CONTROL>
    </EXCEPTION>
  </EXCEPTION_LIST>
</RESPONSE>
</EXCEPTION_LIST_OUTPUT>
```
<ASSIGNEE><![CDATA[Scanner User]]></ASSIGNEE>
<STATUS>Rejected</STATUS>
<ACTIVE>1</ACTIVE>
<REOPEN_ON_EVIDENCE_CHANGE>0</REOPEN_ON_EVIDENCE_CHANGE>
<EXPIRATION_DATE>N/A</EXPIRATION_DATE>
<MODIFIED_DATE>2017-01-15T08:53:19Z</MODIFIED_DATE>
<HISTORY_LIST>
  <HISTORY>
    <USER><![CDATA[John (mnc_su)]]]></USER>
    <COMMENT><![CDATA[test]]></COMMENT>
    <INSERTION_DATE>2017-01-05T06:48:13Z</INSERTION_DATE>
  </HISTORY>
  <HISTORY>
    <USER><![CDATA[Bill (mnc_ru)]]]></USER>
    <COMMENT><![CDATA[test]]></COMMENT>
    <INSERTION_DATE>2017-01-15T08:48:38Z</INSERTION_DATE>
  </HISTORY>
  <HISTORY>
    <USER><![CDATA[Mark (mnc_au)]]]></USER>
    <COMMENT><![CDATA[test]]></COMMENT>
    <INSERTION_DATE>2017-01-15T08:53:19Z</INSERTION_DATE>
  </HISTORY>
</HISTORY_LIST>

DTD
<platform API server>/api/2.0/fo/compliance/exception/exception_list_output.dtd
Request exception
An exception is created with the expiry date matching the creation date. You can update the exception to change it.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=request</td>
<td>(Required) POST method must be used. action=create is also valid.</td>
</tr>
<tr>
<td>control_id=[value]</td>
<td>(Required) Specify the control ID of the control for which you want to request an exception.</td>
</tr>
<tr>
<td>host_id=[value]</td>
<td>(Required) Specify the host ID of the host for which you want to request an exception.</td>
</tr>
<tr>
<td>policy_id=[value]</td>
<td>(Required) Specify the policy ID of the policy that contains the control for which you want to request an exception.</td>
</tr>
<tr>
<td>technology_id=[value]</td>
<td>(Required) Specify the technology ID of the technology associated with the host for which you want to request an exception.</td>
</tr>
<tr>
<td>instance_string=[value]</td>
<td>(Optional) Specifies a single instance on the selected host. The instance string may be &quot;os&quot; or a string like &quot;oracle10:1:1521:ora10204u&quot;. This parameter must be specified with: host_id.</td>
</tr>
<tr>
<td>assignee_id=[value]</td>
<td>(Required) You can assign exception to another user. Specify user ID of the user, who has access to the hosts that the exceptions apply to.</td>
</tr>
<tr>
<td>comments=[value]</td>
<td>(Required) User defined comments.</td>
</tr>
<tr>
<td>reopen_on_evidence_change=[0</td>
<td>1]</td>
</tr>
</tbody>
</table>

Sample - Request exception

API request:
```
curl -k -u "USERNAME:PASSWD" -H "X-Requested-With: Curl" -X "POST" -d "action=request&control_id=1113&host_id=28595192824&policy_id=801459496&technology_id=45&assignee_id=2449482824&reopen_on_evidence_change=1&comments=new exception" "https://qualysapi.qualys.com/api/2.0/fo/compliance/exception/"
```

XML response:
```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE SIMPLE_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/simple_return.dtd">
<SIMPLE_RETURN>
  <RESPONSE>
    <DATETIME>2015-12-15T10:14:43Z</DATETIME>
  </RESPONSE>
</SIMPLE_RETURN>
```
<TEXT>Exception created successfully</TEXT>

<ITEM_LIST>
  <ITEM>
    <KEY>EXCEPTION_NUMBER</KEY>
    <VALUE>15</VALUE>
  </ITEM>
</ITEM_LIST>

</RESPONSE>
</SIMPLE_RETURN>

**DTD**

<platform API server>/api/2.0/fo/compliance/exception/

**Update exceptions**

You can make changes to one or more exceptions on your hosts. All the actions you take are logged in the exception history with your name and a time stamp for when the action took place.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=update</td>
<td>(Required) POST method must be used.</td>
</tr>
<tr>
<td>exception_numbers={value}</td>
<td>(Required) Show a specific exception by specifying a valid exception number. Multiple entries are comma separated. An exception number range is specified with a hyphen (for example, 50-55).</td>
</tr>
<tr>
<td>comments={value}</td>
<td>(Required) User defined comments. Your comments are saved in the exception history.</td>
</tr>
<tr>
<td>reassign_to={value}</td>
<td>(Optional) You can reassign exceptions to another user. Specify user ID of the user, who has access to the hosts that the exceptions apply to.</td>
</tr>
<tr>
<td>reopen_on_evidence_change=0</td>
<td>(Optional) This applies only if the exception is approved. Reopen the exception if a future scan returns a value different than the current value and the control is still failing.</td>
</tr>
<tr>
<td>status={Pending</td>
<td>Approved</td>
</tr>
<tr>
<td>end_date={mm/dd/yyyy}</td>
<td>(Optional) Set the end date by entering a future date in mm/dd/yyyy format. For a never ending exception, set the expiry date to 0. The end date is only relevant to Approved exceptions.</td>
</tr>
</tbody>
</table>

The end date is only relevant to Approved exceptions.
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Exceptions

Sample - Update exception

API request:

curl -u "USERNAME:PASSWD" -H "X-Requested-With: Curl" -X "POST" -d "action=update&exception_numbers=55&status=Approved&end_date=12/16/2015&comments=status change"
"https://qualysapi.qualys.com/api/2.0/fo/compliance/exception/

XML response:

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/compliance/exception/exception_batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-01-07T11:24:42Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Successfully Updated</TEXT>
        <NUMBER_SET>
          <NUMBER>55</NUMBER>
        </NUMBER_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>

DTD
<platform API server>/api/2.0/fo/compliance/exception/exception_batch_return.dtd

Delete exceptions

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=delete</td>
<td>(Required) POST method must be used.</td>
</tr>
<tr>
<td>exception_numbers={value}</td>
<td>(Required) Specify the exception number. Enter one or more exception numbers and/or ranges. Multiple entries are comma separated.</td>
</tr>
</tbody>
</table>

Sample - Delete exceptions

API request:

curl -k -u "USERNAME:PASSWD" -H "X-Requested-With: Curl" -X "POST" -d "action=delete&exception_numbers=40-41"
"https://qualysapi.qualys.com/api/2.0/fo/compliance/exception/"
XML response:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE BATCH_RETURN SYSTEM
"https://qualysapi.qualys.com/api/2.0/fo/compliance/exception/exception_batch_return.dtd">
<BATCH_RETURN>
  <RESPONSE>
    <DATETIME>2018-01-07T11:22:20Z</DATETIME>
    <BATCH_LIST>
      <BATCH>
        <TEXT>Exception(s) deleted successfully</TEXT>
        <NUMBER_SET>
          <NUMBER_RANGE>40-41</NUMBER_RANGE>
        </NUMBER_SET>
      </BATCH>
    </BATCH_LIST>
  </RESPONSE>
</BATCH_RETURN>
```

DTD

```xml
<platform API server>/api/2.0/fo/compliance/exception/exception_batch_return.dtd
```
SCAP Cyberscope Report

Under the Federal Information Security Management Act of 2002 (FISMA), government agencies are obliged to report on their information security statuses using a common tool called Cyberscope. Qualys customers with the SCAP module enabled can scan their network and generate Cyberscope compatible XML reports, using new API functions, to meet these requirements.

Qualys provides 3 different API functions for generating Cyberscope compatible XML reports as described below. The Cyberscope reports generated using these API functions return XML output in LASR format.

Cyberscope report specification and the LASR format:
http://scap.nist.gov/use-case/cyberscope

SCAP Scan Results
/api/2.0/fo/asset/host/cyberscope/fdcc/scan/

Create a Cyberscope report using scan results for a particular SCAP scan in the user’s account. An SCAP scan ID or scan reference is required as input. The service uses only the data in the raw scan results to generate the report. When the parameters organisation_name1, organisation_name2, and organisation_name3 are specified, the <ai:Organization> elements are included in the XML report.

Permissions: Users have permission to run this API function when the SCAP module is enabled for the user’s subscription. Sub-accounts (Unit Managers, Scanners and Readers) must have the "Manage compliance" permission.

Sample 1 - Select SCAP Scan by Scan ID
Use the scan_id parameter to select an SCAP scan by scan ID. (A scan ID or reference number is required.)

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" "https://qualysapi.qualys.com/api/2.0/fo/asset/host/cyberscope/fdcc/scan/?scan_id=4244823&organisation_name1=Name1&organisation_name2=Name2&organisation_name3=Name3"

To obtain the SCAP scan ID, log into the Qualys application and go to PC/SCAP > Scans > SCAP Scans to view the SCAP scans in your account. Hover over the SCAP scan that you’re interested in and view the scan results (select View from the Quick Actions menu). You’ll see the scan results URL in your browser and the scan ID value appears in the "id" parameter, as shown in this sample URL:


Sample 2 - Select SCAP Scan by Scan Reference
Use the scan_ref parameter to select an SCAP scan by scan reference number. (A scan reference number or scan ID is required.)
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SCAP Cyberscope Report

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" "https://qualysapi.qualys.com/api/2.0/fo/asset/host/cyberscope/fdcc/scan/?scan_ref=qscap/1337984725.4360&organisation_name1=Name1&organisation_name2=Name2&organisation_name3=Name3"

Sample 3 - IPs Filter

Use the optional ips parameter to include only certain IP addresses in the report. You can enter a single IP, multiple IPs and/or IP ranges. Multiple entries are comma separated.

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" "https://qualysapi.qualys.com/api/2.0/fo/asset/host/cyberscope/fdcc/scan/?scan_id=4268027&ips=10.10.26.183&organisation_name1=Name1&organisation_name2=Name2&organisation_name3=Name3"

SCAP Policy Results

/api/2.0/fo/asset/host/cyberscope/fdcc/policy/

Create a Cyberscope report using scan results data saved for a particular SCAP policy in the user's account. A policy ID is required as input. These parameters allow users to customize the required "OrganisationName" elements in the XML report: organisation_name1, organisation_name2, and organisation_name3.

The service uses automatic SCAP policy data for a selected policy and reports this in the datapoint <sr:DataPoint id="configuration_management_agency_deviations">. The services uses the evidence data for the special rule "security_patches_up_to_date" and reports this in the datapoint <sr:DataPoint id="vulnerability_management_product_vulnerabilities">.

Permissions: Users have permission to run this API function when the SCAP module is enabled for the user's subscription and sub-accounts (Unit Managers, Scanners and Readers) have the "Manage compliance" permission.

Sample 1 - Select an SCAP Policy

Use the policy_id parameter to select an SCAP policy. Hosts in the policy will be included in the report unless filters are specified using the parameter ips and/or as_ids.

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" "https://qualysapi.qualys.com/api/2.0/fo/asset/host/cyberscope/fdcc/policy/?policy_id=30231&organisation_name1=Name1&organisation_name2=Name2&organisation_name3=Name3"

To obtain the SCAP policy ID, log into the Qualys application and go to PC/SCAP > Policies to view the policies in your account. Hover over the SCAP policy that you're interested in and edit it (select Edit from the Quick Actions menu). You'll see the policy editor URL in your browser and the policy ID value appears in the "id" parameter, as shown in this sample URL:
Chapter 13 - Compliance
SCAP Cyberscope Report

https://qualyguard.qualys.com/fo/fdcc/edit_policy.php?id=12345&refresh_parent=1

Sample 2 - IPs Filter
Use the ips parameter to include only hosts with the specified IP addresses. Enter a single IP, multiple IPs and/or IP ranges using the ips parameter. Multiple entries are comma separated.

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" "https://qualysapi.qualys.com/api/2.0/fo/asset/host/cyberscope/fdc/policy/?policy_id=17012&ips=10.10.24.10&organisation_name1=Name1&organisation_name2=Name2&organisation_name3=Name3"

Sample 3 - Asset Groups Filter
Use the as_ids parameter to include only hosts in the specified asset groups. Multiple asset group IDs are comma separated.

curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" "https://qualysapi.qualys.com/api/2.0/fo/asset/host/cyberscope/fdc/policy/?policy_id=17012&ag_ids=397405&ips=10.10.25.70&organisation_name1=Name1&organisation_name2=Name2&organisation_name3=Name3"

SCAP Global Results
/api/2.0/fo/asset/host/cyberscope/

Create a Cyberscope report using the SCAP scan data saved for all the SCAP policies in the subscription and also the automatic VM scan data saved in the subscription. You must enter IPs/ranges and/or asset group IDs as input. These parameters allow users to customize the required “OrganisationName” elements in the XML report: organisation_name1, organisation_name2, and organisation_name3.

The service uses SCAP scan data for all the SCAP policies in the subscription and reports this in the datapoint <sr:DataPoint id:"configuration_management_agency_deviations">. This datapoint will include multiple Benchmark Data sections, one for each policy. Also the service uses the automatic VM data for applicable IPs (IPs in SCAP policies) and reports this in the datapoint <sr:DataPoint id:"vulnerability_management_product_vulnerabilities">.

Permissions: Users have permission to run this API function when the SCAP module is enabled for the user’s subscription. Sub-accounts (Unit Managers, Scanners, and Readers) will view only data for IP addresses that their accounts have access to.

Sample 1 - Select Hosts by IP
Use the ips parameter to select hosts by IP/range. You can enter a single IP, multiple IPs and/or IP ranges using the ips parameter. Multiple entries are comma separated. (This parameter and/or ag_ids is required.)
Sample 2 - Select Hosts by Asset Group

Use the as_ids parameter to select hosts by asset group ID. You can enter one or more asset group IDs. Multiple IDs are comma separated. (This parameter and/or ips is required.)

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl"
"https://qualysapi.qualys.com/api/2.0/fo/asset/host/cyberscope/?ag_ids=503424&organisation_name1=Name1&organisation_name2=Name2&organisation_name3=Name3"
```

It’s possible to select hosts by entering a combination of IPs/ranges and asset group IDs.

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl"
"https://qualysapi.qualys.com/api/2.0/fo/asset/host/cyberscope/?ips=10.10.24.52,10.10.25.2-10.10.25.255&ag_ids=503424,503430&organisation_name1=Name1&organisation_name2=Name2&organisation_name3=Name3"
```
SCAP ARF Report

/api/2.0/fo/compliance/scap/arf/

Create a SCAP scan report in Asset Reporting Format (ARF), a requirement in the SCAP 1.2 Specifications from NIST.

Permissions - Users have permission to run this API function when the SCAP module is enabled for the user's subscription. Sub-accounts (Unit Managers, Scanners and Readers) must have the "Manage compliance" permission.

Input parameters:

- **scan_id** = {value} (Required) The scan ID for a finished SCAP scan.
- **ips** = {value} (Optional) Use this parameter if you want to include only certain IP addresses in the report. You can enter a single IP, multiple IPs and/or ranges. Multiple entries are comma separated.
- **ips_network_id** = {value} (Optional and valid only when the Network Support feature is enabled and the policy has SCAP 1.2 content) Use this parameter to restrict the report's target to the IPs specified in the "ips" parameter ("ips_network_id" is valid only when "ips" is specified in the same request).

How do I find the scan ID? You'll see the scan ID in the Qualys user interface, when viewing SCAP scan results. In the scan results window’s title bar you’ll see the report URL with its ID number in the “id” parameter, like this:
https://qualyguard.qualys.com/fo/report/fdcc/fdcc_scan_result.php?id=3362251

**API Request:**

```bash
curl -u "USERNAME:PASSWORD" -H "X-Requested-With: Curl" -X POST -d "scan_id=3362251&ips=10.10.10.1-10.10.10.10" "https://qualysapi.qualys.com/api/2.0/fo/compliance/scap/arf/
```

**XML Output:**
The XML output is compliant with the ARF 1.1 Schema. Show me this schema
SCAP Policy List

/api/2.0/fo/compliance.fdcc_policy/?action=list

[GET] [POST]

View a list of SCAP policies visible to the user. Optional input parameters support filtering the policy list output.

Maximum Policies per API Request

A maximum of 1,000 SCAP policy records can be processed per request. If the requested list identifies more than 1,000 policies, then the XML output includes the <WARNING> element and instructions for making another request for the next batch of policy records.

Permissions

<table>
<thead>
<tr>
<th>User Role</th>
<th>Permissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager</td>
<td>View all SCAP policies in subscription. View asset group information for all asset groups assigned to policies.</td>
</tr>
<tr>
<td>Auditor</td>
<td>View all SCAP policies in subscription. View asset group information for all asset groups assigned to policies.</td>
</tr>
<tr>
<td>Unit Manager</td>
<td>View all SCAP policies in subscription, when the “Manage compliance” permission is turned on in the user account settings. View asset group information for asset groups assigned to SCAP policies, when the user has permission to view these asset groups.</td>
</tr>
<tr>
<td>Scanner</td>
<td>View all SCAP policies in subscription, when the “Manage compliance” permission is turned on in the user account settings. View asset group information for asset groups assigned to SCAP policies, when the user has permission to view these asset groups.</td>
</tr>
<tr>
<td>Reader</td>
<td>View all SCAP policies in subscription, when the “Manage compliance” permission is turned on in the user account settings. View asset group information for asset groups assigned to SCAP policies, when the user has permission to view these asset groups.</td>
</tr>
</tbody>
</table>

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>echo_request={0</td>
<td>1}</td>
</tr>
</tbody>
</table>
Chapter 13 - Compliance
SCAP Policy List

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>details=Basic</td>
<td>(Optional) Show the requested amount of host information for each host. A valid value is: Basic - (default) Includes all SCAP policy details except the asset group list and SCAP file list. All - includes all SCAP policy details. None - includes SCAP policy ID and title.</td>
</tr>
<tr>
<td>ids=value</td>
<td>(Optional) Show only certain SCAP policy IDs/ranges. One or more policy IDs/ranges may be specified. Valid host IDs are required. Multiple entries are comma separated. A policy ID range is specified with a hyphen (for example, 190-400).</td>
</tr>
<tr>
<td>id_min=value</td>
<td>(Optional) Show only SCAP policies which have a minimum SCAP policy ID value. A valid SCAP policy ID is required.</td>
</tr>
<tr>
<td>id_max=value</td>
<td>(Optional) Show only SCAP policies which have a maximum SCAP policy ID value. A valid SCAP policy ID is required.</td>
</tr>
</tbody>
</table>

DTD

<platform API server>/api/2.0/fo/compliance/fdcc_policy/fdcc_policy_list_output.dtd

Sample - SCAP Policy List

Sample SCAP policy list output (fragment) with details=All is below.

```xml
<!DOCTYPE POLICY_LIST_OUTPUT SYSTEM "https://qualysapi.qualys.com/api/2.0/fo/compliance/fdcc_policy/fdcc_policy_list_output.dtd">

<FDCC_POLICY_LIST_OUTPUT>
  <RESPONSE>
    <DATETIME>2012-07-19T22:10:16Z</DATETIME>
    <FDCC_POLICY_LIST>
      <FDCC_POLICY>
        <ID>10235</ID>
        <TITLE><![CDATA[XP policy]]></TITLE>
        <DESCRIPTION><![CDATA[This benchmark has been created to assist IT professionals, in particular Windows XP system administrators and information security personnel, in effectively securing Windows XP Professional SP2 systems.]]></DESCRIPTION>
        <BENCHMARK><![CDATA[FDCC-Windows-XP]]></BENCHMARK>
        <BENCHMARK_PROFILE><![CDATA[federal_desktop_core_configuration_version_1.2.1.0]]></BENCHMARK_PROFILE>
        <BENCHMARK_STATUS_DATE>2009-04-08T00:00:00Z</BENCHMARK_STATUS_DATE>
        <VERSION><![CDATA[v1.2.1.0]]></VERSION>
        <TECHNOLOGY><![CDATA[Windows XP Desktop]]></TECHNOLOGY>
        <NIST_PROVIDED><![CDATA[No]]></NIST_PROVIDED>
      </FDCC_POLICY>
    </FDCC_POLICY_LIST>
  </RESPONSE>
</FDCC_POLICY_LIST_OUTPUT>
```
<CREATED>
  <DATETIME>2012-07-18T23:03:35Z</DATETIME>
  <BY>USERNAME</BY>
</CREATED>

<LAST_MODIFIED>
  <DATETIME>2012-07-18T23:03:35Z</DATETIME>
  <BY>USERNAME</BY>
</LAST_MODIFIED>

<ASSET_GROUP_LIST>
  <ASSET_GROUP>
    <ID>414242</ID>
    <TITLE><![CDATA[10.10.10.40]]></TITLE>
  </ASSET_GROUP>
  <ASSET_GROUP>
    <ID>414942</ID>
    <TITLE><![CDATA[10 range]]></TITLE>
  </ASSET_GROUP>
  <ASSET_GROUP>
    <ID>419582</ID>
    <TITLE><![CDATA[10.10.10.29]]></TITLE>
  </ASSET_GROUP>
  <ASSET_GROUP>
    <ID>419702</ID>
    <TITLE><![CDATA[10.10.10.28-16-191]]></TITLE>
  </ASSET_GROUP>
</ASSET_GROUP_LIST>

<FDCC_FILE_LIST>
  <FDCC_FILE>
    <FILE_NAME><![CDATA[fdcc-winxp-xccdf.xml]]></FILE_NAME>
    <FILE_HASH><![CDATA[0c1a49c4ca47187995b543cfdcf35783]]></FILE_HASH>
  </FDCC_FILE>
  <FDCC_FILE>
    <FILE_NAME><![CDATA[fdcc-winxp-cpe-oval.xml]]></FILE_NAME>
    <FILE_HASH><![CDATA[f397b9068b3881ef2a35c948326e6e4e]]></FILE_HASH>
  </FDCC_FILE>
  <FDCC_FILE>
    <FILE_NAME><![CDATA[fdcc-winxp-cpe-dictionary.xml]]></FILE_NAME>
    <FILE Hash><![CDATA[333b9b03961c58e65263bc86b4e0e0cdef]]>
</FDCC_FILE_LIST>
Chapter 13 - Compliance
SCAP Policy List

</FDCC_FILE>
<FDCC_FILE>
  <FILE_NAME><![CDATA[fdcc-winxp-oval.xml]]></FILE_NAME>

<FILE_HASH><![CDATA[d1cf1f195bb58f295ca4b17dea2f99f0]]></FILE_HASH>
</FDCC_FILE>
<FDCC_FILE>
  <FILE_NAME><![CDATA[fdcc-winxp-patches.xml]]></FILE_NAME>

<FILE_HASH><![CDATA[4ae1b30634ef564c5da479a4a3d7f53]]></FILE_HASH>
</FDCC_FILE>
</FDCC_FILE_LIST>
</FDCC_POLICY>
</FDCC_POLICY>
...
</FDCC_POLICY_LIST>
...
</FDCC_POLICY_LIST_OUTPUT>
Chapter 14 - Users and Activity Log

Add, update, list and delete users in your subscription.

User List
Add/Edit User
User Registration Process
Accept Qualys EULA
Activate/Deactivate Users
User Password Change
Export User Activity Log

User List

/msp/user_list.php
[GET]  [POST]

View the users in the subscription. XML responses provides details about each user such as the user’s login ID, account info, assigned asset groups, permissions. Session based authentication is not supported using this API.

When the API request is made by a Manager or Unit Manager, the last login date for each user is provided in the XML results. This is the most recent date and time the user logged into the service. For a Manager, the last login date appears for all users in the subscription. For a Unit Manager, the last login date appears for all users in the Unit Manager’s same business unit.

Permissions - Managers and Administrators can view all users in subscription. See Unit Manager Permissions for full details.

Express Lite - This API is available to Express Lite users.

Unit Manager Permissions

Unit Managers can view full user account details for users in their business unit. Unit Managers may also be able to view partial user account details for users outside of their business unit. This is determined by a subscription level permission set by Managers in the user interface.

If “Restrict view of user information for users outside of business unit” is not selected (the default), then Unit Managers have an unrestricted view and can see partial details about users who are not in their assigned business unit.
If “Restrict view of user information for users outside of business unit” is selected, then Unit Managers have a restricted view and cannot see any details for users who are not in their assigned business unit. For example, Unit Managers in Business Unit A would not be able to view general information or asset group assignments for users in Business Unit B.

The following table describes the amount of detail visible to Unit Managers for different types of users based on whether the Unit Manager has a restricted or unrestricted view.

<table>
<thead>
<tr>
<th>User Type Being Viewed</th>
<th>Amount of Detail Visible</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unrestricted View</td>
</tr>
<tr>
<td>Unit Manager, Scanner or Reader in the business unit</td>
<td>Full</td>
</tr>
<tr>
<td>Scanner or Reader not in the business unit</td>
<td>Partial</td>
</tr>
<tr>
<td>Unit Manager not in the business unit</td>
<td>Partial</td>
</tr>
<tr>
<td>Manager</td>
<td>Partial</td>
</tr>
</tbody>
</table>

Full user account details include: user login, general information, assigned asset groups, user role, business unit, the Unit Manager Point of Contact (POC), the Manager POC, extended permissions, email notifications and user interface style.

With a Partial view, the following details are not visible: user login, extended permissions, email notifications and user interface style.

**Input Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>external_id_contains={string}</td>
<td>(Optional) Show only user accounts with an external ID value that contains a certain string. The string you specify can have a maximum of 256 characters. The characters can be in uppercase, lowercase or mixed case (the service performs case sensitive matching). HTML or PHP tags cannot be included. Only one of these parameters may be specified for a single API request: external_id_contains or external_id_assigned.</td>
</tr>
<tr>
<td>external_id_assigned={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

**DTD**

<platform API server>/user_list_output.dtd
Add/Edit User

/msp/user.php

[GET]  [POST]

Add a user account or edit an existing account. You can add users to the “Unassigned” business unit or an existing, custom business unit. For each new account (except when the user role is Contact) the service automatically generates login credentials, including a login ID and “strong” password.

Permissions - Mangers can add/edit user accounts in any business unit. Unit Managers can add/edit users in their own business unit. Administrators can add/edit user all accounts except Manager and Administrator user.

Express Lite - This API is available to Express Lite users. A total of 3 users can be added per subscription.

Adding user to custom business unit

To add users to a custom business unit, follow these steps:

- With a Manager or user administrator account, log into the Qualys user interface and create the business unit. Note business units may be created using the Qualys user interface only.

- If a Unit Manager is not already assigned to the business unit, you must add one. With a Manager account, make a user.php request to add a Unit Manager who is automatically assigned as the business unit’s point of contact (POC).

- With a Manager or Unit Manager account, make a user.php request to add other users to the custom business unit. A Manager and user administrator can add a user to any business unit, while a Unit Manager can add a user to their own business unit.

Delivery of new account credentials to user

When adding a new user (except Contact), the API user has the option to deliver login credentials directly to the user via email or through the application as follows.

Email notification - By default the user.php function sends the new user an email notification with a secure link to their login credentials. When the user clicks the secure link to view the credentials, the service changes the account status automatically from “Pending Activation” to “Active”.

XML output - Instead of sending an email notification, the API user has the option to return the new user’s login credentials in the XML output document. To do this, make a user.php request with the send_email=0 input parameter. As a result the service returns the user’s login ID and password as XML value pairs in the XML output, and the account status is automatically set to “Active”.
First login completes account registration
To complete account registration, a new user must log into the Qualys user interface with their assigned login information (platform URL and login credentials). When the user has been created using the user.php function the user can login using the Qualys user interface or using the acceptEULA.php API function. See “User Registration Process” and “Accept Qualys EULA” or more information.

Editing accounts - edit and clear options
For an existing account, you can edit and clear account parameters as follows.

Edit Parameters - An existing user may be edited using user.php to update the user name, general information and user interface style. Additional parameters can be edited using the Qualys user interface. When editing parameters using user.php, existing parameter values are replaced with newly specified ones. For example, if you edit an existing Scanner with the assigned asset group “New York” and you wish to add the asset group “Hong Kong”, then the edit request must include the parameter (for example, asset_groups=New+York,Hong+Kong).

Clear Parameters - When editing a user using user.php, an edit request can be used to clear (reset) parameters by assigning the empty string “”. For example, if the user interface style is set to olive green and you want to reset the interface to the system default, which is standard blue, send an edit request with this parameter equal to empty string (ui_interface_style=“”).

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=add</td>
<td>edit</td>
</tr>
<tr>
<td>login=login</td>
<td>Specifies the Qualys user login of the user account you wish to edit. This parameter is invalid for an add request.</td>
</tr>
</tbody>
</table>

Add Request: Invalid

Edit Request: Required
### New User - Login Credentials

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>send_email={0</td>
<td>1}</td>
</tr>
</tbody>
</table>

  1 — (the default) specifies that an email notification will be sent to the new user. The user clicks a secure link in the email to view the login ID and password.

  0 — specifies that an email notification will not be sent to the new user, and the XML report returned by the function will include the login ID and password for the user account as XML value pairs.

  Add request: Optional
  Edit request: Invalid

---

### Permissions

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>user_role={role}</td>
<td>Specifies the user role. A valid value is: manager, unit_manager, scanner, reader, contact or administrator. The first user added to a new custom business unit must be unit_manager.</td>
</tr>
</tbody>
</table>

  Add request: Required (Invalid for Express Lite user)
  Edit request: Invalid

| business_unit={title} | Specifies the user’s business unit. A valid value is “Unassigned”, or the title of an existing custom business unit. Note a custom business unit may be added using the QualysGuard user interface. |

  Add request: Required (Invalid for Express Lite user)
  Edit request: Invalid

| asset_groups={grp1,grp2...} | Specifies the asset groups assigned to the user, when the user role is Scanner, Reader or Contact. Multiple asset groups are comma separated. This parameter is invalid when the user role is Manager or Unit Manager. |

  Add request: Optional
  Edit request: Optional
### General Information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>ui_interface_style={style}</code></td>
<td>Specifies the user interface style. A valid value is: standard_blue, navy_blue, coral_red, olive_green, accessible_high_contrast. When adding a new user, the default is set to standard_blue.</td>
</tr>
<tr>
<td></td>
<td>Add request: Optional</td>
</tr>
<tr>
<td></td>
<td>Edit request: Optional</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>first_name={name}</code></td>
<td>Specifies the user’s first name. The name may include a maximum of 50 characters.</td>
</tr>
<tr>
<td></td>
<td>Add request: Required</td>
</tr>
<tr>
<td></td>
<td>Edit request: Optional</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>last_name={name}</code></td>
<td>Specifies the user’s last name. The name may include a maximum of 50 characters.</td>
</tr>
<tr>
<td></td>
<td>Add request: Required</td>
</tr>
<tr>
<td></td>
<td>Edit request: Optional</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>title={title}</code></td>
<td>Specifies the user’s job title. The title may include a maximum of 100 characters.</td>
</tr>
<tr>
<td></td>
<td>Add request: Required</td>
</tr>
<tr>
<td></td>
<td>Edit request: Optional</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>phone={value}</code></td>
<td>Specifies the user’s phone number. This value may include a maximum of 40 characters.</td>
</tr>
<tr>
<td></td>
<td>Add request: Required</td>
</tr>
<tr>
<td></td>
<td>Edit request: Optional</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>fax={value}</code></td>
<td>The user's FAX number. This value may include a maximum of 40 characters.</td>
</tr>
<tr>
<td></td>
<td>Add request: Optional</td>
</tr>
<tr>
<td></td>
<td>Edit request: Optional</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>email={value}</code></td>
<td>Specifies the user's email address. The address must be a properly formatted address with a maximum of 100 characters.</td>
</tr>
<tr>
<td></td>
<td>Add request: Required</td>
</tr>
<tr>
<td></td>
<td>Edit request: Optional</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>address1={value}</code></td>
<td>Specifies the user’s address line 1. This value may include a maximum of 80 characters.</td>
</tr>
<tr>
<td></td>
<td>Add request: Required</td>
</tr>
<tr>
<td></td>
<td>Edit request: Optional</td>
</tr>
</tbody>
</table>
### Add/Edit User

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>address2={value}</td>
<td>Specifies the user’s address line 2. This value may include a maximum of 80 characters.</td>
</tr>
<tr>
<td></td>
<td>Add request: Optional</td>
</tr>
<tr>
<td></td>
<td>Edit request: Optional</td>
</tr>
<tr>
<td>city={value}</td>
<td>Specifies the user’s city. This value may include a maximum of 50 characters.</td>
</tr>
<tr>
<td></td>
<td>Add request: Required</td>
</tr>
<tr>
<td></td>
<td>Edit request: Optional</td>
</tr>
<tr>
<td>country={code}</td>
<td>Specifies the user’s country code. See “Sample - Add user” to find an appropriate country code.</td>
</tr>
<tr>
<td></td>
<td>Add request: Required</td>
</tr>
<tr>
<td></td>
<td>Edit request: Optional</td>
</tr>
<tr>
<td>state={code}</td>
<td>Specifies the user’s state code. A valid value depends on the country code specified for the country parameter. You must enter a state code using the state parameter when the country code is one of: “United States of America”, “Australia”, “Canada” or “India”. See State Codes for United States. For other country codes, a state code does not need to be specified using the state parameter. See State codes. You can enter the state code “none” (optional). Add request: Required for some country codes Edit request: Optional</td>
</tr>
<tr>
<td>zip_code={zipcode}</td>
<td>Specifies the user’s zip code. This value may include a maximum of 20 characters. If not specified, this is set to the zip code in the API user’s account. Add request: Optional Edit request: Optional</td>
</tr>
<tr>
<td>external_id={value}</td>
<td>Specify a custom external ID value. The external ID value can have a maximum of 256 characters, and it is case sensitive. The characters can be in uppercase, lowercase or mixed case. HTML or PHP tags cannot be included. Specify external_id= or external_id=™ to delete an external ID value from an existing account. Add request: Optional Edit request: Optional</td>
</tr>
</tbody>
</table>
Sample - Add user
Add a new user, Chris Washington, to the Unassigned business unit with the Scanner user role, and automatically send the user an email notification with a secure link to his login credentials.

API request:

XML output:
```xml
<?xml version="1.0" encoding="UTF-8" ?>
<USER_OUTPUT>
<API name="user.php" username="sabkl_av1" at="2018-07-20T22:54:25Z" />
<RETURN status="SUCCESS">
  <MESSAGE>quays_cw4 user has been successfully created.</MESSAGE>
</RETURN>
</USER_OUTPUT>
```

Sample - Edit user to change title

API request:

XML output:
```xml
<?xml version="1.0" encoding="UTF-8" ?>
<USER_OUTPUT>
<API name="user.php" username="sabkl_av1" at="2018-07-20T23:06:35Z" />
<RETURN status="SUCCESS">
  <MESSAGE>quays_ch user has been successfully updated.</MESSAGE>
</RETURN>
</USER_OUTPUT>
```
Sample - External ID
Add the external ID “Qualys123” to the existing user account “qualys_ab5” when that account does not already have an external ID:

https://qualysapi.qualys.com/msp/user.php?action=edit&login=qualys_ab5&external_id=Qualys123

Add the external ID “Qualy123” to the existing user account “qualys_ab” when that account already has an external ID:

https://qualysapi.qualys.com/msp/user.php?action=edit&login=qualys_ab5&external_id=Qualys123

Delete the external ID currently defined for the user account “qualys_ab5”:


Sample - Set Timezone
Assign a timezone to a user using the optional parameter “time_zone_code”.

Sample - Set specific timezone (i.e. pass timezone code)


Sample - Set user profile to browser’s timezone (i.e. pass empty/null)

https://qualysapi.qualys.com/msp/user.php?action=edit&login=acme_ab&time_zone_code="

Looking for timezone codes? Use the time zone code list function to request the list:

<platform API server>/msp/time_zone_code_list.php

DTD
<platform API server>/user_output.dtd
### Default Parameters - New User

Several user parameters are set automatically when a new user is created. These are identified below. The parameter value *** is the value defined for the user account making the API request.

<table>
<thead>
<tr>
<th>General and User Role</th>
<th>Manager</th>
<th>Unit Manager</th>
<th>Administrator</th>
<th>Scanner</th>
<th>Reader</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zip code</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td>Company</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td>Interface Style</td>
<td>Standard Blue</td>
<td>Standard Blue</td>
<td>Standard Blue</td>
<td>Standard Blue</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Language - KnowledgeBase</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td>User Status</td>
<td>Pending activation</td>
<td>Pending activation</td>
<td>Pending activation</td>
<td>Pending activation</td>
<td>Active</td>
<td></td>
</tr>
<tr>
<td>Allow access to GUI and API</td>
<td>GUI and API</td>
<td>GUI and API</td>
<td>GUI and API</td>
<td>GUI and API</td>
<td>n/a</td>
<td></td>
</tr>
</tbody>
</table>

#### Notification Options

<table>
<thead>
<tr>
<th>Latest Vulnerabilities</th>
<th>Weekly</th>
<th>Weekly</th>
<th>n/a</th>
<th>Weekly</th>
<th>Weekly</th>
<th>Weekly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scan Summary</td>
<td>All</td>
<td>Scans on assigned groups</td>
<td>n/a</td>
<td>Scans on assigned groups</td>
<td>Scans on assigned groups</td>
<td>Scans on assigned groups</td>
</tr>
<tr>
<td>Map Summary</td>
<td>All</td>
<td>Maps on assigned groups</td>
<td>n/a</td>
<td>Maps on assigned groups</td>
<td>Maps on assigned groups</td>
<td>Maps on assigned groups</td>
</tr>
<tr>
<td>Daily Trouble Ticket Updates</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>n/a</td>
</tr>
</tbody>
</table>

#### Extended Permissions

| Add assets                             | n/a    | NO     | n/a  | n/a    | n/a    | n/a    |
| Create option profiles                 | n/a    | YES    | n/a  | YES    | n/a    | n/a    |
| Purge host information/history         | n/a    | NO     | n/a  | NO     | n/a    | n/a    |
| Create/edit remediation policy         | n/a    | NO     | n/a  | n/a    | n/a    | n/a    |
| Create/edit authentication records     | n/a    | NO     | n/a  | n/a    | n/a    | n/a    |
Chapter 14 - Users and Activity Log
Add/Edit User

Country codes

Afghanistan | Albania | Algeria | Andorra | Angola | Anguilla | Antartica | Antigua and Barbuda |
Argentina | Armenia | Aruba | Australia | Austria | Azerbaijan | Bahamas | Bahrain | Bangladesh |
Barbados | Belarus | Belgium | Belize | Benin | Bermuda | Bhutan | Bolivia | Bosnia-Herzegovina |
Botswana | Bouvet Island | Brazil | British Indian Ocean Territory | Brunei Darussalam | Bulgaria |
Burkina Faso | Burundi | Cambodia | Cameroon | Canada | Cape Verde | Cayman Islands |
Central African Republic | Chad | Chile | China | Christmas Island | Cocos (Keeling) Islands | Colombia |
Comoros | Congo | Cook Islands | Costa Rica | Cote D'Ivoire | Croatia | Cuba | Cyprus | Czech Republic |
Denmark | Djibouti | Dominica | Dominican Republic | East Timor | Ecuador | Egypt | El Salvador |
Equatorial Guinea | Estonia | Ethiopia | Faeroe Islands | Falkland Islands (Malvinas) | Fiji | Finland |
France | French Guiana | French Polynesia | French Southern Territories | Gabon | Gambia | Georgia |
Germany | Ghana | Gibraltar | Greece | Greenland | Grenada | Guadeloupe | Guatamala | Guernsey, C.I. |
Guinea | Guinea-Bissau | Guyana | Haiti | Heard and McDonald Islands | Honduras | Hong Kong |
Hungary | Iceland | India | Indonesia | Iran (Islamic Republic of) | Iraq | Ireland | Isle of Man | Israel |
Italy | Jamaica | Japan | Jersey, C.I. | Jordan | Kazakhstan | Kenya | Kiribati | Korea | Kuwait |
Kyrgyzstan | Lao Peoples Democratic Republic | Latvia | Lebanon | Lesotho | Liberia |
Libyan Arab Jamahiriya | Liechtenstein | Lithuania | Luxembourgh | Macau | Macedonia | Madagascar |
Malawi | Malaysia | Maldives | Mali | Malta | Marshall Islands | Martinique | Mauritania | Mauritius |
Mexico | Micronesia, Fed. States of | Moldova, Republic of | Monaco | Mongolia | Montserrat | Morocco |
Mozambique | Myanmar | Namibia | Nauru | Nepal | Netherland Antilles | Netherlands |
Neutral Zone (Saudi/Iraq) | New Caledonia | New Zealand | Nicaragua | Niger | Nigeria | Niue |
Norfolk Island | Northern Mariana Islands | Norway | Oman | Pakistan | Palau | Panama Canal Zone |
Panama | Papua New Guinea | Paraguay | Peru | Philippines | Pitcairn | Poland | Portugal | Puerto Rico |
Qatar | Reunion | Romania | Russia | Rwanda | Saint Kitts and Nevis | Saint Lucia | Samoa | San Marino |
Sao Tome and Principe | Saudi Arabia | Senegal | Seychelles | Sierra Leone | Singapore | Slovak Republic |
Slovenia | Solomon Islands | Somalia | South Africa | Spain | Sri Lanka | St. Helena |
St. Pierre and Miquelon | St. Vincent and the Grenadines | Sudan | Suriname |
Svalbard and Jan Mayen Islands | Swaziland | Sweden | Switzerland | Syrian Arab Republic | Taiwan |
Tajikistan | Tanzania, United Republic of | Thailand | Togo | Tokelau | Tonga | Trinidad and Tobago |
Tunisia | Turkey | Turkmenistan | Turks and Caicos Islands | Tuvalu | U.S.Minor Outlying Islands |
Uganda | Ukraine | United Arab Emirates | United Kingdom | United States of America | Uruguay |
Uzbekistan | Vanuatu | Vatican City State | Venezuela | Vietnam | Virgin Islands (British) |
Wallis and Futuna Islands | Western Sahara | Yemen | Yugoslavia | Zaire | Zambia | Zimbabwe |

State codes

State Codes for United States

Value state codes when country is “United States of America”:

Alabama | Alaska | Arizona | Arkansas | Armed Forces Asia | Armed Forces Europe | Armed Forces Pacific | California | Colorado | Connecticut | Delaware | District of Columbia | Florida | Georgia | Hawaii |
Idaho | Illinois | Indiana | Iowa | Kansas | Kentucky | Louisiana | Maine | Maryland | Massachusetts |
Michigan | Minnesota | Mississippi | Missouri | Montana | Nebraska | Nevada | New Hampshire |
New Jersey | New Mexico | New York | North Carolina | North Dakota | Ohio | Oklahoma | Oregon |
Pennsylvania | Rhode Island | South Carolina | South Dakota | Tennessee | Texas | Utah | Vermont |
Virginia | Washington | West Virginia | Wisconsin | Wyoming

State Codes for Australia

Valid state codes when country is “Australia”:

No State | New South Wales | Northern Territory | Queensland | Tasmania | Victoria | Western Australia
**State Codes for Canada**

Valid state codes when country is “Canada”:

- No State
- Alberta
- British Columbia
- Manitoba
- New Brunswick
- Newfoundland
- Northwest Territories
- Nova Scotia
- Nunavut
- Ontario
- Prince Edward Island
- Quebec
- Saskatchewan
- Yukon

**State Codes for India**

Valid state codes when country is “India”:

- No State
- Andhra Pradesh
- Andaman and Nicobar Islands
- Arunachal Pradesh
- Assam
- Bihar
- Chandigarh
- Chattisgarh
- Dadra and Nagar Haveli
- Daman and Diu
- Delhi
- Goa
- Gujarat
- Haryana
- Himachal Pradesh
- Jammu and Kashmir
- Jharkhand
- Karnataka
- Kerala
- Lakshadweep
- Madhya Pradesh
- Maharashtra
- Manipur
- Meghalaya
- Mizoram
- Nagaland
- Orissa
- Pondicherry
- Punjab
- Rajasthan
- Sikkim
- Tamil Nadu
- Tripura
- Uttar Pradesh
- Uttarakhand
- West Bengal

**User Registration Process**

When a new user account is created, the service by default sends the user an email titled “Registration - Start Now”. This email includes a secure link to the user’s login information including platform URL and login credentials. Instead of sending an email notification, the API user has the option to return login credentials using user.php function with the send_email=0 input parameter.

The user must complete the first login to the service in order to complete the account registration and accept the Qualys EULA (End User License Agreement). When the first login is completed, the service sends the user an email titled “Registration - Complete”.

A new user has the option to complete the first login by simply logging into the Qualys user interface, as long as the user is granted the GUI access method. (Note a new user created using the user.php function is automatically granted the GUI and API access methods.) Using the Qualys user interface, the user is directed to the First Login form to complete the registration and accept the Qualys EULA.

The acceptEULA.php API function is provided as a programmatic method for completing the registration and accepting the Qualys EULA. To use complete the first login using the acceptEULA.php function, the user must submit an API request using their platform URL and login credentials.

Important: If a new user account is created using the Qualys user interface and the account is granted the API access method only (without the GUI access method), the user must complete the first login using the acceptEULA.php API function. If the acceptEULA.php API request is not made or it is not successful, the new account will not be activated and any API requests submitted using the new account will fail.
Accept Qualys EULA

/msp/acceptEULA.php

[GET] [POST]

Allows Qualys users to complete the registration process and accept the Qualys End User License Agreement (EULA) on behalf of their customers. This function provides programmatic acceptance of the Qualys EULA.

A new user can complete the registration process and accept the Qualys EULA through the Qualys user interface as long as their account is granted the GUI access method. (Note a new user created using the user.php function is automatically granted the GUI and API access methods.) Optionally, a new user can complete the registration and accept the Qualys EULA using the acceptEULA.php function. See User Registration Process

A Web application that allows Qualys EULA acceptance can be setup as follows. Inside the third party web application, a developer can setup a Web form that displays the Qualys EULA and has an “I Accept” button. A new Qualys user opens the Web form in a browser, reads the EULA description and clicks “I Accept” in the Web form. The third party’s program submits an HTTP request to the Qualys API server using the acceptEULA.php. Along with the acceptEULA.php URL, the application must send Qualys user account credentials (login and password) as part of the HTTP request.

Permissions - Any user with permission to log in to Qualys can complete the registration and accept the EULA.

Sample - Accept the Qualys EULA on behalf of a user

API request:

https://qualysapi.qualys.com/msp/acceptEULA.php

XML output:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE GENERIC_RETURN SYSTEM "https://qualysapi.qualys.com/generic_return.dtd">
<GENERIC_RETURN>
<API name="acceptEULA.php" username="rob" at="2018-05-10T13:44:23" />
<RETURN status="SUCCESS">
    TNC accepted within MSP
</RETURN>
</GENERIC_RETURN>
```

DTD

```
<platform API server>/generic-return.dtd
```
Activate/Deactivate Users

msp/user.php

[GET] [POST]

Activate and deactivate user accounts. A user with inactivate status can be activated. A user with active status can be deactivated. Session based authentication is not supported using this API.

These actions correspond to the activate/deactivate options in the Qualys UI. Note new accounts are activated by default after the user completes the account activation process (registration) by logging into the service for the first time.

Permissions - Managers can activate/deactivate all users in subscription. Unit Managers can activate/deactivate users in their own business unit. Administrators can activate/deactivate all users except Manager and Administrator user.

Express Lite - This API is available to Express Lite users.

Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=activate</td>
<td>deactivate</td>
</tr>
<tr>
<td>login={login}</td>
<td>(Required) Specifies the Qualys user login for the user account you wish to activate or deactivate.</td>
</tr>
</tbody>
</table>

Samples

Deactivate the user account “qualys_ab3” (and this account has an “Active status”):


Activate the user account “qualys_ab3” (and this account has an “Inactive” status):


DTD

<platform API server>/user_output.dtd
User Password Change

/msp/password_change.php

[GET] [POST]

Change passwords for all or some users in the same subscription. Many Qualys customers have an internal security policy requirement to change passwords for users at a particular time interval. Changing password for multiple users at once as batch process is supported. New passwords are automatically generated by the service.

It’s possible to change passwords for user accounts with a status of “active”, “inactive” or “pending activation”. It’s not possible to change passwords for deleted accounts. Since Contact users do not have login access to Qualys, it’s not possible to change passwords for Contacts.

A password change API request returns a password change XML report indicating the user accounts affected and whether password changes were made for each account. A success message is included when passwords were changed on all target accounts. A warning message is included if passwords for any of the target accounts could not be changed. Upon error, an error message is included.

By default the password changes made by the password_change.php API causes the service to automatically send each affected user an email which notifies them of the password change. If you do not wish users to receive this email notification, you have the option to return the user login ID and password for affected users as XML value pairs in the password change report. To do this, make a password_change.php request and specify the email=0 parameter. If you make such a request on an account with the status "pending activation", the function automatically assigns the “active” status since the login credentials are available in the XML report.

Permissions - Managers can change passwords for all users in subscription, except the user making the request. Unit Managers can change passwords for all users in same business unit, except the user making the request. Administrators can change passwords for all users in subscription, except Manager and the user making the request.

Express Lite - This API is available to Express Lite users.
Input Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>user_logins={value}</td>
<td>(Required) Specifies one or more QualysGuard user login IDs of target user accounts. Multiple user login IDs are comma separated. Specify user_logins=all to change the password for all users in the user’s account, except the requesting user. See Permissions.</td>
</tr>
</tbody>
</table>
| email={0|1}        | (Optional) Specifies whether users will receive an email notification alerting them to the password change.  
1 — (the default) specifies that an email notification will be sent to affected users. Each user clicks a secure link in the email to view the new password.  
0 — specifies that email notifications will not be sent to affected users, and the XML report returned by the function will include the login ID and password for each user account as XML value pairs. |

Samples

Make a password change request for two accounts and send affected users an email notification including a secure link to their new password:


Make a password change request for all users in the API user’s account (except the API user) and return the login ID and password for each affected user in the password change XML response:

https://qualysapi.qualys.com/msp/password_change.php?user_logins=all&email=0

DTD

<platform API server>/password_change_output.dtd
Export User Activity Log

/api/2.0/fo/activity_log/

[GET] [POST]

Export the user activity log for a subscription to CSV format.

**Input Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>action=list</td>
<td>(Required)</td>
</tr>
<tr>
<td>user_action={value}</td>
<td>(Optional) You can filter the output based on the actions. For example, login (for user login), launch (for scan launched), finished (for scan finished), etc. The actions which are included in the output depend on the user who runs the API. Managers see all actions taken by all users. Unit Managers see actions taken by users in their business unit. Scanners and Readers see their own actions only.</td>
</tr>
<tr>
<td>action_details={value}</td>
<td>(Optional) Filter on further information about the user actions. For example, for the action “error”, you can filter by the error details “No connection from scanner appliance”.</td>
</tr>
<tr>
<td>username={value}</td>
<td>(Optional) The name of the user who performed the action. Usernames are included in the output only if the user running the API is a Manager or a Unit Manager. A Unit Manager can see usernames only for users in the Unit Manager’s hierarchy.</td>
</tr>
<tr>
<td>since_datetime={value}</td>
<td>(Optional) Specify the date to include the activity log starting from that point in time. Date must be in the format YYYY-MM-DD HH:ii:ss, and must be less than or equal to today’s date.</td>
</tr>
<tr>
<td>until_datetime={value}</td>
<td>(Optional) Specify the date to include the activity log until a specific point in time. Date must be in the format YYYY-MM-DD HH:ii:ss, and must be more than or equal to since_datetime, and less than or equal to today’s date.</td>
</tr>
</tbody>
</table>
Chapter 14 - Users and Activity Log

Export User Activity Log

Sample - Export activity log to csv format

API request:

```bash
curl -u "username:password" -k -H "X-Requested-With:curl"
"https://qualysapi.qualys.com/api/2.0/fo/activity_log/?action=list"
```

Sample CSV output:

```
"Date","Action","Module","Details","User Name","User Role","User IP"
"2017-02-03T04:35:38Z","login","auth","user_logged in","saand rn","Manager","10.113.195.136"
"2017-02-02T13:58:16Z","login","auth","user_logged in","saand rn","Manager","10.113.195.136"
```

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>user_role={value}</td>
<td>(Optional) A Manager or Unit Manager can choose to export logs for certain user roles instead of all user roles. Specify this parameter to export logs for users with certain user roles. Multiple roles are comma separated. User roles you can specify: Manager, Unit Manager, Auditor, Scanner, Reader, KnowledgeBase Only, Remediation User, Contact. What logs are exported by default? For a Manager logs are exported for all users (all user roles) by default. For a Unit Manager logs are exported only for users (all user roles) in the Unit Manager's hierarchy (i.e. business unit).</td>
</tr>
<tr>
<td>output_format=CSV</td>
<td>(Optional) CSV (default)</td>
</tr>
<tr>
<td>truncation_limit={value}</td>
<td>(Optional) Limit the number of log records to include in the CSV output.</td>
</tr>
</tbody>
</table>

---

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Appendix A - API Documentation

Looking for details on XML output and DTDs? Download this reference

Qualys API (VM, PC) XML/DTD Reference

You can find all our latest API Documentation at the Qualys Community at Qualys Documentation

HTML documentation is available through the product for your convenience. Just log into your account, choose Help > Resources from the top menu.
Appendix B - Ports used for scanning

Appendix B - Ports used for scanning
Here’s a list of ports used by Qualys Vulnerability Management to scan your host assets.
TCP Standard Scan (about 1900 ports)
TCP Light Scan (about 160 ports)
UDP Standard Scan (about 180 ports)
UDP Light Scan (about 30 ports)
TCP Standard Scan (about 1900 ports)
2109, 2111, 2115, 2120, 2140, 2160-2161, 2201-2202, 2213, 2221-2223, 2232-2239, 2241,
2260, 2279-2288, 2297, 2301, 2307, 2334, 2339, 2345, 2381, 2389, 2391, 2393-2394, 2399,
2401, 2433, 2447, 2500-2501, 2532, 2544, 2564-2565, 2583, 2592, 2600-2605, 2626-2627,
2638-2639, 2690, 2700-2702, 2716, 2766, 2784-2789, 2801, 2908-2912, 2953-2954, 2967, 2998,
3000-3002, 3006-3007, 3010-3011, 3020, 3047-3049, 3080, 3127-3128, 3141-3145, 3180-3181,
3205, 3232, 3260, 3264, 3267-3269, 3279, 3306, 3322-3325, 3333, 3340, 3351-3352, 3355,
3372, 3389, 3421, 3454-3457, 3689-3690, 3700, 3791, 3900, 3984-3986, 4000-4002, 4008-4009,
4080, 4092, 4100, 4103, 4105, 4107, 4132-4134, 4144, 4242, 4321, 4333, 4343, 4443-4454,
4500-4501, 4567, 4590, 4626, 4651, 4660-4663, 4672, 4899, 4903, 4950, 5000-5005, 50095011, 5020-5021, 5031, 5050, 5053, 5080, 5100-5101, 5145, 5150, 5190-5193, 5222, 5236,
5300-5305, 5321, 5400-5402, 5432, 5510, 5520-5521, 5530, 5540, 5550, 5554-5558, 5569,
5599-5601, 5631-5632, 5634, 5650, 5678-5679, 5713-5717, 5729, 5742, 5745, 5755, 5757,
5766-5767, 5800-5802, 5900-5902, 5977-5979, 5997-6053, 6080, 6103, 6110-6112, 6123, 6129,
6141-6149, 6253, 6346, 6387, 6389, 6400, 6455-6456, 6499-6500, 6515, 6543, 6558, 6588,
6660-6670, 6672-6673, 6699, 6767, 6771, 6776, 6789, 6831, 6883, 6912, 6939, 6969-6970,
7000-7021, 7070, 7080, 7099-7100, 7121, 7161, 7174, 7200-7201, 7300-7301, 7306-7308, 7395,
7426-7431, 7491, 7511, 7777-7778, 7781, 7789, 7895, 7938, 7999-8020, 8023, 8032, 8039,
8080-8082, 8090, 8100, 8181, 8192, 8200, 8383, 8403, 8443, 8450, 8484, 8500, 8732, 8765,
8886-8894, 8910, 9000-9002, 9005, 9043, 9080, 9090, 9098-9100, 9400, 9443, 9495, 9535,
9570, 9872-9876, 9878, 9889, 9989-10002, 10005, 10007, 10080-10082, 10101, 10202, 10204,
10520, 10607, 10666, 11000-11002, 11004, 11223, 12000-12002, 12076, 12223, 12287, 1234512346, 12361-12362, 12456, 12468-12469, 12631, 12701, 12753, 13000, 13333, 14237-14238,
15858, 16384, 16660, 16959, 16969, 17000, 17007, 17300, 18000, 18181-18186, 18190-18192,
18194, 18209-18210, 18231-18232, 18264, 19541, 20000-20001, 20011, 20034, 20200, 20203,
20331, 21544, 21554, 21845-21849, 22222, 22273, 22289, 22305, 22321, 22555, 22800, 22951,
23456, 23476-23477, 25000-25009, 25252, 25793, 25867, 26000, 26208, 26274, 26409, 2700027009, 27374, 27665, 29369, 29891, 30029, 30100-30102, 30129, 30303, 30999, 31336-31337,
31339, 31554, 31666, 31785, 31787-31788, 32000, 32768-32790, 33333, 33567-33568, 33911,

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Appendix B - Ports used for scanning

34324, 37651, 40412, 40421-40423, 42424, 44337, 47557, 47806, 47808, 49400, 50000-50001, 5005, 50766, 51102, 51107, 51112, 53001, 54320-54321, 57341, 60008, 61439, 61466, 62078, 65000, 65301, 65512

**TCP Light Scan (about 160 ports)**

**UDP Standard Scan (about 180 ports)**

**UDP Light Scan (about 30 ports)**
7, 13, 17, 19, 37, 53, 67-69, 111, 123, 135, 137, 161, 177, 407, 464, 500, 517-518, 520, 1434, 1645, 1701, 1804, 2049, 3527, 4569, 4665, 5036, 5060, 5632, 6502, 7778, 15345
Appendix C - Scan Results JSON

This section describes all the possible keys involved when a Scan API “fetch” request is made in JSON format (/api/2.0/fo/scan/?action-fetch&output_format=json). Click here for sample JSON output

A list of keys for various scan scenarios is provided

- **Scan Finished with Vulnerabilities**
- **Scan Cancelled**
- **Scan Error**
- **Scan Finished (Host Not Alive)**
- **Scan Paused**
- **Scan Interrupted**

**Scan Finished with Vulnerabilities**

**Scan Job**

- `launch_date`, `active_hosts`, `total_hosts`, `type`, `status`, `reference`, `scanner_appliance`, `duration`, `scan_title`, `asset_groups`, `ips`, `excluded_ips`, `option_profile`

**Per Host**

- `ip`, `dns`, `netbios`, `os`, `ip_status`, `qid`, `title`, `type`, `severity`, `port`, `protocol`, `fqdn`, `ssl`, `cve_id`, `vendor_reference`, `bugtraq_id`, `cvss_base`, `cvss_temporal`, `cvss3_base`, `cvss3_temporal`, `threat`, `impact`, `solution`, `exploitability`, `associated_malware`, `results`, `pci_vuln`, `instance`, `os_cpe`, `category`, `instance`

**If PCI is Enabled**

- `pci_vuln`

**Host Stats**

- `target_distribution_across_scanner_appliances`
- `hosts_not_scanned_excluded_host_ip`
- `hosts_not_scanned_host_not_alive_ip`
- `hosts_not_scanned_host_not_alive_dns`
- `hosts_not_scanned_hostname_not_found_ip`
- `hosts_not_scanned_scan_discontinued_ip`
- `hosts_not_scanned_scan_discontinued_netbios_instance_ids`
- `hosts_not_scanned_scan_discontinued_netbios_dns`
- `hosts_not_scanned_hostname_could_not_be_resolved`
- `hosts_not_scanned_netbios_could_not_be_resolved`
- `no_vulnerabilities_match_your_filters_for_these_hosts`

- `hosts_not_scanned_dns_could_not_be_resolved`
- `hosts_not_scanned_ip_could_not_be_resolved`
Appendix C - Scan Results JSON

hosts_not_scanned_hostname_not_found_netbios
hosts_not_scanned_hostname_not_found_dns

Scan Cancelled

Scan Job

launch_date, active_hosts, total_hosts, type, status, reference, scanner_appliance, duration, scan_title, asset_groups, ips, excluded_ips, option_profile

Host Stats

no_vulnerabilities_match_your_filters_for_these_hosts

host_not_scanned, scan_canceled_by_user_ip_
host_not_scanned, scan_canceled_by_administrator_ip_
host_not_scanned, scan_canceled_by_service_ip_
host_not_scanned, scan_canceled_by_unknown_ip_

host_not_scanned, scan_canceled_by_user, (#No of IP) hosts
host_not_scanned, scan_canceled_by_administrator, (#No of IP) hosts
host_not_scanned, scan_canceled_by_service, (#No of IP) hosts
host_not_scanned, scan_canceled_by_unknown, (#No of IP) hosts

host_not_scanned, scan_canceled_by_user_dns_
host_not_scanned, scan_canceled_by_administrator_dns_
host_not_scanned, scan_canceled_by_service_dns_
host_not_scanned, scan_canceled_by_unknown_dns_

host_not_scanned, scan_canceled_by_user_instance_ids_
host_not_scanned, scan_canceled_by_administrator_instance_ids_
host_not_scanned, scan_canceled_by_service_instance_ids_
host_not_scanned, scan_canceled_by_unknown_instance_ids_

host_not_scanned, scan_canceled_by_user, dns,(#No of DNS) hosts
host_not_scanned, scan_canceled_by_administrator, dns,(#No of DNS) hosts
host_not_scanned, scan_canceled_by_service, dns,(#No of DNS) hosts
host_not_scanned, scan_canceled_by_unknown, dns,(#No of DNS) hosts

host_not_scanned, scan_canceled_by_user, instance_ids,(#No of DNS) hosts
host_not_scanned, scan_canceled_by_administrator, instance_ids,(#No of DNS) hosts
host_not_scanned, scan_canceled_by_service, instance_ids,(#No of DNS) hosts
host_not_scanned, scan_canceled_by_unknown, instance_ids,(#No of DNS) hosts

host_not_scanned, scan_canceled_by_user_netbios_
host_not_scanned, scan_canceled_by_administrator_netbios_
host_not_scanned, scan_canceled_by_service_netbios_
host_not_scanned, scan_canceled_by_unknown_netbios_

host_not_scanned, scan_canceled_by_user_netbios,(#No of Netbios) hosts
host_not_scanned, scan_canceled_by_administrator_netbios, (#No of Netbios) hosts
host_not_scanned, scan_canceled_by_service_netbios, (#No of Netbios) hosts
host_not_scanned, scan_canceled_by_unknown_netbios, (#No of Netbios) hosts
host_not_scanned,_scan_canceled_by_unknown, netbios, (#No of Netbios) hosts

**Scan Error**

**Scan Job**

launch_date, active_hosts, total_hosts, type, status, reference, scanner_appliance, duration, scan_title, asset_groups, ips, excluded_ips, option_profile

**Host Stats**

no_vulnerabilities_match_your_filters_for_these_hosts

**Scan Finished (Host Not Alive)**

**Scan Job**

launch_date, active_hosts, total_hosts, type, status, reference, scanner_appliance, duration, scan_title, asset_groups, ips, excluded_ips, option_profile

**Host Stats**

target_distribution_across_scanner_appliances

hosts_not_scanned_host_not_alive_ip

**Scan Paused**

**Scan Job**

launch_date, active_hosts, total_hosts, type, status, reference, scanner_appliance, duration, scan_title, asset_groups, ips, excluded_ips, option_profile, network

**Per Host**

ip, dns, netbios, os, ip_status, qid, title, type, severity, port, protocol, fqdn, ssl, cve_id, vendor_reference, bugtraq_id, cvss_base, cvss_temporal, cvss3_base, cvss3_temporal, threat, impact, solution, exploitability, associated_malware, results, pci_vuln, instance, os_cpe, category

**Host Stats**

target_distribution_across_scanner_appliances

hosts_not_scanned_host_not_alive_ip

no_vulnerabilities_match_your_filters_for_these_hosts

host_not_scanned, _scan_paused_by_service_ip_

host_not_scanned, _scan_paused_by_user_ip_

host_not_scanned, _scan_paused_by_administrator_ip_

host_not_scanned, _scan_paused_by_service_ip_

host_not_scanned, _scan_paused_by_unknown_ip_

host_not_scanned, _scan_paused_by_user, (#No of IP) hosts

host_not_scanned, _scan_paused_by_administrator, (#No of IP) hosts

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Appendix C - Scan Results JSON

host_not_scanned, scan_paused_by_service, (#No of IP) hosts
host_not_scanned, scan_paused_by_unknown, (#No of IP) hosts

host_not_scanned, scan_paused_by_user_dns_
host_not_scanned, scan_paused_by_administrator_dns_
host_not_scanned, scan_paused_by_service_dns_
host_not_scanned, scan_paused_by_unknown_dns_

host_not_scanned, scan_paused_by_user_instance_ids_
host_not_scanned, scan_paused_by_administrator_instance_ids_
host_not_scanned, scan_paused_by_service_instance_ids_
host_not_scanned, scan_paused_by_unknown_instance_ids_

host_not_scanned, scan_paused_by_user, dns, (#No of DNS) hosts
host_not_scanned, scan_paused_by_administrator, dns, (#No of DNS) hosts
host_not_scanned, scan_paused_by_service, dns, (#No of DNS) hosts
host_not_scanned, scan_paused_by_unknown, dns, (#No of DNS) hosts

host_not_scanned, scan_paused_by_user, instance_ids, (#No of DNS) hosts
host_not_scanned, scan_paused_by_administrator, instance_ids, (#No of DNS) hosts
host_not_scanned, scan_paused_by_service, instance_ids, (#No of DNS) hosts
host_not_scanned, scan_paused_by_unknown, instance_ids, (#No of DNS) hosts

host_not_scanned, scan_paused_by_user, netbios, (#No of Netbios) hosts
host_not_scanned, scan_paused_by_administrator, netbios, (#No of Netbios) hosts
host_not_scanned, scan_paused_by_service, netbios, (#No of Netbios) hosts
host_not_scanned, scan_paused_by_unknown, netbios, (#No of Netbios) hosts

host_not_scanned, scan_paused_by_user_netbios_
host_not_scanned, scan_paused_by_administrator_netbios_
host_not_scanned, scan_paused_by_service_netbios_
host_not_scanned, scan_paused_by_unknown_netbios_

**Scan Interrupted**

**Scan Job**
launch_date, active_hosts, total_hosts, type, status, reference, scanner_appliance, duration, scan_title, asset_groups, ips, excluded_ips, option_profile, network

**Host Stats**
no_vulnerabilities_match_your_filters_for_these_hosts

host_not_scanned, scan_unknown_by_user_ip_
host_not_scanned, scan_unknown_by_administrator_ip_
host_not_scanned, scan_unknown_by_service_ip_
host_not_scanned, scan_unknown_by_unknown_ip_

host_not_scanned, scan_unknown_by_user_dns_
host_not_scanned, scan_unknown_by_administrator_dns_
host_not_scanned, scan_unknown_by_service_dns_
host_not_scanned, scan_unknown_by_unknown_dns_
Sample JSON output

```json
[
  {
    "scan_report_template_title": "Scan Results",
    "result_date": "06/29/2018 06:19:26",
    "company": "Qualys, Inc",
    "add1": "919 E Hillsdale Blvd, 4th Floor",
    "add2": null,
  }
]```
"city": "Foster City",
"state": "California",
"country": "United States of America",
"zip": "94404",
"name": "Mayur Mistry",
"username": "mayur_mm",
"role": "Manager"
},
{
"scan_date": "09/29/2018 21:20:35",
"active_hosts": null,
"total_hosts": "457660",
"type": "On Demand",
"status": "Canceled",
"reference": "scan/1527628838.16797",
"scanner_appliance": "",
"duration": "00:00:24",
"scan_title": "My Scan",
"asset_groups": "4.5LIPS",
"ips": "10.10.0.0, 10.10.0.2, 10.10.0.4, 10.10.0.6",
"excluded_ips": "",
"option_profile": "Initial Options"
},
{
"host_not_scanned, scan_canceled_by_user_ip": "10.10.0.0, 10.10.0.2, 10.10.0.4, 10.10.0.6"
}
Appendix D - Error codes / descriptions

Here’s a list of Qualys API error codes along with a description of what each code means. For an API request that had an error, you’ll find the error code and text in the XML response.

<table>
<thead>
<tr>
<th>HTTP Status</th>
<th>Error Code</th>
<th>Error Text</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTTP/1.1 400 Bad Request</td>
<td>1901</td>
<td>Unrecognized parameter(s):...</td>
<td>The API request contained one or more parameters which are not supported, or are not available to the browsing user.</td>
</tr>
<tr>
<td>HTTP/1.1 400 Bad Request</td>
<td>1903</td>
<td>Missing required parameter(s):...</td>
<td>The API request did not contain one or more parameters which are required.</td>
</tr>
<tr>
<td>HTTP/1.1 400 Bad Request</td>
<td>1904</td>
<td>Please specify only one of these parameters:...</td>
<td>The API request contained 2 or more parameters from a group from which at most one may be specified.</td>
</tr>
<tr>
<td>HTTP/1.1 400 Bad Request</td>
<td>1905</td>
<td>parameter ... has invalid value ...</td>
<td>The API request contained a valid parameter specified with an invalid value.</td>
</tr>
<tr>
<td>HTTP/1.1 400 Bad Request</td>
<td>1907</td>
<td>The following combination of key=value pairs is not supported:...</td>
<td>The API request contained an invalid or unsupported combination of parameters.</td>
</tr>
<tr>
<td>HTTP/1.1 400 Bad Request</td>
<td>1908</td>
<td>Request method (GET or POST) is incompatible with specified parameter(s):...</td>
<td>The API request was made with an unsupported HTTP request method (GET or POST or PUT or DELETE or HEAD).</td>
</tr>
<tr>
<td>HTTP/1.1 409 Conflict</td>
<td>1920</td>
<td>The requested operation is blocked by one or more existing Business Objects</td>
<td>The API request was blocked by other API requests. In practice this should be replaced by one of error code 1960 or 1965 (see below).</td>
</tr>
<tr>
<td>HTTP/1.1 409 Conflict</td>
<td>1960</td>
<td>The requested operation is blocked by one or more existing Business Objects</td>
<td>Too many other API requests currently running (i.e. concurrency limit).</td>
</tr>
<tr>
<td>HTTP/1.1 409 Conflict</td>
<td>1965</td>
<td>The requested operation is blocked by one or more existing Business Objects</td>
<td>Too many other API requests have run recently (i.e. rate limit).</td>
</tr>
<tr>
<td>HTTP/1.1 400 Bad Request</td>
<td>1922</td>
<td>Please specify at least one of the following parameters:...</td>
<td>The API request was missing some required information (but not necessarily a single specific parameter).</td>
</tr>
<tr>
<td>HTTP/1.1 202 Accepted</td>
<td>1981</td>
<td>Your request is being processed. Please try this same request again later.</td>
<td>The API request is for a business operation which is already underway.</td>
</tr>
</tbody>
</table>
## Appendix D - Error codes / descriptions

<table>
<thead>
<tr>
<th>HTTP Status</th>
<th>Error Code</th>
<th>Error Text</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTTP/1.1 400 Bad Request</td>
<td>999</td>
<td>Internal Error</td>
<td>The API request failed for some reason having to do with the (client) request. In practice this should always be expressed as some other error type, giving more information about what was actually wrong with the request.</td>
</tr>
<tr>
<td>HTTP/1.1 501 Internal Error</td>
<td>999</td>
<td>Internal Error</td>
<td>The API request failed due to a problem with QWEB.</td>
</tr>
<tr>
<td>HTTP/1.1 503 Maintenance</td>
<td>1999</td>
<td>We are performing scheduled maintenance on our System. We apologize for any inconvenience.</td>
<td>The API request failed because the Qualys Cloud Platform is in maintenance mode.</td>
</tr>
<tr>
<td>HTTP/1.1 401 Unauthorized</td>
<td>2000</td>
<td>Bad Login/Password</td>
<td>The API request failed because of an authentication failure.</td>
</tr>
<tr>
<td>HTTP/1.1 403 Forbidden</td>
<td>2002</td>
<td>User account is inactive.</td>
<td>The API request failed because of an authorization failure.</td>
</tr>
<tr>
<td>HTTP/1.1 409 Conflict</td>
<td>2003</td>
<td>Registration must be completed before API requests will be served for this account</td>
<td>The API request failed because nobody has yet accepted the EULA on behalf of the user's subscription.</td>
</tr>
<tr>
<td>HTTP/1.1 409 Conflict</td>
<td>2011</td>
<td>SecureID authentication is required for this account, so API access is blocked</td>
<td>The API request failed because SecureID authentication won't work with API calls.</td>
</tr>
<tr>
<td>HTTP/1.1 403 Forbidden</td>
<td>2012</td>
<td>User license is not authorized to run this API.</td>
<td>The API request failed because the user's subscription does not have API access enabled.</td>
</tr>
</tbody>
</table>
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