



# **Global AssetView CyberSecurity Asset Management**

API User Guide v2  
Version 2.16

August 22, 2023

Copyright 2021 - 2023 by Qualys, Inc. All Rights Reserved.

Qualys and the Qualys logo are registered trademarks of Qualys, Inc. All other trademarks are the property of their respective owners.

Qualys, Inc.  
919 E Hillsdale Blvd  
4th Floor  
Foster City, CA 94404  
1 (650) 801 6100



# Table of Contents

<b>Preface.....</b>	<b>5</b>
About Qualys .....	5
Contact Qualys Support .....	5
<b>Get Started .....</b>	<b>6</b>
Qualys API Framework .....	6
Qualys API Gateway URL .....	7
Introduction to GAV/CSAM API Paradigm .....	8
API Rate Limits .....	10
User Scoping for APIs .....	12
<b>Assets Host Data APIs .....</b>	<b>13</b>
Count of Assets .....	13
Get Host details of specific asset .....	17
Get Host Details of All Assets .....	33
Import Business Information Metadata .....	48
<b>Import Business Information Metadata .....</b>	<b>51</b>
Import Business App Metadata .....	51
Import Asset Business Metadata .....	53
<b>Check Sync Status of an Active EASM Profile .....</b>	<b>57</b>
<b>GET List of Vulnerabilities Discovered by EASM .....</b>	<b>58</b>
<b>EASM Profile APIs .....</b>	<b>66</b>
Get an Existing EASM Profile .....	66
Delete an Existing EASM Profile .....	69
Create a New EASM Profile .....	69
Overwrite the EASM Profile .....	74
Add Seeds/Filters to the Existing EASM Profile .....	76
View "easmTags" Information .....	78
Asset List V2 API .....	79
Asset by AssetID V2 API .....	81
Asset Count V2 API .....	83
Exclude CDN from EASM Profile .....	83
<b>Import Third-Party Assets API.....</b>	<b>86</b>
<b>Appendix.....</b>	<b>95</b>

Error Messages ..... 95

Supported Operators ..... 95

# Preface

This user guide is intended for application developers who will use the Qualys Global AssetView (GAV)/CyberSecurity Asset Management (CSAM) API v2. It is recommended to use v2 APIs.

For GAV, we are still supporting the v1 APIs. Refer [API v1 User Guide](#) to use v1 APIs.

## 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](http://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/](http://www.qualys.com/support/).

# Get Started

[Qualys API Framework](#) - Learn the basics about making API requests. The base URL depends on the platform where your Qualys account is located.

[Introduction to GAV/CSAM API Paradigm](#) - Get tips on using the Curl command-line tool to make API requests. Every API request must authenticate using a JSON Web Token (JWT) obtained from the Qualys Authentication API.

## Get API Notifications

Subscribe to our API Notifications RSS Feeds for announcements and latest news.

### From our Community

[Join our Community](#)

[API Notifications RSS Feeds](#)

## Qualys API Framework

The Qualys GAV/CSAM API uses the following framework.

### Request URL

The URL for making API requests respects the following structure:

`https://<baseurl>/<module>/<object>/<object_id>/<operation>`

where the components are described below.

<baseurl>	The Qualys API server URL that you should use for API requests depends on the platform where your account is located. The base URL for Qualys US Platform 1 is: <code>https://gateway.qg1.apps.qualys.com</code>
<module>	The API module. For the GAV/CSAM, the module is: "am".
<object>	The module specific object.
<object_id>	(Optional) The module specific object ID, if appropriate.
<operation>	The request operation, such as count.

## Qualys API Gateway URL

The Qualys API URL you should use for API requests depends on the Qualys platform where your account is located.

[Click here to identify your Qualys platform and get the API URL](#)

This documentation uses the API gateway URL for Qualys US Platform 1 (<https://gateway.qg1.apps.qualys.com>) in sample API requests. If you're on another platform, please replace this URL with the appropriate gateway URL for your account.

## Introduction to GAV/CSAM API Paradigm

### Authentication

You must authenticate to the Qualys Cloud Platform using Qualys account credentials (user name and password) and get the JSON Web Token (JWT) before you can start using the GAV/CSAM APIs. Use the Qualys Authentication API to get the JWT.

For example,

```
curl -X POST https://gateway.qg1.apps.qualys.com/auth -d  
"username=value1&password=passwordValue&token=true" -H "Content-  
Type: application/x-www-form-urlencoded"
```

where gateway.qg1.apps.qualys.com is the base URL to the Qualys API server where your account is located.

- **username** and **password** are the credentials of the user account for which you want to fetch GAV/CSAM data
- **token** should be true
- **Content-Type** should be "application/x-www-form-urlencoded"

The Authentication API returns a JSON Web Token (JWT) which you can use for authentication during GAV/CSAM calls. **The token expires in 4 hours.** You must regenerate the token to continue using the GAV/CSAM API.

### Using Curl

**Curl** is a multi-platform command-line tool used to transfer data using multiple protocols. This tool is supported on many systems, including Windows, Unix, Linux and Mac. In this document Curl is used in the examples to build Qualys API requests using the HTTP over SSL (https) protocol, which is required.

Want to learn more? Visit <https://curl.haxx.se/>

The following Curl options are used according to different situations:

Option	Description
-X "POST"	The POST method is required for all GAV/CSAM API requests.
-H "Authorization: Bearer <token>"	This option is used to provide a custom HTTP request header parameter for authentication. Provide the JSON Web Token (JWT) received from Qualys authentication API in the following format: Authorization: Bearer <token> For information about Qualys authentication API, see <a href="#">Authentication</a> .

The sample below shows a typical Curl request using options mentioned above and how they interact with each other.

```
curl -X POST "https://gateway.qg1.apps.qualys.com/rest/2.0/search/am/asset" -H  
"Authorization: Bearer <token>"
```



## Limit your results

Use the optional “fields” parameter for any API request to limit the amount of information returned in the results. Simply specify the fields you want to include or exclude in the output, and all other information will be filtered out (excluded). Multiple fields are comma separated.

### Sample limit results

Use this request to get a list of all asset hosts with information for only the operatingSystem and hardware fields:

```
curl -X POST -H "Accept: */*" -H "Authorization: <JWT Token>" -H "Content-Type: application/json" -i "https://gateway.qg1.apps.qualys.com/rest/2.0/search/am/asset?pageSize=100&includeFields=operatingSystem,hardware"
```

### Note:

The response would still include all the fields, but other than the included fields, the value returned for all other fields would be null.

You can include the following fields to limit your results:

address	lastLocation	domain
agent	lastLoggedOnUser	subdomain
agentId	netbiosName	whois
assetName	networkInterface	isp
biosAssetTag	openPort	asn
biosDescription	operatingSystem	customAttributes
biosSerialNumber	processor	
cloudProvider	provider	
container	sensor	
cpuCount	service	
dnsName	software	
hardware	tag	
hostId	timeZone	
inventory	totalMemory	
isContainerHost	userAccount	
lastBoot	volume	
criticality	businessApps	
businessInformation	assignedLocation	

## API Rate Limits

The Qualys API enforces limits on the API calls a customer can make based on their subscription settings. The limits apply to the use of all Qualys APIs except “auth” API (JWT Token Generation API). Default API control settings are provided by the service. Note these settings may be customized per subscription by Qualys Support.

The rate count and period are calculated dynamically each time an API call is received. The rate period represents a rolling window when API calls are counted.

### API Controls Definition

**X-RateLimit-Remaining:** This indicates the total API calls remaining in current rate limit window.

**X-RateLimit-ToWait-Sec:** This time indicates the wait time for the rate limit to be reset. The customer has to wait for that time to execute next API calls.

**X-RateLimit-Window-Sec:** This value indicates the total time window assigned for the APIs to be executed.

**X-RateLimit-Limit:** This indicates the max number of API calls that can be executed in that particular rate limit window.

### Sample Request

```
curl -X POST -H "Accept: */*" -H "Authorization: Bearer <JWT Token>" -H
"Content-Type: application/json" -i
"https://gateway.qg1.apps.qualys.com/rest/2.0/count/am/asset"
```

**Note:** Provide "-i" in the curl request as shown in the example returns the response headers which includes the rate limit related parameters.

After executing a curl request, check the following parameters in response headers to check the rate-limit status:

X-RateLimit-Remaining: 0

X-RateLimit-ToWait-Sec: 300

X-RateLimit-Window-Sec: 3600

X-RateLimit-Limit: 300

**Example:** A subscription for Standard API Service has the default API control settings. Consider that the API rate limit set for a customer is 300 API calls for a time window of 3600 seconds. If 300 API calls are received in a 5 minute period and none are blocked by any API limiting rules, then you need to wait 55 minutes before making the next call to the API. During the wait period API calls will be blocked by the rate limiting rule.

## Sample HTTP Response Headers

### Sample 1: Normal API call (API call not blocked)

```
Server: nginx/1.19.1
Date: Fri, 16 Apr 2021 12:29:52 GMT
Content-Type: application/json
Transfer-Encoding: chunked
Connection: keep-alive
Vary: Accept-Encoding
X-RateLimit-Remaining: 4
X-RateLimit-Window-Sec: 100
X-RateLimit-Limit: 5
Vary: Accept-Encoding
Cache-Control: no-cache, no-store, max-age=0, must-revalidate
Pragma: no-cache
Expires: 0
X-Content-Type-Options: nosniff
X-Frame-Options: DENY
X-XSS-Protection: 1 ; mode=block
Referrer-Policy: no-referrer

{"count":580,"responseCode":"SUCCESS","responseMessage":"Valid API
Access"}
```

### Sample 2: API Call Blocked - Rate Limit exceeded

```
Server: nginx/1.19.1
Date: Fri, 16 Apr 2021 12:28:53 GMT
Content-Length: 0
Connection: keep-alive
X-RateLimit-Remaining: 0
X-RateLimit-ToWait-Sec: 33
X-RateLimit-Window-Sec: 100
X-RateLimit-Limit: 5
Cache-Control: no-cache, no-store, max-age=0, must-revalidate
Pragma: no-cache
Expires: 0
X-Content-Type-Options: nosniff
X-Frame-Options: DENY
X-XSS-Protection: 1 ; mode=block
Referrer-Policy: no-referrer
```

## User Scoping for APIs

The user will get a response of the assets as per scope using count and list APIs. Typically Manager user has access to more assets than the reader user. So, Reader user won't be able to get responses for the APIs requested for unauthorized assets.

For example:

If a Manager user has access to 100 assets: the Count API response will show 100 assets and List API will show details of all these 100 assets. Now, consider that the Manager user creates a 'Reader' sub user and assigns only 50 assets to this user and when Reader executes APIs, the response will contain data of the only 50 assets and not all 100 assets.

# Assets Host Data APIs

Use these API functions to get host data from GAV/CSAM.

**Note:** The software.authorization and lifecycle related parameters are available only for CSAM subscription. Hence, you can use it in filter criteria and you can see it in the response if you've subscribed for CSAM.

## Permissions

- User must have the GAV/CSAM module and the "App API Enabled" option enabled for that role.

## Count of Assets

Get count of assets satisfying the specified filter criteria.

**rest/2.0/count/am/asset**

[POST]

## Input Parameters

---

filter (String)	Filter the events list by providing a filter in json and xml format. Make sure your filter criteria is provided in xml/json format in the request body. If you don't provide filter parameter, it will show details of all the assets. For more information on supported operators, refer <a href="#">Supported Operators</a> .
--------------------	---

### For example (json) -

```
{
  "filters": [
    {
      "field": "software.product",
      "operator": "CONTAINS",
      "value": "Python"
    }
  ]
}
```

### For example (xml) -

```
<FilterRequest>
  <filters>
    <Criteria field="software.product"
operator="CONTAINS"><value>Python</value></Criteria>
  </filters>
</FilterRequest>
```

---

assetLastUpdated (String)	<p>Shows records updated on or after this date with the UTC format as yyyy-MM-ddTHH:mmZ e.g. 2019-03-01T11:30Z</p> <p>This date gets updated whenever any activity happens on the asset. Few examples of such activity:</p> <ul style="list-style-type: none"> <li>- Vulnerability Management scan</li> <li>- Policy Compliance scan</li> <li>- Inventory collection</li> <li>- Security Configuration Assessment</li> <li>- CertView scan</li> <li>- AssetView or CloudView connector run</li> <li>- Secure Enterprise Mobility scan</li> <li>- Out-of-Band Configuration Assessment</li> <li>- Asset rename</li> <li>- Purge of VM, PC, OCA, CertView records</li> <li>- Agent manifest download</li> <li>- Asset Inventory asset identification updates</li> </ul>
lastSeenAssetId (Integer)	<p>Use to get the count of assets having asset id greater than the specified last seen assetid.</p> <p><b>Note:</b> If you want to get a count of assets that fall after the specific asset id, refer to the following example:</p> <p><b>Example:</b>  <a href="https://gateway.qg1.apps.qualys.com/rest/2.0/count/am/asset?lastSeenAssetId=6920718">https://gateway.qg1.apps.qualys.com/rest/2.0/count/am/asset?lastSeenAssetId=6920718</a></p> <p><b>Consider the scenario, wherein you have 1000 assets.</b>            In the API call, if you enter the asset id of the 200th asset in the lastSeenAssetId parameter, the first 200 assets are skipped from the count and the count of the rest of the assets, which is 800 is shown.</p>
Authorization (String)	<p>(Required) Authorization token to authenticate to the Qualys Cloud Platform. Prepend token with "Bearer" and one space. For example - Bearer authToken</p>

## Sample - Get count of all assets with filter criteria

### Request:

```
curl -X POST -H "Accept: */*" -H "Authorization: Bearer  
<JWTToken>" -H "Content-Type: application/json" -i  
"https://gateway.qg1.apps.qualys.com/rest/2.0/count/am/asset" <  
filter.json
```

Here, **filter.json** file is the request in json format.

### Sample Request body in json format (filter.json)

```
{  
  "filters": [  
    {  
      "field": "software.authorization",  
      "operator": "EQUALS",  
      "value": "Authorized"  
    }  
  ]  
}
```

### Response:

```
{  
  "count": 850,  
  "responseCode": "SUCCESS",  
  "responseMessage": "Valid API Access"  
}
```

## Sample - added attribute to "cloudProvider" field

### Request:

```
curl --location --request POST  
'<qualys_base_url>/rest/2.0/count/am/asset' --header  
'Authorization:  
Bearer <JWT Token>' --header 'Content-Type: application/xml' --  
data-raw  
'<FilterRequest>'
```

### Filter:

```
<FilterRequest>  
<filters>  
<Criteria field="alibaba.instance.instanceId"  
operator="EQUALS"><value>Instance_MN72C8</value></Criteria>  
</filters>  
</FilterRequest>
```

### Response:

```
{
  "count": 1,
  "responseCode": "SUCCESS",
  "responseMessage": "Valid API Access"
}
```

## **Sample - added "hostingCategory1" information**

### Request

```
curl --location --request POST
'<qualys_base_url>/rest/2.0/count/am/asset' --header
'Authorization:
Bearer <JWT Token>' --header 'Content-Type: application/xml' --
data
'<FilterRequest>
```

### Filter

```
<FilterRequest>
<filters>
<Criteria field="asset.hostingCategory1"
operator="EQUALS"><value>Cloud</value></Criteria>
</filters>
</FilterRequest>
```

### Response

```
{
  "count": 77,
  "responseCode": "SUCCESS",
  "responseMessage": "Valid API Access"
}
```



## Get Host details of specific asset

Get details of specific asset by providing an asset id.

**rest/2.0/get/am/asset**

[GET]

### Input Parameters

excludeFields (String)	Comma separated list of fields to be excluded from the asset object in the response. Default is None. You can choose from the list of fields specified in the section <a href="#">"Limit your results"</a> . For example, to exclude openPort and software from the response: excludeFields=openPort,software
includeFields (String)	Comma separated list of fields to be included in the asset object in the response. Default is All. You can choose from the list of fields specified in the section <a href="#">"Limit your results"</a> . For example, to include only operatingSystem and hardware in the response: includeFields=operatingSystem,hardware
assetId (Integer)	(Required) Use to specify theAssetId for which you want to retrieve the details.
softwareType (String)	(Optional) Specify the software type to get the host details for specified software type. Available values for softwareType parameter are Application, Unknown, and Others.
Authorization (String)	(Required) Authorization token to authenticate to the Qualys Cloud Platform. Prepend token with "Bearer" and one space. For example - Bearer authToken

### Sample - Get host details of specified asset by assetid

#### Request:

```
curl -X GET -H "Accept: */*" -H "Authorization: Bearer <JWTToken>"  
-H "Content-Type: application/json" -i  
"https://gateway.qg1.apps.qualys.com/rest/2.0/get/am/asset?assetId  
=8194990"
```

#### Response:

```
{  
  "responseMessage": "Valid API Access",  
  "responseCode": "SUCCESS",  
  "assetListData": {  
    "asset": [  
      {  
        "assetId": 6920718,  
        "assetUUID": "50d20290-c66a-42e7-8c0a-
```

```
ba6e92b6324c",
  "hostId": 1437386,
  "lastModifiedDate": "2021-04-06T10:02:33.000Z",
  "agentId": null,
  "createdDate": "2020-11-25T12:49:25.000Z",
  "sensorLastUpdatedDate": "2021-04-
06T10:02:33.000Z",
  "assetType": "HOST",
  "address": "10.115.110.95",
  "dnsName": "localhost.localdomain",
  "assetName": "localhost.localdomain",
  "netbiosName": null,
  "timeZone": "IST",
  "biosDescription": null,
  "lastBoot": null,
  "totalMemory": 5806,
  "cpuCount": null,
  "lastLoggedOnUser": "root",
  "hwUUID": "422a2b16-4c8b-588a-a20c-c1851ad7e376",
  "biosSerialNumber": "VMware-42 2a 2b 16 4c 8b 58 8a-
a2 0c c1 85 1a d7 e3 76",
  "biosAssetTag": "No Asset Tag",
  "isContainerHost": false,
  "operatingSystem": {
    "osName": "The CentOS Project CentOS 7 (1810)",
    "fullName": "The CentOS Project CentOS 7
(1810)",
    "category": "Linux / Server",
    "category1": "Linux",
    "category2": "Server",
    "productName": "CentOS",
    "publisher": "The CentOS Project",
    "edition": null,
    "marketVersion": "7",
    "version": "1810",
    "update": null,
    "architecture": null,
    "lifecycle": {
      "gaDate": "2018-12-03T00:00:00.000Z",
      "eolDate": "2020-12-31T00:00:00.000Z",
      "eosDate": "2024-06-30T00:00:00.000Z",
      "stage": "EOL",
      "lifeCycleConfidence": "Exact",
      "eolSupportStage": "Full updates",
      "eosSupportStage": "Maintenance Updates"
    },
  },
```

```
    "taxonomy": {
      "id": null,
      "name": "Linux / Server",
      "category1": "Linux",
      "category2": "Server"
    },
    "productUrl":
"https://www.centos.org/,https://en.wikipedia.org/wiki/CentOS,",
    "productFamily": null,
    "installDate": null,
    "release": "7.4.1708"
  },
  "hardware": {
    "fullName": "VMware VMware Virtual Platform
VMware Virtual Platform",
    "category": "Virtualized / Virtual Machine",
    "category1": "Virtualized",
    "category2": "Virtual Machine",
    "manufacturer": "VMware",
    "productName": "VMware Virtual Platform",
    "model": "VMware Virtual Platform",
    "lifecycle": {
      "introDate": null,
      "gaDate": null,
      "eosDate": null,
      "obsoleteDate": null,
      "stage": "Unknown",
      "lifeCycleConfidence": " "
    },
    "taxonomy": {
      "id": null,
      "name": "Virtualized / Virtual Machine",
      "category1": "Virtualized",
      "category2": "Virtual Machine"
    },
    "productUrl":
"https://www.linuxjournal.com/article/3458,,",
    "productFamily": null
  },
  "userAccountListData": null,
  "openPortListData": {
    "openPort": [
      {
        "port": 709,
        "description": "",
        "protocol": "UDP",
```

```
        "detectedService": "portmap/rpcbind",
        "firstFound": "2020-11-
25T12:46:42.000Z",
        "lastUpdated": "2020-11-
25T12:46:42.000Z"
    },
    {
        "port": 50000,
        "description": "",
        "protocol": "TCP",
        "detectedService":
"IBM_DB2_Universal_Database",
        "firstFound": "2020-11-
25T12:46:42.000Z",
        "lastUpdated": "2020-11-
25T12:46:42.000Z"
    },
    {
        "port": 6000,
        "description": "",
        "protocol": "TCP",
        "detectedService": "x11",
        "firstFound": "2020-11-
25T12:46:42.000Z",
        "lastUpdated": "2020-11-
25T12:46:42.000Z"
    },
    {
        "port": 22,
        "description": "",
        "protocol": "TCP",
        "detectedService": "ssh",
        "firstFound": "2020-11-
25T12:46:41.000Z",
        "lastUpdated": "2020-11-
25T12:46:41.000Z"
    },
    {
        "port": 3389,
        "description": "",
        "protocol": "TCP",
        "detectedService": null,
        "firstFound": "2020-11-
25T12:46:42.000Z",
        "lastUpdated": "2020-11-
25T12:46:42.000Z"
```

```
    },
    {
      "port": 111,
      "description": "",
      "protocol": "UDP",
      "detectedService": "rpc_udp",
      "firstFound": "2020-11-
25T12:46:42.000Z",
      "lastUpdated": "2020-11-
25T12:46:42.000Z"
    },
    {
      "port": 111,
      "description": "",
      "protocol": "TCP",
      "detectedService": "rpc",
      "firstFound": "2020-11-
25T12:46:41.000Z",
      "lastUpdated": "2020-11-
25T12:46:41.000Z"
    }
  ]
},
"volumeListData": {
  "volume": [
    {
      "name": "tmpfs",
      "free": 2737078272,
      "size": 3043934208
    },
    {
      "name": "/dev/mapper/centos-home",
      "free": 18629619712,
      "size": 18700304384
    },
    {
      "name": "devtmpfs",
      "free": 3026444288,
      "size": 3026444288
    },
    {
      "name": "/dev/mapper/centos-root",
      "free": 19672580096,
      "size": 38304645120
    },
    {
```

```
        "name": "/dev/sda1",
        "free": 876040192,
        "size": 1063256064
    }
]
},
"networkInterfaceListData": {
    "networkInterface": [
        {
            "hostname": "localhost.localdomain",
            "addressIPv4": "192.168.122.1",
            "addressIPv6": null,
            "macAddress": "52:54:00:77:e1:71",
            "interfaceName": "virbr0",
            "dnsAddress": null,
            "gatewayAddress": "",
            "manufacturer": null,
            "macVendorIntroDate": null,
            "addresses": null
        },
        {
            "hostname": "localhost.localdomain",
            "addressIPv4": "10.115.110.95",
            "addressIPv6":
"fe80:0:0:0:250:56ff:feaa:e2da",
            "macAddress": "00:50:56:aa:e2:da",
            "interfaceName": "ens192",
            "dnsAddress": null,
            "gatewayAddress": "",
            "manufacturer": "VMware",
            "macVendorIntroDate": 9469440000000,
            "addresses": null
        }
    ]
},
"softwareListData": {
    "software": [
        {
            "id": -5698725809391962787,
            "fullName": "Python 2.7.5 64-Bit",
            "softwareType": "Application",
            "isIgnored": false,
            "ignoredReason": null,
            "category": "Application Development /
Programming Languages",
            "category1": "Application Development",
```

```
"category2": "Programming Languages",
"productName": "Python",
"component": null,
"publisher": "Python",
"edition": null,
"marketVersion": "2",
"version": "2.7",
"update": "2.7.5",
"architecture": "64-Bit",
"installDate": "2020-03-
27T16:11:47.000Z",
"installPath": null,
"lastUpdated": "2020-11-
25T12:46:46.000Z",
"lastUseDate": null,
"language": null,
"formerlyKnownAs": null,
"isPackage": false,
"isPackageComponent": false,
"packageName": null,
"productUrl":
"https://en.wikipedia.org/wiki/History_of_Python,,",
"lifecycle": {
  "gaDate": "2010-07-03T00:00:00.000Z",
  "eolDate": "2020-01-
01T00:00:00.000Z",
  "eosDate": "2020-01-
01T00:00:00.000Z",
  "stage": "EOL/EOS",
  "lifeCycleConfidence": "Exact",
  "eolSupportStage": "End-of-life",
  "eosSupportStage": "End-of-life"
},
"supportStageDesc": "Python's policy is
to drop support major versions once they reach their end of life",
"license": {
  "category": "Open Source",
  "subcategory": "Python License
(Python-2.0)"
},
"authorization": "Authorized"
},
{
  "id": 9136542396418607016,
  "fullName": "OpenBSD OpenSSH Server
7.4p1",
```

```
"softwareType": "Application",
"isIgnored": false,
"ignoredReason": null,
"category": "Networking / Access
Software",
"category1": "Networking",
"category2": "Access Software",
"productName": "OpenSSH",
"component": "Server",
"publisher": "OpenBSD",
"edition": null,
"marketVersion": "7",
"version": "7.4",
"update": "7.4p1",
"architecture": null,
"installDate": "2020-03-
05T14:23:53.000Z",
"installPath": null,
"lastUpdated": "2020-11-
25T12:46:53.000Z",
"lastUseDate": null,
"language": null,
"formerlyKnownAs": "OpenBSD Secure
Shell",
"isPackage": true,
"isPackageComponent": false,
"packageName": null,
"productUrl":
"https://en.wikipedia.org/wiki/OpenSSH,,",
"lifecycle": {
  "gaDate": "2016-12-19T00:00:00.000Z",
  "eolDate": null,
  "eosDate": null,
  "stage": "EOL",
  "lifeCycleConfidence": "Calculated",
  "eolSupportStage": " ",
  "eosSupportStage": " "
},
"supportStageDesc": null,
"license": {
  "category": "Open Source",
  "subcategory": "BSD 2-Clause License
(FreeBSD/Simplified)"
},
"authorization": "Authorized"
}
```



```
    ],
  },
  "provider": null,
  "cloudProvider": null,
  "agent": null,
  "sensor": {
    "activatedForModules": [
      "VM"
    ],
    "pendingActivationForModules": [],
    "lastVMScan": 1606306572000,
    "lastComplianceScan": 0,
    "lastFullScan": 1606306572000
  },
  "container": null,
  "inventory": {
    "source": "IP",
    "created": 1606308565000,
    "lastUpdated": 1617703353000
  },
  "activity": null,
  "tagList": {
    "tag": [
      {
        "tagId": 14151022,
        "tagName": "static split",
        "foregroundColor": 0,
        "backgroundColor": -65536,
        "businessImpact": null,
        "criticalityScore": 2
      }
    ]
  },
  "serviceList": null,
  "lastLocation": null,
  "criticality": {
    "score": 2,
    "isDefault": true,
    "lastUpdated": "2021-06-30T09:43:27.000Z"
  },
  "businessInformation": {
    "company": "Qualys",
    "department": "Engineering",
    "ownedBy": "Paul",
    "environment": "QA",
    "managedBy": "Amit",
  }
}
```

```
        "supportedBy": "Nick",
        "supportGroup": "ABC_01",
        "operationalStatus": "Blocked"
    },
    "assignedLocation": {
        "name": "4492 Camino De La Plaza, Pune,IN",
        "city": "Pune",
        "state": "MH",
        "country": "IN"
    },
    "businessAppListData": {
        "businessApp": [
            {
                "id": "BARCODE283904",
                "name": "Quoting App",
                "environment": "Production",
                "businessCriticality": "2 - Less
Critical",
                "managedBy": "Amit",
                "ownedBy": "Narendra",
                "supportedBy": "Rishabh",
                "supportGroup": "SME Operations",
                "operationalStatus": "Mended",
                "status": "Installed",
                "usedFor": "Production"
            },
            {
                "id": "BARCODE2839067gfh",
                "name": "HRA",
                "environment": "Production",
                "businessCriticality": "1 - Most
Critical",
                "managedBy": "Amit",
                "ownedBy": "Narendra",
                "supportedBy": "Rishabh",
                "supportGroup": "SME Operations",
                "operationalStatus": "broken",
                "status": "Installed",
                "usedFor": "Production"
            }
        ]
    },
    "riskScore": 690,
    "passiveSensor": null,
    "asn": "AS27385",
    "isp": "Qualys, Inc.",
```

```
"domain": [
    "qualys.com",
    "qualys.in",
],
"subdomain": [
    "docs.qualys.com",
    "www.qualys.com"
],
"whois": [
{
    "domain": "vulnerability-management.com",
    "createdDate": null,
    "dnssec": null,
    "domainStatus": "clientTransferProhibited",
    "registrantOrganization": "Qualys, Inc.",
    "registrantName": null,
    "registrantEmail":
49101@contact.gandi.net",
    "registrantContact": null,
    "registrar": "Gandi SAS",
    "organizationName": "Qualys, Inc.",
    "updatedAt": null
}

    "missingSoftware": null,
"customAttributes": [
    {
        "key": "Media State4",
        "value": "Media disconnected",
        "connectorName": "Qualys"
    },
    {
        "key": "Default Gateway11",
        "value": "192.168.1.1",
        "connectorName": "Qualys"
    },
    ...
    {
        "key": "Subnet Mask",
        "value": "255.255.255.0",
        "connectorName": "Qualys"
    },
    ...
],
```

```
        "processor": null
      }
    ]
  }
}
```

## Sample - Get asset details using asset by assetid

### Request

```
curl --location --request GET
'<qualys_base_url>/rest/2.0/get/am/asset?assetId=19605572--header
'Content-Type: application/json' --header 'Authorization: Bearer
<JWT
Token>' --header 'Content-Type: application/xml' --data-raw
'<FilterRequest>'
```

### Filter in XML

```
<FilterRequest>
<filters>
<Criteria field="missingSoftware.product"
operator="EQUALS"><value>Windows Defender</value></Criteria>
</filters>
</FilterRequest>
```

### Filter in json

```
{
  "filters": [
    {
      "field": "missingSoftware.product",
      "operator": "EQUALS",
      "value": " Windows Defender "
    }
  ]
}
```

### Response

```
{
  "responseMessage": "Valid API Access",
  "count": 1,
  "responseCode": "SUCCESS",
  "lastSeenAssetId": null,
  "hasMore": 0,
  "assetListData": {
    "asset": [
      {
```

```
"assetId": 19605572,
"assetUUID": "3eb82cb6-1026-465f-a68c-94e4a95a921b",
"hostId": 999990762,
...
"businessInformation": null,
"assignedLocation": null,
"businessAppListData": null,
"riskScore": null,
"passiveSensor": null,
"domain": null,
"subdomain": null,
"missingSoftware": [
{
"name": "Microsoft Windows Defender",
"category1": "Security",
"category2": "Endpoint Protection",
"publisher": "Microsoft",
"product": "Windows Defender",
"rule": "regression_14",
"criteria": [
{
"criteria": "ANY Version ",
"release": [
"ANY"
]
}
]
},
{
"name": "Microsoft Defender Advanced Threat
Protection",
"category1": "Security",
"category2": "Endpoint Protection",
"publisher": "Microsoft",
"product": "Microsoft Defender Advanced Threat
Protection",
"rule": "regression_14",
"criteria": [
{
"criteria": "ANY Version ",
"release": [
"ANY"
]
}
]
}
]
```

```
},  
...  
],  
"whois": null,  
"isp": null,  
"asn": null,  
"easmTags": null,  
...  
}  
]  
}  
}
```

## Sample - added "hostingCategory1" Information

### Asset by AssetID

Request:  
curl --location --request GET  
'<qualys\_base\_url>/rest/2.0/get/am/asset?assetId=22303276' --  
header  
'Content-Type: application/json' --header 'Authorization: Bearer  
<JWT Token>'

### Response

```
{  
  "responseMessage": "Valid API Access",  
  "count": 1,  
  "responseCode": "SUCCESS",  
  "lastSeenAssetId": null,  
  "hasMore": 0,  
  "assetListData": {  
    "asset": [  
      {  
        "assetId": 22303276,  
        "assetUUID": "383c0696-0ac9-42f8-8189-28b7e81f4bb0",  
        "hostId": null,  
        ...  
        "missingSoftware": null,  
        "whois": [  
          {  
            "domain": "blujaysolutions.com",  
            "createdDate": "2016-11-30T00:00:00.000Z",  
            ...  
          }  
        ],  
        "isp": "Amazon.com, Inc.",  
      }  
    ]  
  }  
}
```

```
"asn": "AS16509",
"easmTags": [
  "cloud"
],
"hostingCategory1": "ThirdParty",
"customAttributes": null,
"processor": null
}
]
}
}
```

**Note:** We also support this for includeFields and excludeFields. See the following example.

Example: Asset by asset ID API with includeFields

#### Request

```
curl --location --request GET
'<qualys_base_url>/rest/2.0/get/am/asset?
assetId=22303276&includeFields=hostingCategory1' --header
'Content-Type:
application/json' --header 'Authorization: Bearer <JWT Token>'
```

#### Response

```
{
  "responseMessage": "Valid API Access",
  "count": 1,
  "responseCode": "SUCCESS",
  "lastSeenAssetId": null,
  "hasMore": 0,
  "assetListData": {
    "asset": [
      {
        "assetId": 22303276,
        "assetUUID": "383c0696-0ac9-42f8-8189-28b7e81f4bb0",
        "hostId": null,
        ...
        "missingSoftware": null,
        "whois": null,
        "isp": null,
        "asn": null,
        "easmTags": null,
        "hostingCategory1": "ThirdParty",
        "customAttributes": null,
        "processor": null
      }
    ]
  }
}
```

```
]
}
```



## Get Host Details of All Assets

Get details of all assets that satisfy the filter criteria to include or exclude specified fields. If you don't provide filter parameter, it will show details of all the assets.

**rest/2.0/search/am/asset**

[POST]

### Input Parameter

excludeFields (String)	Comma separated list of fields to be excluded from the asset object in the response. Default is None. You can choose from the list of fields specified in the section <a href="#">"Limit your results"</a> . For example, to exclude openPort and software from the response: excludeFields=openPort,software
includeFields (String)	Comma separated list of fields to be included in the asset object in the response. Default is All. You can choose from the list of fields specified in the section <a href="#">"Limit your results"</a> . For example, to include only operatingSystem and hardware in the response: includeFields=operatingSystem,hardware
assetLastUpdated (String)	Shows records updated on or after this date with the UTC format as yyyy-MM-ddTHH:mmZ e.g. 2019-03-01T11:30Z  This date gets updated whenever any activity happens on the asset. Few examples of such activity: <ul style="list-style-type: none"><li>- Vulnerability Management scan</li><li>- Policy Compliance scan</li><li>- Inventory collection</li><li>- Security Configuration Assessment</li><li>- CertView scan</li><li>- AssetView or CloudView connector run</li><li>- Secure Enterprise Mobility scan</li><li>- Out-of-Band Configuration Assessment</li><li>- Asset rename</li><li>- Purge of VM, PC, OCA, CertView records</li><li>- Agent manifest download</li><li>- Asset Inventory asset identification updates</li></ul>

---

lastSeenAssetId (Integer)	Use to get the list of assets having asset id greater than the specified last seen assetid.
---------------------------	---

**Note:** You can get a list of a maximum of 100 assets in one API call. If you have more than 100 assets, you need to make multiple API calls to get the list of all your assets.

See the following snippet from the Response:

Response:

```
{
  "responseMessage": "Valid API Access",
  "count": 1,
  "responseCode": "SUCCESS",
  "lastSeenAssetId": 6920718,
  "hasMore": 1,
```

The snippet shows:

- lastSeenAssetId: 6920718

It indicates the asset id of the last seen asset.

- hasMore: 1

It indicates that there are more assets.

If you want to get a list of your all assets, refer to the following example:

**Example:**

<https://gateway.qg1.apps.qualys.com/rest/2.0/search/am/asset?lastSeenAssetId=6920718>

**Consider the scenario, wherein you have 1000 assets.**

In the first API call, you get a list of 100 assets. The asset id of the 100th asset is shown in the lastSeenAssetId parameter. In the 2nd API call, you must enter the asset id of the 100th asset in the lastSeenAssetId parameter to get the list of the next 100 assets.

Similarly, in every subsequent API call, you must enter the asset id of the 100th asset in the lastSeenAssetId parameter. Thus, you get the list of your total assets by running 10 API calls.

---

pageSize (Integer)	The number of records per page to be included in the response. If pageSize is not specified in the request, 100 records will be fetched by default. The maximum value supported for pageSize is 300.
--------------------	---

---

filter (String)	<p>Filter the events list by providing a filter in json and xml format. Make sure your filter criteria is provided in xml/json format in the request body. If you don't provide filter parameter, it will show details of all the assets. For more information on supported operators, refer <a href="#">Supported Operators</a>.</p> <p><b>For example (json) -</b></p> <pre>{   "filters": [     {       "field": "software.product",       "operator": "CONTAINS",       "value": "Python"     }   ] }</pre> <p><b>For example (xml) -</b></p> <pre>&lt;FilterRequest&gt;   &lt;filters&gt;     &lt;Criteria field="software.product" operator="CONTAINS"&gt;&lt;value&gt;Python&lt;/value&gt;&lt;/Criteria&gt;   &lt;/filters&gt; &lt;/FilterRequest&gt;</pre>
softwareType (String)	(Optional) Specify the software type to get the host details for specified software type. Available values for softwareType parameter are Application, Unknown, and Others.
Authorization (String)	(Required) Authorization token to authenticate to the Qualys Cloud Platform. Prepend token with "Bearer" and one space. For example - Bearer authToken
missingSoftware.name (String)	(Required) Provide the missing software name.
missingSoftware.category1 (String)	(Required) Provide the missing software category 1.
missingSoftware.category2 (String)	(Required) Provide the missing software category 2.
missingSoftware.publisher (String)	(Required) Provide the missing software publisher.
missingSoftware.product (String)	(Required) Provide the missing software product.

## Sample - Get details of all asset

### Request (without filter):

```
curl -X POST -H "Accept: application/json" -H "Authorization: Bearer <JWTToken>" -H "Content-Type: application/json" -i "https://gateway.qg1.apps.qualys.com/rest/2.0/search/am/asset"
```

### Request (with filter - xml):

```
curl -X POST -H "Accept: application/xml" -H "Authorization: Bearer <JWTToken>" -H "Content-Type: application/xml" -i "https://gateway.qg1.apps.qualys.com/rest/2.0/search/am/asset" < filter.xml
```

Here, **filter.xml** file is the request in xml format.

### Request (with filter - json):

```
curl -X POST -H "Accept: application/json" -H "Authorization: Bearer <JWTToken>" -H "Content-Type: application/json" -i "https://gateway.qg1.apps.qualys.com/rest/2.0/search/am/asset" < filter.json
```

Here, **filter.json** file is the request in json format.

### Sample Request body in xml format (filter.xml)

```
<FilterRequest>
  <filters>
    <Criteria field="operatingSystem.category1"
operator="EQUALS"><value>Mac</value></Criteria>
  </filters>
</FilterRequest>
```

### Sample Request body in json format (filter.json)

```
{
  "filters": [
    {
      "field": "operatingSystem.category1",
      "operator": "EQUALS",
      "value": "Mac"
    }
  ]
}
```

### Response:

```
{
  "responseMessage": "Valid API Access",
```

```
"count": 1,
"responseCode": "SUCCESS",
"lastSeenAssetId": 6920718,
"hasMore": 1,
"assetListData": {
  "asset": [
    {
      "assetId": 6920718,
      "assetUUID": "50d20290-c66a-42e7-8c0a-
ba6e92b6324c",
      "hostId": 1437386,
      "lastModifiedDate": "2021-04-06T10:02:33.000Z",
      "agentId": null,
      "createdDate": "2020-11-25T12:49:25.000Z",
      "sensorLastUpdatedDate": "2021-04-
06T10:02:33.000Z",
      "assetType": "HOST",
      "address": "10.115.110.95",
      "dnsName": "localhost.localdomain",
      "assetName": "localhost.localdomain",
      "netbiosName": null,
      "timeZone": "IST",
      "biosDescription": null,
      "lastBoot": null,
      "totalMemory": 5806,
      "cpuCount": null,
      "lastLoggedOnUser": "root",
      "hwUUID": "422a2b16-4c8b-588a-a20c-c1851ad7e376",
      "biosSerialNumber": "VMware-42 2a 2b 16 4c 8b 58 8a-
a2 0c c1 85 1a d7 e3 76",
      "biosAssetTag": "No Asset Tag",
      "isContainerHost": false,
      "operatingSystem": {
        "osName": "The CentOS Project CentOS 7 (1810)",
        "fullName": "The CentOS Project CentOS 7
(1810)",
        "category": "Linux / Server",
        "category1": "Linux",
        "category2": "Server",
        "productName": "CentOS",
        "publisher": "The CentOS Project",
        "edition": null,
        "marketVersion": "7",
        "version": "1810",
        "update": null,
        "architecture": null,
```

```
"lifecycle": {
  "gaDate": "2018-12-03T00:00:00.000Z",
  "eolDate": "2020-12-31T00:00:00.000Z",
  "eosDate": "2024-06-30T00:00:00.000Z",
  "stage": "EOL",
  "lifeCycleConfidence": "Exact",
  "eolSupportStage": "Full updates",
  "eosSupportStage": "Maintenance Updates"
},
"taxonomy": {
  "id": null,
  "name": "Linux / Server",
  "category1": "Linux",
  "category2": "Server"
},
"productUrl":
"https://www.centos.org/,https://en.wikipedia.org/wiki/CentOS,",
"productFamily": null,
"installDate": null,
"release": "7.4.1708"
},
"hardware": {
  "fullName": "VMware VMware Virtual Platform
VMware Virtual Platform",
  "category": "Virtualized / Virtual Machine",
  "category1": "Virtualized",
  "category2": "Virtual Machine",
  "manufacturer": "VMware",
  "productName": "VMware Virtual Platform",
  "model": "VMware Virtual Platform",
  "lifecycle": {
    "introDate": null,
    "gaDate": null,
    "eosDate": null,
    "obsoleteDate": null,
    "stage": "Unknown",
    "lifeCycleConfidence": " "
  },
  "taxonomy": {
    "id": null,
    "name": "Virtualized / Virtual Machine",
    "category1": "Virtualized",
    "category2": "Virtual Machine"
  },
  "productUrl":
"https://www.linuxjournal.com/article/3458,,",
```

```
        "productFamily": null
    },
    "userAccountListData": null,
    "openPortListData": {
        "openPort": [
            {
                "port": 709,
                "description": "",
                "protocol": "UDP",
                "detectedService": "portmap/rpcbind",
                "firstFound": "2020-11-
25T12:46:42.000Z",
                "lastUpdated": "2020-11-
25T12:46:42.000Z"
            },
            {
                "port": 50000,
                "description": "",
                "protocol": "TCP",
                "detectedService":
"IBM_DB2_Universal_Database",
                "firstFound": "2020-11-
25T12:46:42.000Z",
                "lastUpdated": "2020-11-
25T12:46:42.000Z"
            },
            {
                "port": 6000,
                "description": "",
                "protocol": "TCP",
                "detectedService": "x11",
                "firstFound": "2020-11-
25T12:46:42.000Z",
                "lastUpdated": "2020-11-
25T12:46:42.000Z"
            },
            {
                "port": 22,
                "description": "",
                "protocol": "TCP",
                "detectedService": "ssh",
                "firstFound": "2020-11-
25T12:46:41.000Z",
                "lastUpdated": "2020-11-
25T12:46:41.000Z"
            }
        ]
    },
```

```
{
  "port": 3389,
  "description": "",
  "protocol": "TCP",
  "detectedService": null,
  "firstFound": "2020-11-
25T12:46:42.000Z",
  "lastUpdated": "2020-11-
25T12:46:42.000Z"
},
{
  "port": 111,
  "description": "",
  "protocol": "UDP",
  "detectedService": "rpc_udp",
  "firstFound": "2020-11-
25T12:46:42.000Z",
  "lastUpdated": "2020-11-
25T12:46:42.000Z"
},
{
  "port": 111,
  "description": "",
  "protocol": "TCP",
  "detectedService": "rpc",
  "firstFound": "2020-11-
25T12:46:41.000Z",
  "lastUpdated": "2020-11-
25T12:46:41.000Z"
}
],
"volumeListData": {
  "volume": [
    {
      "name": "tmpfs",
      "free": 2737078272,
      "size": 3043934208
    },
    {
      "name": "/dev/mapper/centos-home",
      "free": 18629619712,
      "size": 18700304384
    },
    {
      "name": "devtmpfs",
```



```
        "free": 3026444288,
        "size": 3026444288
    },
    {
        "name": "/dev/mapper/centos-root",
        "free": 19672580096,
        "size": 38304645120
    },
    {
        "name": "/dev/sda1",
        "free": 876040192,
        "size": 1063256064
    }
]
},
"networkInterfaceListData": {
    "networkInterface": [
        {
            "hostname": "localhost.localdomain",
            "addressIPv4": "192.168.122.1",
            "addressIPv6": null,
            "macAddress": "52:54:00:77:e1:71",
            "interfaceName": "virbr0",
            "dnsAddress": null,
            "gatewayAddress": "",
            "manufacturer": null,
            "macVendorIntroDate": null,
            "addresses": null
        },
        {
            "hostname": "localhost.localdomain",
            "addressIPv4": "10.115.110.95",
            "addressIPv6":
"fe80:0:0:0:250:56ff:feaa:e2da",
            "macAddress": "00:50:56:aa:e2:da",
            "interfaceName": "ens192",
            "dnsAddress": null,
            "gatewayAddress": "",
            "manufacturer": "VMware",
            "macVendorIntroDate": 946944000000,
            "addresses": null
        }
    ]
},
"softwareListData": {
    "software": [
```

```
{
  "id": -5698725809391962787,
  "fullName": "Python 2.7.5 64-Bit",
  "softwareType": "Application",
  "isIgnored": false,
  "ignoredReason": null,
  "category": "Application Development /
Programming Languages",
  "category1": "Application Development",
  "category2": "Programming Languages",
  "productName": "Python",
  "component": null,
  "publisher": "Python",
  "edition": null,
  "marketVersion": "2",
  "version": "2.7",
  "update": "2.7.5",
  "architecture": "64-Bit",
  "installDate": "2020-03-
27T16:11:47.000Z",
  "installPath": null,
  "lastUpdated": "2020-11-
25T12:46:46.000Z",
  "lastUseDate": null,
  "language": null,
  "formerlyKnownAs": null,
  "isPackage": false,
  "isPackageComponent": false,
  "packageName": null,
  "productUrl":
"https://en.wikipedia.org/wiki/History_of_Python,,",
  "lifecycle": {
    "gaDate": "2010-07-03T00:00:00.000Z",
    "eolDate": "2020-01-
01T00:00:00.000Z",
    "eosDate": "2020-01-
01T00:00:00.000Z",
    "stage": "EOL/EOS",
    "lifeCycleConfidence": "Exact",
    "eolSupportStage": "End-of-life",
    "eosSupportStage": "End-of-life"
  },
  "supportStageDesc": "Python's policy is
to drop support major versions once they reach their end of life",
  "license": {
    "category": "Open Source",
```

```

        "subcategory": "Python License
(Python-2.0)"
    },
    "authorization": "Authorized"
},
{
    "id": 9136542396418607016,
    "fullName": "OpenBSD OpenSSH Server
7.4p1",
    "softwareType": "Application",
    "isIgnored": false,
    "ignoredReason": null,
    "category": "Networking / Access
Software",
    "category1": "Networking",
    "category2": "Access Software",
    "productName": "OpenSSH",
    "component": "Server",
    "publisher": "OpenBSD",
    "edition": null,
    "marketVersion": "7",
    "version": "7.4",
    "update": "7.4p1",
    "architecture": null,
    "installDate": "2020-03-
05T14:23:53.000Z",
    "installPath": null,
    "lastUpdated": "2020-11-
25T12:46:53.000Z",
    "lastUseDate": null,
    "language": null,
    "formerlyKnownAs": "OpenBSD Secure
Shell",
    "isPackage": true,
    "isPackageComponent": false,
    "packageName": null,
    "productUrl":
"https://en.wikipedia.org/wiki/OpenSSH,,",
    "lifecycle": {
        "gaDate": "2016-12-19T00:00:00.000Z",
        "eolDate": null,
        "eosDate": null,
        "stage": "EOL",
        "lifeCycleConfidence": "Calculated",
        "eolSupportStage": " ",
        "eosSupportStage": " "
    }
}

```

```
    },
    "supportStageDesc": null,
    "license": {
      "category": "Open Source",
      "subcategory": "BSD 2-Clause License
(FreeBSD/Simplified)"
    },
    "authorization": "Authorized"
  }
]
},
"provider": null,
"cloudProvider": null,
"agent": null,
"sensor": {
  "activatedForModules": [
    "VM"
  ],
  "pendingActivationForModules": [],
  "lastVMScan": 1606306572000,
  "lastComplianceScan": 0,
  "lastFullScan": 1606306572000
},
"container": null,
"inventory": {
  "source": "IP",
  "created": 1606308565000,
  "lastUpdated": 1617703353000
},
"activity": null,
"tagList": {
  "tag": [
    {
      "tagId": 14151022,
      "tagName": "static split",
      "foregroundColor": 0,
      "backgroundColor": -65536,
      "businessImpact": null,
      "criticalityScore": 3
    }
  ]
},
"serviceList": null,
"lastLocation": null,
"criticality": {
  "score": 2,
```

```
        "isDefault": true,
        "lastUpdated": "2021-06-30T09:43:27.000Z"
    },
    "businessInformation": {
        "company": "Qualys",
        "department": "Engineering",
        "ownedBy": "Paul",
        "environment": "QA",
        "managedBy": "Amit",
        "supportedBy": "Nick",
        "supportGroup": "ABC_01",
        "operationalStatus": "Blocked"
    },
    "assignedLocation": {
        "name": "4492 Camino De La Plaza, Pune,IN",
        "city": "Pune",
        "state": "MH",
        "country": "IN"
    },
    "businessAppListData": {
        "businessApp": [
            {
                "id": "BARCODE283904",
                "name": "Quoting App",
                "environment": "Production",
                "businessCriticality": "2 - Less
Critical",
                "managedBy": "Amit",
                "ownedBy": "Narendra",
                "supportedBy": "Rishabh",
                "supportGroup": "SME Operations",
                "operationalStatus": "Mended",
                "status": "Installed",
                "usedFor": "Production"
            },
            {
                "id": "BARCODE2839067gfh",
                "name": "HRA",
                "environment": "Production",
                "businessCriticality": "1 - Most
Critical",
                "managedBy": "Amit",
                "ownedBy": "Narendra",
                "supportedBy": "Rishabh",
                "supportGroup": "SME Operations",
                "operationalStatus": "broken",
```

```
        "status": "Installed",
        "usedFor": "Production"
    }
]
},
"riskScore": 690,
"passiveSensor": null,
"asn": "AS27385",
"isp": "Qualys, Inc.",
"domain": [
    "qualys.com",
    "qualys.in",
],
"subdomain": [
    "docs.qualys.com",
    "www.qualys.com"
],
"whois": [
{
    "domain": "vulnerability-management.com",
    "createdDate": null,
    "dnssec": null,
    "domainStatus": "clientTransferProhibited",
    "registrantOrganization": "Qualys, Inc.",
    "registrantName": null,
    "registrantEmail":
49101@contact.gandi.net",
    "registrantContact": null,
    "registrar": "Gandi SAS",
    "organizationName": "Qualys, Inc.",
    "updatedAt": null
}
]
"missingSoftware": null,
"customAttributes": [
{
    "key": "Media State4",
    "value": "Media disconnected",
    "connectorName": "Qualys"
},
{
    "key": "Default Gateway11",
    "value": "192.168.1.1",
    "connectorName": "Qualys"
},
...
]
```

```
{
  {
    {
      "key": "Subnet Mask",
      "value": "255.255.255.0",
      "connectorName": "Qualys"
    },
    ...
  ],
  "processor": null
}
}
```

## Import Business Information Metadata

API affected	rest/2.0/update/am/asset/business/metadata rest/2.0/upsert/am/businessapp/metadata
New or Updated APIs	New

With this release, we've added support to import asset business metadata and business app metadata using v2 APIs. This support is available for CSAM Paid and Trial subscriptions only. You'll be able to import maximum 250 records in the single request.

### Sample - Import Business App Metadata

These parameters are mandatory in the request body to import business app metadata: businessAppId, name, created, and lastUpdated

#### Request:

```
curl -X POST -H "Accept: */*" -H "Authorization: Bearer
<JWTToken>" -H "Content-Type: application/json" -i
"https://gateway.qgl.apps.qualys.com/rest/2.0/update/am/businessapp/metadata" --data-binary @asset-business-metadata.json
```

#### Request body:

```
{
  "data": [
    {
      "businessAppId": "2fc86c650a0a0bb4003698b5331640df",
      "name": "Banking Service",
      "businessCriticality": "1 - Most Critical",
      "status": "Installed",
      "environment": "Production",
      "usedFor": "Production",
      "created": 1620643264000,
      "lastUpdated": 1620653309000,
      "operationalStatus": "Installed",
      "ownedBy": "Joey Bolick",
      "managedBy": "Byron Fortuna",
      "supportedBy": "John Doe",
      "supportGroup": "IT Operations"
    },
    {
      "businessAppId": "5678f28f933a31003b4bb095e57ffb88",
      "name": "Customer Support Portal",
      "businessCriticality": "3 - Low",
      "status": "Installed",
      "environment": "Development",
      "usedFor": "Development",

```



```
    "created": 1620643264000,  
    "lastUpdated": 1620653309000,  
    "operationalStatus": "Installed",  
    "ownedBy": "Joey Bolick",  
    "managedBy": "Byron Fortuna",  
    "supportedBy": "John Doe",  
    "supportGroup": "Application Security"  
  }  
]  
}
```

Response:

```
{  
  "requestId": "8e9b3fd5-bb89-4666-a472-4bc5758335a2",  
  "responseMessage": "Business app metadata imported successfully",  
  "responseCode": "SUCCESS",  
  "failedIds": null  
}
```

**Note:** If the business app data for the associated business app id of the asset is not present then the association of that business app with the asset will not happen but the rest of all the data will get updated.

**Sample - Import Asset Business Metadata**

API request:

```
curl -X POST -H "Accept: */*" -H "Authorization: Bearer  
<JWTToken>" -H "Content-Type: application/json" -i  
"https://gateway.qgl.apps.qualys.com/rest/2.0/update/am/asset/busi  
ness/metadata" < asset-business-metadata.json
```

Request Body

```
{  
  "data": [  
    {  
      "qualysAssetId": "6420613",  
      "metadata": {  
        "operationalStatus": "Operational",  
        "environment": "Production",  
        "company": "ACME US",  
        "department": "IT Operations",  
        "ownedBy": "Joey Bolick",  
        "managedBy": "Byron Fortuna",  
        "supportedBy": "John Doe",  
        "supportGroup": "IT Operations",  
        "businessAppIds": ["2fc86c650a0a0bb4003698b5331640df"],  
        "assignedLocation": {  
          "name": "401 Biscayne St, Miami FL",  
          "street": "401 Biscayne St, Miami FL",  
          "city": "Miami",  
        }  
      }  
    }  
  ]  
}
```

```
        "state": "FL",
        "country": "USA"
    }
}
},
{
    "qualysAssetId": "6286688",
    "metadata": {
        "operationalStatus": "Repair",
        "environment": "Development",
        "company": "ACME Italy",
        "department": "Customer Support",
        "ownedBy": "Joey Bolick",
        "managedBy": "Byron Fortuna",
        "supportedBy": "John Doe",
        "supportGroup": "Customer Support",
        "businessAppIds":
["27d415a8c0a8000b00ffe2ab0f82e8d2","5678f28f933a31003b4bb095e57ffb88"],
        "assignedLocation": {
            "name": "123 Plazuela Roma Italy",
            "street": "123 Plazuela Roma Italy",
            "city": "Roma",
            "state": "Roma",
            "country": "Italy"
        }
    }
}
]
}
```

Response:

```
{
    "requestId": "9017b662-01c9-4e74-97c5-eae6d29f08ed",
    "responseMessage": "Asset metadata imported successfully",
    "responseCode": "SUCCESS",
    "failedIds": null
}
```

# Import Business Information Metadata

Use these API functions to import asset business metadata and business app metadata using v2 APIs. This support is available for CSAM Paid and Trial subscriptions only. You'll be able to import maximum 250 records in the single request.

## Permissions

- User must have the GAV/CSAM module and the "App API Enabled" option enabled for that role.

### Note:

- 1) For updating business information metadata, you need to send new request with desired attributes to be changed along with all the attributes. If you don't include an attribute in the request, the value of the attribute will be override with NULL value.
- 2) If you have changed business app metadata then you need to explicitly send a request to change the asset business metadata for those assets.

## Import Business App Metadata

Import business app metadata as per input criteria in the request body.

**rest/2.0/upsert/am/businessapp/metadata**

[POST]

## Input Parameters for Business Information Metadata

Attribute	Description	Character Limit
name	(Required to import business app metadata) Name of the business application	255
businessAppid	(Required to import business app metadata) Unique ID of the business application	32
operationalStatus	Operational status of the application	255
businessCriticality	How critical the application is to the business.	255
environment	Designates how this business app is used, e.g. Production, Staging, QA, etc	255
ownedBy	Person who owns the application from the business side.	255
managedBy	Person who owns the application from the IT side	255

supportedBy	User supporting the business application	255
supportGroup	Group supporting the business application	255
created	(Required to import business app metadata) Business app created date	NA
lastUpdated	(Required to import business app metadata) Business app last updated date	NA

#### Request:

```
curl -X POST -H "Accept: */*" -H "Authorization: Bearer
<JWTToken>" -H "Content-Type: application/json" -i
"https://gateway.qgl.apps.qualys.com/rest/2.0/upsert/am/businessapp/metadata" --data-binary @business-metadata.json
```

**Note:** If the json file mentioned in the request is available in a different directory, provide its path accordingly.

#### Request body:

```
{
  "data": [
    {
      "businessAppId": "2fc86c650a0a0bb4003698b5331640df",
      "name": "Banking Service",
      "businessCriticality": "1 - Most Critical",
      "status": "Installed",
      "environment": "Production",
      "usedFor": "Production",
      "created": 1620643264000,
      "lastUpdated": 1620653309000,
      "operationalStatus": "Installed",
      "ownedBy": "Joey Bolick",
      "managedBy": "Byron Fortuna",
      "supportedBy": "John Doe",
      "supportGroup": "IT Operations"
    },
    {
      "businessAppId": "5678f28f933a31003b4bb095e57ffb88",
      "name": "Customer Support Portal",
      "businessCriticality": "3 - Low",
      "status": "Installed",
      "environment": "Development",
```

```

        "usedFor": "Development",
        "created": 1620643264000,
        "lastUpdated": 1620653309000,
        "operationalStatus": "Installed",
        "ownedBy": "Joey Bolick",
        "managedBy": "Byron Fortuna",
        "supportedBy": "John Doe",
        "supportGroup": "Application Security"
    }
}
]
}

```

#### Response:

```

{
  "requestId": "8e9b3fd5-bb89-4666-a472-4bc5758335a2",
  "responseMessage": "Business app metadata imported successfully",
  "responseCode": "SUCCESS",
  "failedIds": null
}

```

**Note:** If the business app data for the associated business app id of the asset is not present then the association of that business app with the asset will not happen but the rest of all the data will get updated.

## Import Asset Business Metadata

Import asset business metadata as per input criteria in the request body.

**rest/2.0/update/am/asset/business/metadata**

[POST]

### Input Parameters

Attribute	Description	Character Limit
qualysAssetId	(Required to import asset business metadata) Unique ID of the asset	NA
businessAppIds	Unique IDs of the business application	NA
operationalStatus	Operational status of the asset	128
environment	The environment this asset is connected to / runs on	128
ownedBy	Person who owns the asset from the business side.	255
managedBy	Person who owns the asset from the IT side	255
supportedBy	User supporting the asset	255

supportGroup	Group supporting the asset	255
company	The Company or Subsidiary	128
department	The departmental organizational structure	128
assignedLocation.name	The assigned location name, for example building name	255
assignedLocation.city	The assigned location's city	128
assignedLocation.state	The assigned location's state	128
assignedLocation.country	The assigned location's country	128

### API request:

```
curl -X POST -H "Accept: */*" -H "Authorization: Bearer
<JWTToken>" -H "Content-Type: application/json" -i
"https://gateway.qgl.apps.qualys.com/rest/2.0/update/am/asset/busi
ness/metadata" --data-binary @asset-business-metadata.json
```

**Note:** If the json file mentioned in the request is available in a different directory, provide its path accordingly.

### Request Body

```
{
  "data": [
    {
      "qualysAssetId": "6420613",
      "metadata": {
        "operationalStatus": "Operational",
        "environment": "Production",
        "company": "ACME US",
        "department": "IT Operations",
        "ownedBy": "Joey Bolick",
        "managedBy": "Byron Fortuna",
        "supportedBy": "John Doe",
        "supportGroup": "IT Operations",
        "businessAppIds": ["2fc86c650a0abb4003698b5331640df"],
        "assignedLocation": {
          "name": "401 Biscayne St, Miami FL",
          "street": "401 Biscayne St, Miami FL",
          "city": "Miami",
          "state": "FL",
          "country": "USA"
        }
      }
    },
    {
      "qualysAssetId": "6286688",
      "metadata": {
```

```
    "operationalStatus": "Repair",
    "environment": "Development",
    "company": "ACME Italy",
    "department": "Customer Support",
    "ownedBy": "Joey Bolick",
    "managedBy": "Byron Fortuna",
    "supportedBy": "John Doe",
    "supportGroup": "Customer Support",
    "businessAppIds":
["27d415a8c0a8000b00ffe2ab0f82e8d2","5678f28f933a31003b4bb095e57ffb88"],
    "assignedLocation": {
        "name": "123 Plazuela Roma Italy",
        "street": "123 Plazuela Roma Italy",
        "city": "Roma",
        "state": "Roma",
        "country": "Italy"
    }
}
}
]
```

Response:

```
{
    "requestId": "9017b662-01c9-4e74-97c5-eae6d29f08ed",
    "responseMessage": "Asset metadata imported successfully",
    "responseCode": "SUCCESS",
    "failedIds": null
}
```





# Check Sync Status of an Active EASM Profile

Using this API, you can check the sync status of the active EASM profile.

**easm/v1/profile/status**

[GET]

Request:

```
curl --location --request GET
'https://gateway.qg1.apps.qualys.com/easm/v1/profile/status' \ --
header 'Authorization: Bearer <JWT Token>'
```

Response:

Response if the Discovery sync is In-Progress:

```
[
  {
    "profileId": 5552,
    "profileSaveTimestamp": "2022-12-15T15:27:18.000+00:00",
    "status": "IN_PROGRESS"
  }
]
```

Response if the Discovery sync is completed:

```
[
  {
    "profileId": 3101,
    "profileSaveTimestamp": "2022-08-19T15:28:27.000+00:00",
    "status": "COMPLETED"
  }
]
```

# GET List of Vulnerabilities Discovered by EASM

Use these API functions to get host data from GAV/CSAM.

**rest/2.0/search/am/easm/vulns**

[POST]

## Input Parameters

asset.assetId (Integer)	Provide the asset Id for which you want to get the list of vulnerabilities.
asset.ipaddress (String)	Provide the IP address of the asset for which you want to get the list of vulnerabilities.
vulnerability.cveId (Integer)	Provide the cveId of the vulnerability.
vulnerability.type (String)	Provide the vulnerability type, for example - Potential.
vulnerability.cvss (Integer)	Provide the cvss score of the vulnerability.
vulnerability.qvs (Integer)	Provide the qvs score of the vulnerability.

## Sample - Get a list of assets with vulnerabilities with specific CVEID, CVSS, and QVS

API Request without filter:

```
curl --location --request POST
'https://gateway.qgl.apps.qualys.com/rest/2.0/search/am/easm/vulns
' \ --header 'Authorization: Bearer <JWT Token>' \--data-raw ''
```

## Response

```
{
  "responseMessage": "Valid API Access",
  "count": 2,
  "responseCode": "SUCCESS",
  "lastSeenVulnId": 16972,
  "hasMore": 0,
  "externalVulnerabilityListData": {
    "vulnerability": [
```

```

{
  "ipaddress": "10.100.152.200",
  "assetId": 19047900,
  "vulnId": 16971,
  "cveId": "CVE-2016-20012",
  "type": "Potential",
  "summary": "*** DISPUTED ** OpenSSH through 8.7
allows remote attackers, who have a suspicion that a certain
combination of username and public key is known to an SSH server,
to test whether this suspicion is correct. This occurs because a
challenge is sent only when that combination could be valid for a
login session. NOTE: the vendor does not recognize user
enumeration as a vulnerability for this product.",
  "lastUpdated": "2022-12-14",
  "qvs": 37,
  "cvss": 5.3
},
{
  "ipaddress": "10.100.152.200",
  "assetId": 19047900,
  "vulnId": 16972,
  "cveId": "CVE-2017-15906",
  "type": "Potential",
  "summary": "The process_open function in sftp-
server.c in OpenSSH before 7.6 does not properly prevent write
operations in readonly mode, which allows attackers to create
zero-length files.",
  "lastUpdated": "2022-12-14",
  "qvs": 30,
  "cvss": 5.3
},
}
}

```

#### API Request with filter in XML format:

Refer to the following example, wherein you can see a sample request to get all assets with vulnerabilities with CVSS greater than 9.

```
curl --location --request POST
'https://gateway.qgl.apps.qualys.com/rest/2.0/search/am/easm/vulns
' \
--header 'Authorization: Bearer <JWT Token> ' \
--header 'Content-Type: application/xml' \
--data-raw '<FilterRequest>
  <filters>
    <Criteria field="vulnerability.cvss" operator="GREATER">
      <value>9</value>
    </Criteria>
  </filters>
</FilterRequest>'
```

### Response

```
{
  "responseMessage": "Valid API Access",
  "count": 2,
  "responseCode": "SUCCESS",
  "lastSeenVulnId": 17060,
  "hasMore": 0,
  "externalVulnerabilityListData": {
    "vulnerability": [
      {
        "ipaddress": "20.100.300.600",
        "assetId": 19046733,
        "vulnId": 17046,
        "cveId": "CVE-2017-9120",
        "type": "Potential",
        "summary": "PHP 7.x through 7.1.5 allows remote
attackers to cause a denial of service (buffer overflow and
application crash) or possibly have unspecified other impact via a
long string because of an Integer overflow in
mysqli_real_escape_string.",
        "lastUpdated": "2022-12-14",
        "qvs": 72,
        "cvss": 9.8
      },
      {
        "ipaddress": "20.100.300.600",
        "assetId": 19046733,
        "vulnId": 17060,
        "cveId": "CVE-2021-21708",
        "type": "Potential",
        "summary": "In PHP versions 7.4.x below 7.4.28,
8.0.x below 8.0.16, and 8.1.x below 8.1.3, when using filter
```

functions with FILTER\_VALIDATE\_FLOAT filter and min/max limits, if the filter fails, there is a possibility to trigger use of allocated memory after free, which can result it crashes, and potentially in overwrite of other memory chunks and RCE. This issue affects: code that uses FILTER\_VALIDATE\_FLOAT with min/max limits.",

```

        "lastUpdated": "2022-12-14",
        "qvs": 72,
        "cvss": 9.8
    },
]
}
}

```

### API Request with filter in JSON format:

Refer to the following example, wherein you can see the sample request to get all assets with vulnerabilities with CVE-ID : CVE-2016-20012.

```

curl --location --request POST
'https://gateway.qg1.apps.qualys.com/rest/2.0/search/am/easm/vulns' \
--header 'Authorization: Bearer <JWT Token>

```

```

curl --location --request POST
'https://gateway.qg1.apps.qualys.com/rest/2.0/search/am/easm/vulns' \
--header 'Authorization: Bearer <JWT Token>' \
--header 'Content-Type: application/json' \
--data-raw '{
  "filters": [
    {
      "field": "vulnerability.cveId",
      "operator": "EQUALS",
      "value": "CVE-2016-20012"
    }
  ]
}'

```

### Response

```

{
  "responseMessage": "Valid API Access",
  "count": 2,
  "responseCode": "SUCCESS",
  "lastSeenVulnId": 17043,
  "hasMore": 0,
  "externalVulnerabilityListData": {
    "vulnerability": [
      {
        "ipaddress": "10.100.152.200",
        "assetId": 19047900,

```

```

    "vulnId": 16971,
    "cveId": "CVE-2016-20012",
    "type": "Potential",
    "summary": "*** DISPUTED ** OpenSSH through 8.7 allows remote
attackers, who have a suspicion that a certain combination of username and
public key is known to an SSH server, to test whether this suspicion is
correct. This occurs because a challenge is sent only when that
combination could be valid for a login session. NOTE: the vendor does not
recognize user enumeration as a vulnerability for this product.",
    "lastUpdated": "2022-12-14",
    "qvs": 37,
    "cvss": 5.3
  },
  {
    "ipaddress": "20.100.300.600",
    "assetId": 19046733,
    "vulnId": 17043,
    "cveId": "CVE-2016-20012",
    "type": "Potential",
    "summary": "*** DISPUTED ** OpenSSH through 8.7 allows remote
attackers, who have a suspicion that a certain combination of username and
public key is known to an SSH server, to test whether this suspicion is
correct. This occurs because a challenge is sent only when that
combination could be valid for a login session. NOTE: the vendor does not
recognize user enumeration as a vulnerability for this product.",
    "lastUpdated": "2022-12-14",
    "qvs": 37,
    "cvss": 5.3
  }
]
}
}

```

### Request with multiple filters

Refer to the following example, wherein you can see the sample request to get all assets with vulnerabilities type as 'Potential' and cvss greater than 8.

```

curl --location --request POST
'https://gateway.qgl.apps.qualys.com/rest/2.0/search/am/easm/vulns' \
--header 'Authorization: Bearer <JWT Token>' \
--header 'Content-Type: application/json' \
--data-raw '{
  "filters": [
    {
      "field": "vulnerability.type",
      "operator": "EQUALS",
      "value": "Potential"
    },
    {
      "field": "vulnerability.cvss",
      "operator": "GREATER",
      "value": "8"
    }
  ]
}'

```

```

    }
  ],
  "operation": "AND"
},

```

## Response

```

{
  "responseMessage": "Valid API Access",
  "count": 2,
  "responseCode": "SUCCESS",
  "lastSeenVulnId": 17068,
  "hasMore": 0,
  "externalVulnerabilityListData": {
    "vulnerability": [
      {
        "ipaddress": "20.100.300.600",
        "assetId": 19046733,
        "vulnId": 17046,
        "cveId": "CVE-2017-9120",
        "type": "Potential",
        "summary": "PHP 7.x through 7.1.5 allows remote attackers
to cause a denial of service (buffer overflow and application
crash) or possibly have unspecified other impact via a long string
because of an Integer overflow in mysqli_real_escape_string.",
        "lastUpdated": "2022-12-14",
        "qvs": 72,
        "cvss": 9.8
      },
      {
        "ipaddress": "20.100.300.600",
        "assetId": 19046733,
        "vulnId": 17068,
        "cveId": "CVE-2022-37454",
        "type": "Potential",
        "summary": "The Keccak XKCP SHA-3 reference implementation
before fdc6fef has an integer overflow and resultant buffer
overflow that allows attackers to execute arbitrary code or
eliminate expected cryptographic properties. This occurs in the
sponge function interface.",
        "lastUpdated": "2022-12-14",
        "qvs": 72,
        "cvss": 9.8
      }
    ]
  }
}

```

**Note:**

- The following operators are supported for 'vulnerability.cvss' and 'vulnerability.qvs':

EQUALS, IN, NOT\_EQUALS, GREATER, LESSER, GREATER\_THAN\_EQUAL,  
LESS\_THAN\_EQUAL

- Page Size for Response will be 1000. The lastSeenVulnId can be used for pagination.

Example:

```
https://gateway.qg1.apps.qualys.com/rest/2.0/search/am/easm/vulns?lastSeenVulnId=17068
```

Here, lastSeenVulnID is the VulnID of the last CVE in response where VulnID is a unique identifier created for each CVE. It does not have any other significance.

- Provide multiple values as a comma separated list and also use the IN Operator.

Example:

```
{
  "filters": [
    {
      "field": "vulnerability.cveId",
      "operator": "IN",
      "value": "CVE-2021-21707,CVE-2021-21708"
    }
  ]
}
```





# EASM Profile APIs

Use these APIs to get your existing EASM profile, delete your existing EASM profile, create a new EASM profile, and overwrite the EASM profile.

## Important Considerations for EASM Profile APIs

Before working with the EASM Profile APIs, refer to the following:

- Only JSON format is supported for payload (POST, PUT, PATCH); XML is not supported.
- If multiple values are provided for any SEED/Filters, those should be separated by a semi-colon.
- For SEED type DOMAIN, only Top Level Domain should be provided.
- For SEED type NETBLOCK and CERTSUBJECT, enumerateSubsidiary and horizontalEnumeration should always be set to False.
- SEED type CERTSUBJECT is not supported in ExcludeSeeds.
- Country code should be provided for the COUNTRY attribute.

## Get an Existing EASM Profile

This API helps you to get your existing EASM profile.

**easm/v1/profile/**

[GET]

### Sample - Get an Existing EASM Profile

API Request:

```
curl --location --request GET
'https://gateway.qgl.apps.qualys.com/easm/v1/profile/' \
--header 'Authorization: Bearer <JWT Token>' \
--data-raw ''
```

Response:

```
{
  "includeSeeds": [
    {
      "seedType": "ORGANIZATION",
      "seedValue": "Qualys, Inc.",
      "seedHeading": null,
      "enumerateSubsidiary": false,
      "horizontalEnumeration": false,
      "seedFilters": [
        {
```

```
        "filterType": "IP",
        "filterValue": "2.2.2.2"
    },
    {
        "filterType": "CITY",
        "filterValue": "Mumbai"
    },
    {
        "filterType": "COUNTRY",
        "filterValue": "GE"
    }
]
},
{
    "seedType": "DOMAIN",
    "seedValue": "qualys.com",
    "seedHeading": null,
    "enumerateSubsidiary": true,
    "horizontalEnumeration": true,
    "seedFilters": [
        {
            "filterType": "IP",
            "filterValue": "2.2.2.2"
        },
        {
            "filterType": "CITY",
            "filterValue": "Mumbai"
        },
        {
            "filterType": "COUNTRY",
            "filterValue": "AX"
        }
    ]
},
{
    "seedType": "CERTSUBJECT",
    "seedValue": "abc.ddd.com",
    "seedHeading": null,
    "enumerateSubsidiary": false,
    "horizontalEnumeration": false,
    "seedFilters": [
        {
            "filterType": "IP",
            "filterValue": "3.3.3.3"
        },
        {
            "filterType": "CITY",
            "filterValue": "Delhi"
        }
    ],
```

```
        {
            "filterType": "COUNTRY",
            "filterValue": "AL"
        }
    ],
},
{
    "seedType": "NETBLOCK",
    "seedValue": "77.194.235.225",
    "seedHeading": null,
    "enumerateSubsidiary": false,
    "horizontalEnumeration": false,
    "seedFilters": [
        {
            "filterType": "IP",
            "filterValue": "4.4.4.4"
        },
        {
            "filterType": "CITY",
            "filterValue": "Jaipur"
        },
        {
            "filterType": "COUNTRY",
            "filterValue": "AD"
        }
    ]
}
],
"excludeSeeds": [
    {
        "seedType": "ORGANIZATION",
        "seedValue": "XYZ"
    },
    {
        "seedType": "NETBLOCK",
        "seedValue": "2.2.1.1"
    },
    {
        "seedType": "CITY",
        "seedValue": "Nashik"
    },
    {
        "seedType": "COUNTRY",
        "seedValue": "IN"
    }
]
}
```

## Delete an Existing EASM Profile

This API helps you to delete your existing EASM profile.

**easm/v1/profile/**

[DELETE]

### Sample - Delete an Existing EASM Profile

API Request:

```
curl --location --request DELETE
'https://gateway.qgl.apps.qualys.com/easm/v1/profile/' \
--header 'Authorization: Bearer <JWT token>' \
--data-raw ''
```

Response:

```
200OK
{
  "code": "200",
  "status": "DELETED",
  "date": "2022-10-10T10:03:45.946+00:00",
  "message": "Deleted profile data"
}
```

## Create a New EASM Profile

Using this API, you can create a new EASM profile.

**easm/v1/profile/**

[POST]

### Sample - Create a New EASM Profile

API Request:

```
curl --location --request POST
'https://gateway.qgl.apps.qualys.com/easm/v1/profile/' \
--header 'Authorization: Bearer <JWT Token>' \
--header 'Content-Type: application/json' \
--data-raw '<JSON payload>'
```

Sample JSON Payload:

```
{
  "includeSeeds": [
    {
```

```
"seedType": "ORGANIZATION",
"seedValue": "ABC",
"seedHeading": null,
"enumerateSubsidiary": true,
"horizontalEnumeration": true,
"seedFilters": [
  {
    "filterType": "IP",
    "filterValue": "1.1.1.1"
  },
  {
    "filterType": "CITY",
    "filterValue": "Pune"
  },
  {
    "filterType": "COUNTRY",
    "filterValue": "US"
  }
]
},
{
  "seedType": "ORGANIZATION",
  "seedValue": "Qualys, Inc.",
  "seedHeading": null,
  "enumerateSubsidiary": false,
  "horizontalEnumeration": false,
  "seedFilters": [
    {
      "filterType": "IP",
      "filterValue": "2.2.2.2"
    },
    {
      "filterType": "CITY",
      "filterValue": "Mumbai"
    },
    {
      "filterType": "COUNTRY",
      "filterValue": "GE"
    }
  ]
}
},
{
  "seedType": "DOMAIN",
  "seedValue": "abc.com",
  "seedHeading": null,
  "enumerateSubsidiary": true,
  "horizontalEnumeration": true,
  "seedFilters": [
    {
```

```
        "filterType": "IP",
        "filterValue": "1.1.1.1"
    },
    {
        "filterType": "CITY",
        "filterValue": "Pune"
    },
    {
        "filterType": "COUNTRY",
        "filterValue": "AF"
    }
]
},
{
    "seedType": "DOMAIN",
    "seedValue": "qualys.com",
    "seedHeading": null,
    "enumerateSubsidiary": true,
    "horizontalEnumeration": true,
    "seedFilters": [
        {
            "filterType": "IP",
            "filterValue": "2.2.2.2"
        },
        {
            "filterType": "CITY",
            "filterValue": "Mumbai"
        },
        {
            "filterType": "COUNTRY",
            "filterValue": "AX"
        }
    ]
},
{
    "seedType": "CERTSUBJECT",
    "seedValue": "abc.yyz.com",
    "seedHeading": null,
    "enumerateSubsidiary": false,
    "horizontalEnumeration": false,
    "seedFilters": [
        {
            "filterType": "IP",
            "filterValue": "3.3.3.3"
        },
        {
            "filterType": "CITY",
            "filterValue": "Delhi"
        }
    ],
}
```

```
        {
            "filterType": "COUNTRY",
            "filterValue": "AL"
        }
    ]
},
{
    "seedType": "CERTSUBJECT",
    "seedValue": "xyz.com",
    "seedHeading": null,
    "enumerateSubsidiary": false,
    "horizontalEnumeration": false,
    "seedFilters": [
        {
            "filterType": "IP",
            "filterValue": "4.4.4.4"
        },
        {
            "filterType": "CITY",
            "filterValue": "Jaipur"
        },
        {
            "filterType": "COUNTRY",
            "filterValue": "DZ"
        }
    ]
},
{
    "seedType": "NETBLOCK",
    "seedValue": "66.194.235.225/24",
    "seedHeading": null,
    "enumerateSubsidiary": false,
    "horizontalEnumeration": false,
    "seedFilters": [
        {
            "filterType": "IP",
            "filterValue": "5.5.5.5"
        },
        {
            "filterType": "CITY",
            "filterValue": "Kolkata"
        },
        {
            "filterType": "COUNTRY",
            "filterValue": "AX"
        }
    ]
},
{
```



```
    "seedType": "NETBLOCK",
    "seedValue": "77.194.235.225",
    "seedHeading": null,
    "enumerateSubsidiary": false,
    "horizontalEnumeration": false,
    "seedFilters": [
      {
        "filterType": "IP",
        "filterValue": "4.4.4.4"
      },
      {
        "filterType": "CITY",
        "filterValue": "Jaipur"
      },
      {
        "filterType": "COUNTRY",
        "filterValue": "AD"
      }
    ]
  },
  "excludeSeeds": [
    {
      "seedType": "ORGANIZATION",
      "seedValue": "TSB"
    },
    {
      "seedType": "NETBLOCK",
      "seedValue": "2.2.1.1"
    },
    {
      "seedType": "CITY",
      "seedValue": "Nashik"
    },
    {
      "seedType": "COUNTRY",
      "seedValue": "IN"
    }
  ]
}
```

Response:

```
201Created
{
  "code": "201",
  "status": "SAVED",
  "date": "2022-10-10T10:03:48.929+00:00",
```

```
    "message": "Profile Created Successfully: "  
  }
```

## Overwrite the EASM Profile

Using this API, you can overwrite the EASM profile.

**easm/v1/profile/**

[PUT]

**Note:** It is advised to get the existing profile details using a GET call before updating the profile using PUT; using PUT, we can add SEED and/or filters to the existing profile or delete SEED and/or filters from the existing profile. Please note that the PUT request will overwrite the existing customer profile, so the entire profile configuration must be provided in JSON.

EASM Existing Profile:

```
{  
  "includeSeeds": [  
    {  
      "seedType": "ORGANIZATION",  
      "seedValue": "Qualys, Inc.",  
      "seedHeading": null,  
      "enumerateSubsidiary": true,  
      "horizontalEnumeration": true,  
      "seedFilters": [  
        {  
          "filterType": "IP",  
          "filterValue": "2.2.2.2"  
        }  
      ]  
    }  
  ],  
  "excludeSeeds": []  
}
```

**Sample PUT Call - Here Domain is Added, and IP is Removed from the Existing EASM Profile.**

API Request:

```
curl --location --request PUT  
'https://gateway.p01.eng.sjc01.qualys.com/easm/v1/profile/' \  
--header 'Authorization: Bearer <JWT Token>' \  
--header 'Content-Type: application/json' \  
--data-raw '<JSON payload>'
```

Sample JSON Payload:

```
{
  {
    "includeSeeds": [
      {
        "seedType": "ORGANIZATION",
        "seedValue": "Qualys, Inc.",
        "seedHeading": null,
        "enumerateSubsidiary": true,
        "horizontalEnumeration": true,
        "seedFilters": []
      },
      {
        "seedType": "DOMAIN",
        "seedValue": "qualys.com",
        "seedHeading": null,
        "enumerateSubsidiary": false,
        "horizontalEnumeration": false,
        "seedFilters": []
      }
    ],
    "excludeSeeds": []
  }
}
```

Response:

```
200OK
{
  "code": "200",
  "status": "UPDATED",
  "date": "2022-10-10 10:23:45",
  "message": "Profile Updated Successfully"
}
```

EASM Profile Details After the PUT Request:

```
{
  "includeSeeds": [
    {
      "seedType": "ORGANIZATION",
      "seedValue": "Qualys, Inc.",
      "seedHeading": null,
      "enumerateSubsidiary": true,
      "horizontalEnumeration": true,
      "seedFilters": []
    },
    {
      "seedType": "DOMAIN",
      "seedValue": "qualys.com",

```

```
        "seedHeading": null,  
        "enumerateSubsidiary": false,  
        "horizontalEnumeration": false,  
        "seedFilters": []  
    }  
],  
    "excludeSeeds": []  
}
```

## Add Seeds/Filters to the Existing EASM Profile

Using this API, you can add Seeds/Filters to the existing EASM profile.

**easm/v1/profile/**

[PATCH]

**Note:** It is advised to get the existing profile details using a GET call before updating the profile using PATCH; using PATCH, we can add SEED and/or filters to the existing profile but can not delete SEED and/or filters from the existing profile. Using PATCH, we can only provide the SEED/Filters which we want to add to the existing profile; there is no need to provide the entire profile configuration again in JSON.

Existing Profile:

```
{  
    "includeSeeds": [  
        {  
            "seedType": "ORGANIZATION",  
            "seedValue": "Qualys, Inc.",  
            "seedHeading": null,  
            "enumerateSubsidiary": true,  
            "horizontalEnumeration": true,  
            "seedFilters": [  
                {  
                    "filterType": "CITY",  
                    "filterValue": "Pune"  
                },  
                {  
                    "filterType": "COUNTRY",  
                    "filterValue": "US"  
                },  
                {  
                    "filterType": "IP",  
                    "filterValue": "2.2.2.2"  
                }  
            ]  
        }  
    ],  
    "excludeSeeds": []  
}
```

## Sample PATCH Call - Where CITY: Mumbai is Added to IncludeSeeds and IP:1.1.1.1 is Added to ExcludeSeeds for the Existing EASM Profile.

### API Request:

```
curl --location --request PATCH '<qualys_base_url>/easm/v1/profile/' \
--header 'Authorization: Bearer <JWT Token>' \
--header 'Content-Type: application/json' \
--data-raw '<JSON payload>'
```

### Sample JSON Payload:

```
{
  "includeSeeds": [
    {
      "seedType": "ORGANIZATION",
      "seedValue": "Qualys, Inc.",
      "seedHeading": null,
      "enumerateSubsidiary": true,
      "horizontalEnumeration": true,
      "seedFilters": [
        {
          "filterType": "CITY",
          "filterValue": "Mumbai"
        }
      ]
    }
  ],
  "excludeSeeds": [
    {
      "seedType": "NETBLOCK",
      "seedValue": "1.1.1.1"
    }
  ]
}
```

### Response:

```
200OK
{
  "code": "200",
  "status": "UPDATED",
  "date": "2022-10-10 10:33:42",
  "message": "Profile Updated Successfully"
}
```

### EASM Profile Details After Patching:

```
{
  "includeSeeds": [
    {
      "seedType": "ORGANIZATION",
      "seedValue": "Qualys, Inc.",
      "seedHeading": null,
      "enumerateSubsidiary": true,
      "horizontalEnumeration": true,
      "seedFilters": [
        {
          "filterType": "CITY",
          "filterValue": "Pune"
        },
        {
          "filterType": "COUNTRY",
          "filterValue": "US"
        },
        {
          "filterType": "IP",
          "filterValue": "2.2.2.2"
        },
        {
          "filterType": "CITY",
          "filterValue": "Mumbai"
        }
      ]
    }
  ],
  "excludeSeeds": [
    {
      "seedType": "NETBLOCK",
      "seedValue": "1.1.1.1"
    }
  ]
}
```

## View "easmTags" Information

A new field "easmTags" is added to the response of the following APIs. In this field, you can see the EASM tags for an asset discovered through External Attack Surface.

- [Asset List V2 API](#)
- [Asset by AssetID V2 API](#)
- [Asset Count V2 API](#)

## Asset List V2 API

rest/2.0/search/am/asset

[POST]

### Asset List V2 API (with filter)

Using this API, you can filter the EASM tags for an asset discovered through External Attack Surface.

### Request

```
curl --location --request POST
'<qualys_base_url>/rest/2.0/search/am/asset'
--header 'Authorization:
Bearer <JWT Token>' --header 'Content-Type: application/xml'
--data
'<FilterRequest>'
```

### Request Body

```
<filters>
<Criteria field="easm.tags.name"
operator="EQUALS"><value>cloud</value></Criteria>
</filters>
</FilterRequest>'
```

### Response

```
{
  "responseMessage": "Valid API Access",
  "count": 1,
  "responseCode": "SUCCESS",
  "lastSeenAssetId": 22303132,
  "hasMore": 1,
  "assetListData": {
    "asset": [
      {
        "assetId": 22303132,
        "assetUUID": "c966xxxx-dcb4-xx65-94ce-7xxxe60ca697",
        "hostId": null,
        ...
        "missingSoftware": null,
        "whois": [
          {
            "domain": "totalcloud.io",
            ...
          }
        ]
      }
    ]
  }
}
```

```
],  
"isp": "Amazon.com, Inc.",  
"asn": "AS16509",  
"easmTags": [  
  "cloud",  
  "cdn"  
],  
"hostingCategory1": "Unknown",  
"customAttributes": null,  
"processor": null  
}  
]  
}  
}
```

### Asset List API (without filter)

#### Request

```
curl --location --request POST  
'<qualys_base_url>/rest/2.0/search/am/asset?=null' --header  
'Authorization: Bearer <JWT Token>' --header 'Content-Type:  
application/xml' --data ''
```

#### Response

```
{  
  "responseMessage": "Valid API Access",  
  "count": 1,  
  "responseCode": "SUCCESS",  
  "lastSeenAssetId": 22303132,  
  "hasMore": 1,  
  "assetListData": {  
    "asset": [  
      {  
        "assetId": 22303132,  
        "assetUUID": "c9xx9134-dcxx-4e65-9xxe-xxx3e60ca697",  
        "hostId": null,  
        "lastModifiedDate": "2023-03-13T11:11:49.000Z",  
        "agentId": null,  
        ...  
        "missingSoftware": null,  
        "whois": [  
          {  
            "domain": "totalcloud.io",  
            "createdDate": "2016-02-01T00:00:00.000Z",  
            "dnssec": null,  
            ...  
          }  
        ]  
      }  
    ]  
  }  
}
```



```
}  
],  
"isp": "Amazon.com, Inc.",  
"asn": "AS16509",  
"easmTags": [  
  "cloud",  
  "cdn"  
],  
"hostingCategory1": "Unknown",  
"customAttributes": null,  
"processor": null  
}  
]  
}  
}
```

## Asset by AssetID V2 API

**rest/2.0/get/am/asset**

[GET]

Request:

```
curl --location --request GET  
'<qualys_base_url>/rest/2.0/get/am/asset?assetId=22303132' --header  
'Content-Type: application/json' --header 'Authorization: Bearer <JWT  
Token>'
```

Response:

```
{  
  "responseMessage": "Valid API Access",  
  "count": 1,  
  "responseCode": "SUCCESS",  
  "lastSeenAssetId": null,  
  "hasMore": 0,  
  "assetListData": {  
    "asset": [  
      {  
        "assetId": 22303132,  
        "assetUUID": "xxx69134-dcxx-4e65-xxce-74f3e60caxxx",  
        "hostId": null,  
        ...  
        "missingSoftware": null,  
        "whois": [  
          {  
            "domain": "totalcloud.io",  
            ...  
            "registrar": "GoDaddy.com, LLC",  
            "organizationName": null,  
            ...  
          }  
        ]  
      }  
    ]  
  }  
}
```

```
        "updatedAt": null
      }
    ],
    "isp": "Amazon.com, Inc.",
    "asn": "AS16509",
    "easmTags": [
      "cloud",
      "cdn"
    ],
    "hostingCategory1": "Unknown",
    "customAttributes": null,
    "processor": null
  }
}
]
```

**Note:** We also support this for includeFields and excludeFields. See the following example.

Example: Asset by asset ID API with includeFields

Request:

```
curl --location --request GET
'<qualys_base_url>/rest/2.0/get/am/asset?assetId=22303132&includeFields=easmTags' --header 'Content-Type: application/json' --header
'Authorization: Bearer <JWT Token>'
```

Response:

```
{
  "responseMessage": "Valid API Access",
  "count": 1,
  "responseCode": "SUCCESS",
  "lastSeenAssetId": null,
  "hasMore": 0,
  "assetListData": {
    "asset": [
      {
        "assetId": 22303132,
        "assetUUID": "c9669134-dcb4-4e65-94ce-74f3e60ca697",
        "hostId": null,
        ...
        "riskScore": null,
        "passiveSensor": null,
        "domain": null,
        "subdomain": null,
        "missingSoftware": null,
        "whois": null,
        "isp": null,
        "asn": null,
        "easmTags": [
          "cloud",
          "cdn"
        ],
      },
    ],
  },
}
```

```
        "hostingCategory1": null,  
        "customAttributes": null,  
        "processor": null  
      }  
    ]  
  }  
}
```

## Asset Count V2 API

**rest/2.0/count/am/asset**

[GET]

Request:

```
curl --location --request POST  
'<qualys_base_url>/rest/2.0/count/am/asset' --header 'Authorization:  
Bearer <JWT Token>' --header 'Content-Type: application/xml' --data  
'<FilterRequest>
```

Filter:

```
<filters>  
<Criteria field="easm.tags.name"  
operator="EQUALS"><value>cloud</value></Criteria>  
</filters>  
</FilterRequest>
```

Response:

```
{  
  "count": 173,  
  "responseCode": "SUCCESS",  
  "responseMessage": "Valid API Access"  
}
```

## Exclude CDN from EASM Profile

By using this API, you can exclude CDNs from the existing EASM profile. Refer to the following request and sample for exclude CDNs from the existing EASM profile API with the POST operator.

Request:

```
curl --location --request POST '<qualys_base_url>/easm/v1/profile/' \  
--header 'Authorization: Bearer <JWT_token>' \  
--header 'Content-Type: application/json' \  
--data '{  
  "includeSeeds": [  
    {  
      "seedType": "DOMAIN",  
      "seedValue": "qualys.com",  
      "seedHeading": null,  
    }  
  ]  
}
```

```
        "status": null,  
        "enumerateSubsidiary": false,  
        "horizontalEnumeration": false,  
        "seedFilters": []  
    },  
    ],  
    "excludeSeeds": [  
        {  
            "seedType": "CDN",  
            "seedValue": "True"  
        }  
    ]  
    }'  
'
```

Response:

```
{  
  "code": "201",  
  "status": "SAVED",  
  "date": "2023-03-13T09:23:49.174+00:00",  
  "message": "Profile Created Successfully: "  
}
```

**Note:** You must provide the CDN value as "True" only. All CDNs are excluded after the next sync is run.



# Import Third-Party Assets API

**rest/2.0/am/connector/asset/data/sync**

[POST]

With this release, we have introduced this new API that imports Third-Party assets into your CSAM account. This API is introduced only for the Third-Party asset source - Webhook.

**Note:** The Third-Party Asset Identification is a new feature in Beta phase. It's in early stage and only available on a request basis. Contact your Technical Account Manager (TAM) for more information.

## Before You Begin

- Create the "businessAppId" using the 2.0/upsert/am/businessapp/metadata API before importing the Third-Party assets.
- The values mentioned in the "identityAttributes" list except "qualysAssetId", "instanceUuid", and "instanceUuidSource" must be the same as mentioned in the "coreAttributes" list.

## **Sample - Import Third-Party assets**

### API Request:

```
curl --location --request POST
'<qualys_base_url>/rest/2.0/am/connector/asset/data/sync' \
--header 'Authorization: Bearer <JWT Token>' \
--header 'Content-Type: application/json' \
--data-raw '<JSON payload>'
```

### Sample JSON Payload:

```
{
  "connectorMetaData": {
    "requestId": "string",
    "assetCount": "integer",
    "source": "string",
    "connectorUuid": "string"
  },
  "assetData": [
    {
      "identityAttributes": {
        "qualysAssetId": "string",
        "sourceNativeKey": "string",
        "instanceUuid": "String",
        "instanceUuidSource": "String",
        "hostName": "String",
        "netBiosName": "string",
        "fqdn": "String",
        "macAddress": [
```

```

        "string"
    ],
    "ipAddress": [
        "String"
    ],
    "serialNumber": "String",
    "hardwareUuid": "string",
    "networkUuid": "String"
},
"coreAttributes": {
    "lastLoggedInUser": "String",
    "operatingSystem": "String",
    "hostName": "String",
    "address": "String",
    "dnsName": "String",
    "biosInfo": {
        "biosDescription": "String",
        "lastBoot": "date",
        "manufacturer": "String",
        "totalMemory": "integer",
        "timeZone": "String",
        "model": "String",
        "serialNumber": "String",
        "biosAssetTag": "String",
        "hardwareUuid": "String"
    },
    "netBiosName": "String",
    "isContainer": "boolean",
    "fqdn": "String",
    "domain": "String",
    "osVersion": "String",
    "osArchitecture": "String",
    "domainRole": "String",
    "processor": {
        "description": "String",
        "speed": "float",
        "numberOfCpu": "integer"
    },
    "ports": [
        {
            "port": "Integer",
            "protocol": "String",
            "detectedService": "String",
            "description": "String",
            "firstFound": "Date",
            "lastUpdated": "Date"
        }
    ],
    "networkInterfaces": [
        {
            "interfaceName": "String",
            "macAddress": "String",
            "address": "String",
            "gatewayAddress": [

```

```

        "String"
    ],
    "dnsAddress": [
        "String"
    ],
    "hostName": "String",
    "ipv4Address": [
        "String"
    ],
    "ipv6Address": [
        "String"
    ],
    "type": "String",
    "networkUuid": "String"
}
],
"softwares": [
    {
        "name": "String",
        "version": "String",
        "installedDate": "date",
        "lastUpdated": "date",
        "identifier": "String",
        "isSystemApp": "boolean",
        "isEnterpriseApp": "boolean",
        "publisher": "String",
        "language": "String",
        "type": "String",
        "installPath": "String",
        "lastUsedDate": "date",
        "firstFoundDate": "date"
    }
],
"services": [
    {
        "name": "String",
        "description": "String",
        "status": "String"
    }
],
"volumes": [
    {
        "name": "String",
        "size": "Integer",
        "free": "Integer"
    }
],
"accounts": [
    {
        "username": "String"
    }
],
"businessMetaData": {
    "status": "String",

```



```

        "environment": "String",
        "company": "String",
        "department": "String",
        "ownedBy": "String",
        "managedBy": "String",
        "supportedBy": "String",
        "supportGroup": "String"
    },
    "assignedLocation": {
        "name": "String",
        "street": "String",
        "city": "String",
        "state": "String",
        "zip": "String",
        "country": "String",
        "latitude": "String",
        "longitude": "String"
    },
    "businessApps": [
        {
            "businessAppId": "String"
        }
    ],
    "containers": [
        {
            "version": "String",
            "numberOfContainers": "Integer",
            "numberOfImages": "Integer",
            "type": "String"
        }
    ],
    "customConnectorAttributes": {
        "key": "value"
    }
}
}
]
}

```

#### Example - Sample JSON Payload with values:

```

{
    "connectorMetaData": {
        "requestId": "7xxx8pwx7xx",
        "assetCount": "1",
        "connectorUuid": "2xxxa9a-6xxx-4xx9-8xxx-8xxxxxxxxx280",
        "source": "WEBHOOK"
    },
    "assetData": [
        {
            "identityAttributes": {
                "qualysAssetId": "12xxx3",
                "serialNumber": "abc-xxxxx9-4xxx-xxxxf-bxxx",
                "ipAddress": [

```

```

        "67.x.2xx.xxx", "2x4x:4xx:8xxx:a1a:23xe:6xx7:xxc:ax12"
    ],
    "hostname": "test_hostname_xxxxaeb9-4xxx-4xxx-bxx",
    "macAddress": [
        "AA:5x:5x:xx:33:xx"
    ],
    "hardwareUuid": "3xxxxxb9-4xxx-4xxx-xxx3-axxxxxdc6681",
    "fqdn": "test_hostname_366caeb9-4027-458f-b063-
a28b0adc6681",
    "netBiosName": "test_hostname_366caeb9-4027-458f-b063-
a28b0adc6681",
    "sourceNativeKey": "TEST74"
},
"coreAttributes": {
    "dnsName": "DNS name Test",
    "hostname": "test_hostname_366caeb9-4027-458f-b01",
"operatingSystem": "Microsoft Windows 7 Professional",
    "netBiosName": "test_hostname_366caeb9-4027-458f-b063-
a28b0adc6681",
    "lastLoggedOnUser": "root",
    "address": "xx.7.xx.1xx",
    "fqdn": "test_hostname_366caeb9-4027-458f-b063-
a28b0adc6681",
    "isContainer": "true",
    "domain": "Test",
    "osVersion": "Windows 7",
    "osArchitecture": "32 Bit",
    "domainRole": "Test",
    "businessMetaData": {
        "department": "IT SECOPS",
        "managedBy": "John Doe",
        "company": "ACME",
        "supportedBy": "Service Desk",
        "ownedBy": "John",
        "environment": "test-environment",
        "supportGroup": "Linux Server Team",
        "status": "Operational"
    },
    "assignedLocation": {
        "country": "USA",
        "state": "sample-state",
        "name": "add your address",
        "latitude": "33.11876",
        "city": "Escondido",
        "street": "add your street address",
        "zip": "add your zip code",
        "longitude": "-117.083405"
    },
    "biosInfo": {
        "hardwareUuid": "366cxxx-4027-xxx-f-b063-a2xxxxdc6681",
        "timeZone": "+05:30",
        "model": "VMware VMware Virtual Platform",
        "serialNumber": "VMware-366caeb9-4027-458f-b078",
        "totalMemory": 32014,

```

```

        "biosDescription": "Phoenix Technologies LTD 6.00",
        "manufacturer": "VMware",
"lastBoot": "1685361415000",
        "biosAssetTag": "No Asset Tag"
    },
    "processor": {
        "description": "Intel(R) Xeon(R) ",
        "speed": 2293,
        "numberOfCpu": 1
    },
    "networkInterfaces": [
        {
            "address": "xx.7.x21.xx1",
            "macAddress": "AA:xx:54:xx:33:3E",
            "hostName": "test_hostname_366caeb9-4027-458f-b01",
            "ipv4Address": [
                "67.7.xxx.xxx"
            ],
            "ipv6Address": [
                "2001:470:xxxx:ala:d58e:xxxx:f9c:xxxx"
            ],
            "type": "Client",
            "networkUuid": "Test",

            "gatewayAddress": [
                "10.xx.xx.1"
            ],
            "dnsAddress": [
                "15.xx.xx.15"
            ],
            "interfaceName": "AA:51:xx:52:33:xx"
        }
    ],
    "customConnectorAttributes": {
        "Vendor": "ACME India",
        "attested By": "John Doe",
        "Managed By Group": "CI Manager",
        "Discovery Source": "SG-Qualys",
        "Business Unit": "Business Unit Test 1"
    },
    "businessApps": [
        {
            "businessAppId": "CSAM2800FEBRELEASE2"
        }
    ],
    "volumes": [
        {
            "name": "C:",
            "size": 63897071616,
            "free": 31129092096
        }
    ],
    "containers": [
        {

```

```

        "version": "3.2",
        "numberOfContainers": "1",
        "numberOfImages": "3",
        "type": "Docker"
    }
],
"accounts": [
    {
        "username": "Administrator"
    }
],
"services": [
    {
        "description": "Qualys Cloud Agent",
        "name": "QualysAgent",
        "status": "RUNNING"
    }
],
"softwares": [
    {
        "name": "Python 3.10.5 (64-bit)",
        "version": "3.10.5150.0",
        "installedDate": "1527595015000",
        "lastUpdated": "1685361415000",
        "identifier": "Microsoft Office
OneDrive$$19.232.1124.005$$1",
        "isSystemApp": false,
        "isEnterpriseApp": true,
        "publisher": "Python Software Foundation",
        "language": "English",
        "type": "Application",
        "installPath": "/applocal/Microsoft/",
        "lastUsedDate": "1685361415000",
        "firstFoundDate": "1527595015000"
    }
],
"ports": [
    {
        "port": 4500,
        "description": "authip ipsec keying modules",
        "protocol": "UDP",
        "detectedService": "authip ipsec keying modules",
        "firstFound": "1527595015000",
        "lastUpdated": "1685361415000"
    }
]
}
}
}
]
}

```

Response:

```
{  
  "message": "All Assets are successfully published for sync.",  
  "responseCode": "SUCCESSFULLY_PUBLISHED",  
  "assetsError": {}  
}
```



# Appendix

This appendix describes the types of error messages returned from GAV/CSAM API requests, list of operators with supported attributes.

## Error Messages

Error Code	Description
400	The request could not be understood by the server due to malformed syntax. This error also occurs if you provide wrong (or unsupported) operator in the request.
403 Forbidden	This response code is returned for the following scenarios: <ul style="list-style-type: none"> <li>- If the Asset Inventory License is in “Pending Activation”.</li> <li>- If “App API Enabled” option is not checked.</li> <li>- If “App API Enabled” option is checked, but the license expiration date (for Trial/Full customers) has elapsed.</li> <li>- If the customer’s license subscription cannot be validated.</li> </ul>
404 Not found	The server has not found anything matching the Request
416 Requested Range Not Satisfiable	Please provide a Page Size value less than the max page size limit set.
500 Failure	The server encountered an unexpected condition which prevented it from fulfilling the request

## Supported Operators

This section of the appendix lists supported operators for tokens.

Operator	Values
NUMERIC_OPERATORS	EQUALS, IN, NOT_EQUALS, GREATER, LESSER, GREATER_THAN_EQUAL, and LESS_THAN_EQUAL
NUMERIC_AND_NOT_EQUAL_OPERATORS	EQUALS, IN, GREATER, LESSER, GREATER_THAN_EQUAL, LESS_THAN_EQUAL
STRING_OPERATORS	CONTAINS, IN, EQUALS, and NOT_EQUALS
STRING_AND_NOT_EQUAL_OPERATORS	CONTAINS, IN, and EQUALS

Operator	Values
DATE_OPERATORS	EQUALS, NOT_EQUALS, GREATER, LESSER, GREATER_THAN_EQUAL, and LESS_THAN_EQUAL
BOOLEAN_OPERATORS	EQUALS
ENUM_OPERATORS	EQUALS, NOT_EQUALS, and IN
UUID_OPERATORS	EQUALS and IN
IP_OPERATORS	EQUALS and IN

Following table lists different attributes with supported operators:

Attribute	Operator
<b>Asset Attributes</b>	
asset.assetID	NUMERIC_OPERATORS
asset.name	STRING_OPERATORS
asset.created	DATE_OPERATORS
asset.lastUpdated	DATE_OPERATORS
asset.type	ENUM_OPERATORS
asset.lastLoggedOnUser	STRING_OPERATORS
asset.totalMemory	NUMERIC_OPERATORS
asset.timezone	STRING_OPERATORS
asset.trackingMethod	ENUM_OPERATORS
asset.domainRole	ENUM_OPERATORS
asset.riskScore	ENUM_OPERATORS
asset.lastBoot	DATE_OPERATORS
asset.netbiosName	STRING_OPERATORS
asset.hostID	NUMERIC_OPERATORS
asset.isContainerHost	BOOLEAN_OPERATORS
asset.biosAssetTag	STRING_OPERATORS
asset.biosDescription	STRING_OPERATORS
asset.biosHardwareUUID	STRING_OPERATORS
asset.biosSerialNumber	STRING_OPERATORS
asset.agentID	UUID_OPERATORS
asset.criticalityScore	NUMERIC_OPERATORS
accounts.username	STRING_OPERATORS
provider	ENUM_OPERATORS
assetCategory	STRING_OPERATORS



Attribute	Operator
isDockerHost	BOOLEAN_OPERATORS
<b>Inventory Attributes</b>	
inventory.source	STRING_OPERATORS
inventory.created	DATE_OPERATORS
inventory.lastUpdated	DATE_OPERATORS
<b>Processor Attributes</b>	
processors	STRING_AND_NOT_EQUAL_OPERATORS
processors.speed	NUMERIC_AND_NOT_EQUAL_OPERATORS
processors.coresPerSocket	NUMERIC_OPERATORsaccounts
processors.multithreadingStatus	BOOLEAN_OPERATORS
processors.numberOfCpu	NUMERIC_OPERATORsaccounts
processors.numberOfSockets	NUMERIC_OPERATORsaccounts
processors.threadsPerCore	NUMERIC_OPERATORsaccounts
<b>Container Attributes</b>	
container.noOfContainers	NUMERIC_AND_NOT_EQUAL_OPERATORS
container.noOfImages	NUMERIC_AND_NOT_EQUAL_OPERATORS
container.version	STRING_AND_NOT_EQUAL_OPERATORS
container.hasSensor	BOOLEAN_OPERATORS
container.product	STRING_AND_NOT_EQUAL_OPERATORS
<b>Interface Attributes</b>	
interfaces.hostname	STRING_AND_NOT_EQUAL_OPERATORS
interfaces.interfaceName	STRING_AND_NOT_EQUAL_OPERATORS
interfaces.macAddress	STRING_AND_NOT_EQUAL_OPERATORS
interfaces.manufacturer	STRING_AND_NOT_EQUAL_OPERATORS
interfaces.address	IP_OPERATORS
interfaces.dnsAddress	IP_OPERATORS
interfaces.gatewayAddress	IP_OPERATORS
interfaces.netmask	IP_OPERATORS
<b>Open Ports Attributes</b>	
openPorts.description	STRING_AND_NOT_EQUAL_OPERATORS
openPorts.detectedService	STRING_AND_NOT_EQUAL_OPERATORS
openPorts.protocol	STRING_AND_NOT_EQUAL_OPERATORS
openPorts.port	NUMERIC_AND_NOT_EQUAL_OPERATORS
openPorts.firstFound	DATE_OPERATORS

Attribute	Operator
openPorts.lastUpdated	DATE_OPERATORS
<b>Services Attributes</b>	
services.description	STRING_AND_NOT_EQUAL_OPERATORS
services.name	STRING_AND_NOT_EQUAL_OPERATORS
services.status	STRING_AND_NOT_EQUAL_OPERATORS
<b>Sensors Attributes</b>	
sensors.lastComplianceScan	DATE_OPERATORS
sensors.lastFullScan	DATE_OPERATORS
sensors.lastVmScan	DATE_OPERATORS
<b>Tag Attributes</b>	
tags.name	EQUALS, IN, CONTAINS
tags.businessImpact	EQUALS, IN, CONTAINS
<b>Volume Attributes</b>	
volumes.free	NUMERIC_AND_NOT_EQUAL_OPERATORS
volumes.size	NUMERIC_AND_NOT_EQUAL_OPERATORS
volumes.name	STRING_AND_NOT_EQUAL_OPERATORS
<b>Agent Attributes</b>	
agent.version	NUMERIC_AND_NOT_EQUAL_OPERATORS
agent.connectedFrom	IP_OPERATORS
agent.errorStatus	BOOLEAN_OPERATORS
agent.lastActivity	DATE_OPERATORS
agent.lastCheckedIn	DATE_OPERATORS
<b>Hardware Attributes</b>	
hardware	STRING_OPERATORS
hardware.category	STRING_OPERATORS
hardware.category1	STRING_OPERATORS
hardware.category2	STRING_OPERATORS
hardware.manufacturer	STRING_OPERATORS
hardware.model	STRING_OPERATORS
hardware.product	STRING_OPERATORS
hardware.lifecycle.stage	STRING_OPERATORS
hardware.lifecycle.eos	DATE_OPERATORS
hardware.lifecycle.ga	DATE_OPERATORS
hardware.lifecycle.intro	DATE_OPERATORS

Attribute	Operator
hardware.lifecycle.obs	DATE_OPERATORS
<b>Software Attributes</b>	
software.architecture	STRING_OPERATORS
software.category	STRING_OPERATORS
software.category1	STRING_OPERATORS
software.category2	STRING_OPERATORS
software.component	STRING_OPERATORS
software.edition	STRING_OPERATORS
software.marketVersion	STRING_OPERATORS
software.name	STRING_OPERATORS
software.product	STRING_OPERATORS
software.publisher	STRING_OPERATORS
software.supportStage	STRING_OPERATORS
software.version	STRING_OPERATORS
software.update	STRING_OPERATORS
software.isPackage	BOOLEAN_OPERATORS
software.isPackageComponent	BOOLEAN_OPERATORS
software.license.category	STRING_OPERATORS
software.license.subcategory	STRING_OPERATORS
software.lifecycle.stage	EQUALS and NOT_EQUALS
software.installDate	DATE_OPERATORS
software.lastUseDate	DATE_OPERATORS
software.lastUpdated	DATE_OPERATORS
software.lifecycle.eol	DATE_OPERATORS
software.lifecycle.eos	DATE_OPERATORS
software.lifecycle.ga	DATE_OPERATORS
software.authorization	EQUALS, NOT_EQUALS, and IN
<b>Operating System Attributes</b>	
operatingSystem	STRING_OPERATORS
operatingSystem.category	STRING_OPERATORS
operatingSystem.category1	STRING_OPERATORS
operatingSystem.category2	STRING_OPERATORS
operatingSystem.architecture	STRING_OPERATORS
operatingSystem.component	STRING_OPERATORS

Attribute	Operator
operatingSystem.edition	STRING_OPERATORS
operatingSystem.marketVersion	STRING_OPERATORS
operatingSystem.name	STRING_OPERATORS
operatingSystem.publisher	STRING_OPERATORS
operatingSystem.version	STRING_OPERATORS
operatingSystem.update	STRING_OPERATORS
operatingSystem.lifecycle.stage	STRING_OPERATORS
operatingSystem.installDate	DATE_OPERATORS
operatingSystem.lifecycle.eol	DATE_OPERATORS
operatingSystem.lifecycle.eos	DATE_OPERATORS
operatingSystem.lifecycle.ga	DATE_OPERATORS
<b>AWS Attributes</b>	
aws.ec2.availabilityZone	STRING_OPERATORS
aws.ec2.instanceType	STRING_OPERATORS
aws.ec2.publicDNS	STRING_OPERATORS
aws.ec2.privateDNS	STRING_OPERATORS
aws.ec2.accountId	STRING_OPERATORS
aws.ec2.imageId	STRING_OPERATORS
aws.ec2.instanceId	STRING_OPERATORS
aws.ec2.instanceState	STRING_OPERATORS
aws.ec2.region.code	STRING_OPERATORS
aws.ec2.subnetId	STRING_OPERATORS
aws.ec2.vpcId	STRING_OPERATORS
aws.ec2.hostname	STRING_OPERATORS
aws.ec2.privateIpAddress	IP_OPERATORS
aws.ec2.publicIpAddress	IP_OPERATORS
aws.tags.key	STRING_OPERATORS
aws.tags.value	STRING_OPERATORS
aws.ec2.spotInstance	STRING_OPERATORS
aws.ec2.launchDate	DATE_OPERATORS
aws.ec2.hasAgent	BOOLEAN_OPERATORS
<b>Azure Attributes</b>	
azure.vm.imageOffer	STRING_OPERATORS
azure.vm.imagePublisher	STRING_OPERATORS

Attribute	Operator
azure.vm.imageVersion	STRING_OPERATORS
azure.vm.name	STRING_OPERATORS
azure.vm.size	STRING_OPERATORS
azure.vm.vmId	STRING_OPERATORS
azure.vm.resourceGroupName	STRING_OPERATORS
azure.vm.virtualNetwork	STRING_OPERATORS
azure.vm.state	STRING_OPERATORS
azure.vm.subnet	STRING_OPERATORS
azure.vm.subscriptionId	STRING_OPERATORS
azure.vm.location	STRING_OPERATORS
azure.vm.platform	STRING_OPERATORS
azure.vm.macAddress	STRING_OPERATORS
azure.tags.value	STRING_OPERATORS
azure.tags.name	STRING_OPERATORS
azure.vm.privateIpAddress	IP_OPERATORS
azure.vm.publicIpAddress	IP_OPERATORS
azure.vm.hasAgent	BOOLEAN_OPERATORS
<b>GCP Attributes</b>	
gcp.compute.hostname	STRING_OPERATORS
gcp.compute.instanceId	STRING_OPERATORS
gcp.compute.machineType	STRING_OPERATORS
gcp.compute.network	STRING_OPERATORS
gcp.compute.projectId	STRING_OPERATORS
gcp.compute.projectNumber	STRING_OPERATORS
gcp.compute.macAddress	STRING_OPERATORS
gcp.compute.state	STRING_OPERATORS
gcp.compute.zone	STRING_OPERATORS
gcp.compute.privateIpAdress	IP_OPERATORS
gcp.compute.publicIpAddress	IP_OPERATORS
<b>OCI Attributes</b>	
oci.compute.availabilityDomain	STRING_OPERATORS
oci.compute.canonicalRegionName	STRING_OPERATORS
oci.compute.compartmentId	STRING_OPERATORS
oci.compute.compartmentName	STRING_OPERATORS

Attribute	Operator
oci.compute.displayName	STRING_OPERATORS
oci.compute.faultDomain	STRING_OPERATORS
oci.compute.hostName	STRING_OPERATORS
oci.compute.imageId	STRING_OPERATORS
oci.compute.ociId	STRING_OPERATORS
oci.compute.region	STRING_OPERATORS
oci.compute.shape	STRING_OPERATORS
oci.compute.state	STRING_OPERATORS
oci.compute.tenantId	STRING_OPERATORS
oci.compute.tenantName	STRING_OPERATORS
oci.compute.timeCreated	STRING_OPERATORS
oci.tags	STRING_OPERATORS
oci.tags.key	STRING_OPERATORS
oci.tags.namespace	STRING_OPERATORS
oci.tags.type	STRING_OPERATORS
oci.tags.value	STRING_OPERATORS
oci.vnic.macAddr	STRING_OPERATORS
oci.vnic.nicIndex	STRING_OPERATORS
oci.vnic.privateIp	IP_OPERATORS
oci.vnic.publicIp	IP_OPERATORS
oci.vnic.subnetCidrBlock	STRING_OPERATORS
oci.vnic.subnetId	STRING_OPERATORS
oci.vnic.subnetName	STRING_OPERATORS
oci.vnic.vcnId	STRING_OPERATORS
oci.vnic.vcnName	STRING_OPERATORS
oci.vnic.virtualRouterIp	STRING_OPERATORS
oci.vnic.vlanTag	STRING_OPERATORS
oci.vnic.vnicId	STRING_OPERATORS
<b>IBM Cloud Attributes</b>	
ibm.tags	STRING_OPERATORS
ibm.tags.name	STRING_OPERATORS
ibm.tags.value	STRING_OPERATORS
ibm.virtualServer.datacenterId	STRING_OPERATORS
ibm.virtualServer.deviceName	STRING_OPERATORS

Attribute	Operator
ibm.virtualServer.domain	STRING_OPERATORS
ibm.virtualServer.id	STRING_OPERATORS
ibm.virtualServer.location	STRING_OPERATORS
ibm.virtualServer.privateIpAddress	IP_OPERATORS
ibm.virtualServer.privateVlan	STRING_OPERATORS
ibm.virtualServer.publicIpAddress	IP_OPERATORS
ibm.virtualServer.publicVlan	STRING_OPERATORS
ibm.virtualServer.state	STRING_OPERATORS
<b>Geo IP Attributes</b>	
asset.lastLocation	STRING_OPERATORS
asset.lastLocation.city	STRING_OPERATORS
asset.lastLocation.country	STRING_OPERATORS
asset.lastLocation.continent	STRING_OPERATORS
asset.lastLocation.postal	STRING_OPERATORS
asset.lastLocation.state	STRING_OPERATORS
<b>Business Information Attributes</b>	
asset.org.company	STRING_OPERATORS
asset.org.department	STRING_OPERATORS
asset.ownedBy	STRING_OPERATORS
asset.managedBy	STRING_OPERATORS
asset.supportedBy	STRING_OPERATORS
asset.supportGroup	STRING_OPERATORS
asset.environment	STRING_OPERATORS
asset.operationalStatus	STRING_OPERATORS
asset.assignedLocation.name	STRING_OPERATORS
asset.assignedLocation.city	STRING_OPERATORS
asset.assignedLocation.state	STRING_OPERATORS
asset.assignedLocation.country	STRING_OPERATORS
businessApp.name	STRING_OPERATORS
businessApp.id	STRING_OPERATORS
businessApp.businessCriticality	STRING_OPERATORS
businessApp.ownedBy	STRING_OPERATORS
businessApp.supportGroup	STRING_OPERATORS
businessApp.operationalStatus	STRING_OPERATORS

Attribute	Operator
businessApp.environment	STRING_OPERATORS
businessApp.managedBy	STRING_OPERATORS
businessApp.supportedBy	STRING_OPERATORS
<b>External Attack Surface Management (EASM) Attributes</b>	
asset.org.name	STRING_OPERATORS
asset.asn	STRING_OPERATORS
asset.isp	STRING_OPERATORS
asset.domain	STRING_OPERATORS
asset.subdomain	STRING_OPERATORS
whoIs.creationDate	DATE_OPERATORS
whoIs.registrantOrg	STRING_OPERATORS
whoIs.registrantEmailId	STRING_OPERATORS
whoIs.registrar	STRING_OPERATORS
<b>Custom Attributes</b>	
customAttributes.key	STRING_OPERATORS
customAttributes.value	STRING_OPERATORS
customAttributes.connectorId	NUMERIC_OPERATORS

**Note:** The following tokens are available only for CSAM License Subscriber:

hardware.lifecycle.stage, hardware.lifecycle.eos, hardware.lifecycle.ga,  
hardware.lifecycle.intro, hardware.lifecycle.obs,  
software.authorization, software.license.category,  
software.license.subcategory, software.lifecycle.eol,  
software.lifecycle.eos, software.lifecycle.ga, software.lifecycle.stage,  
software.isPackage, software.isPackageComponent,  
operatingSystem.lifecycle.eol, operatingSystem.lifecycle.eos,  
operatingSystem.lifecycle.ga, operatingSystem.lifecycle.stage,  
customAttributes.key, customAttributes.value, and  
customAttributes.connectorId

**Note:** The External Attack Surface Management (EASM) is now GAed and all CSAM customers will be able to activate this feature from their home page.  
The following tokens are available after the feature is activated:

asset.org.name, asset.asn, asset.isp, asset.domain, asset.subdomain,  
whoIs.creationDate, whoIs.registrantOrg, whoIs.registrantEmailId, and  
whoIs.registrar



Following are some example to understand the different supported operators by comparing QQL(UI) tokens:

### Example 1 - hardware.category1:Computers

*Request Body in XML:*

```
<FilterRequest>
  <filters>
    <Criteria field="hardware.category1" operator="CONTAINS">
      <value>Computers</value>
    </Criteria>
  </filters>
</FilterRequest>
```

OR *Request Body in Json:*

```
{
  "filters": [
    {
      "field": "hardware.category1",
      "operator": "CONTAINS",
      "value": "Computers"
    }
  ]
}
```

### Example 2 - hardware.manufacturer:`Apple` OR hardware.manufacturer:`HPE`

*Request Body in XML:*

```
<FilterRequest>
  <filters>
    <Criteria field="hardware.manufacturer" operator="IN">
      <value>Apple,HPE</value>
    </Criteria>
  </filters>
</FilterRequest>
```

### Example 3 - software:(product:Python and update:2.7.5)

*Request Body in XML:*

```
<FilterRequest>
  <filters>
    <Criteria field="software.product" operator="CONTAINS">
      <value>Python</value>
    </Criteria>
    <Criteria field="software.update" operator="CONTAINS">
```

```

        <value>2.7.5</value>
      </Criteria>
    </filters>
  </FilterRequest>

```

#### Example 4 - operatingSystem.category1:`Mac` and hardware.category:Notebook

*Request Body in XML:*

```

<FilterRequest>
  <filters>
    <Criteria field="operatingSystem.category1"
operator="EQUALS">
      <value>Mac</value>
    </Criteria>
    <Criteria field="hardware.category" operator="EQUALS">
      <value>Notebook</value>
    </Criteria>
  </filters>
</FilterRequest>

```

#### Example 5 - operatingSystem.category1:`Mac` or hardware.category:Notebook

*Request Body in XML:*

```

<FilterRequest>
  <filters>
    <Criteria field="operatingSystem.category1"
operator="EQUALS">
      <value>Mac</value>
    </Criteria>
    <Criteria field="hardware.category" operator="EQUALS">
      <value>Notebook</value>
    </Criteria>
  </filters>
  <operation>OR</operation>
</FilterRequest>

```

*Request Body in Json:*

```

{
  "filters": [
    {

```

```

        "field": "operatingSystem.category1",
        "operator": "EQUALS",
        "value": "Mac"
    },
    {
        "field": "hardware.category",
        "operator": "EQUALS",
        "value": "Notebook"
    }
],
"operation": "OR"
}

```

### Example 6 - operatingSystem.category1:Mac` and hardware.category:Notebook

*Request Body in XML:*

```

<FilterRequest>
  <filters>
    <Criteria field="operatingSystem.category1"
operator="EQUALS">
      <value>Mac</value>
    </Criteria>
    <Criteria field="hardware.category" operator="EQUALS">
      <value>Notebook</value>
    </Criteria>
  </filters>
  <operation>AND</operation>
</FilterRequest>

```