



Custom Assessment and Remediation APIs

User Guide
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Table of Contents

Preface	4
About Qualys	4
Contact Qualys Support	4
Chapter 1 - Getting Started	5
Qualys API Framework	5
Qualys API URL	5
Qualys API Postman Collection	6
Introduction to CAR API Paradigm	7
Authentication	7
Using Curl	7
Pagination Support for APIs	8
Chapter 2 - Script-based APIs	9
Fetch Script Details Based on Script ID or Name	9
List Scripts Based on Script Attributes	11
Chapter 3 - Asset-based APIs	15
List Assets	15
List Asset Tags	18
Chapter 4 - Job-based APIs	22
List Script Jobs	22
List Asset Jobs	25
Chapter 5 - Activity-based APIs	30
List Activity Logs	30
Chapter 6 - Script Operation-based APIs	33
Export Scripts	33
Import Scripts	36
Clone Scripts	37
Execute Scripts On Demand	38
Schedule Script Execution	40

Preface

This user guide is intended for application developers who will use the Qualys CAR API.

About Qualys

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

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

Contact Qualys Support

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

Chapter 1 - Getting Started

Welcome to Qualys Custom Assessment and Remediation (CAR) APIs.

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 CAR 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.

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Qualys API Framework

The Qualys CAR 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.

<code><baseurl></code>	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>
<code><module></code>	The API module. For the CAR API, the module is: "sm".
<code><object></code>	The module specific object.
<code><object_id></code>	(Optional) The module specific object ID, if appropriate.
<code><operation></code>	The request operation, such as count and search.

Qualys API 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.

Qualys API Postman Collection

Interact with Qualys APIs using Postman. Instead of creating calls manually to send over the command line, you can use the Qualys Postman Collection to get started with Qualys APIs quickly.

[Click here to view the steps involved](#)

Introduction to CAR 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 CAR 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 CAR 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 CAR API calls. The token expires in 4 hours. You must regenerate the token to continue using the CAR 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 GET/POST	The GET method or the POST method is used as per requirement.
-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 Authentication .
-H 'content-type: application/json'	Denotes that content is in JSON format.
-d @request.json	Provide a request.json file for parameter input.
--data-urlencode	Used to encode spaces and special characters in the URL/Parameter values.

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

```
curl --location --request GET
'https://gateway.xxx.eng.xxx.qualys.com/sm/v1/scripts/exportids=1
6515' \
--header 'Authorization: Bearer <authToken>'
{'}
```

Pagination Support for APIs

CAR APIs are designed to fetch 10 records per page by default. You can use `pageSize` and `pageNumber` parameters to fetch more records.

For example:

```
{
  "filter": "status:APPROVED",
  "pageSize": 30,
  "pageNumber": 0
}
```

Here, 'pageSize' indicates the number of records that should be included in a page. 'pagenumber' indicates the page number from which records must be fetched. For example, "**pageNumber**":0 would fetch results from page 1.

Chapter 2 - Script-based APIs

Use these API functions to fetch required scripts:

- [Fetch Script Details Based on Script ID or Name](#)
- [List Scripts Based on Script Attributes](#)

Fetch Script Details Based on Script ID or Name

[GET]

sm/v1/scripts/{id}

Search script details based on the script ID or the script name.

Response Code

- 200: Returns the script details output
- 404: If script with id/name not found
- 500: Internal server error

Input Parameters

{id} as Path parameter (String)	Provide Script ID or script name for which you want to fetch the details.
Authorization (String)	(Required) Authorization token to authenticate to the Qualys Cloud Platform. Prepend token with "Bearer" and one space. For example: <code>Bearer <authToken></code>

Sample

Request:

```
curl--location--request GET
'https://gateway.xxx.eng.xxx.qualys.com/sm/v1/scripts/16012'\
--header'Content-Type:application/json'\
--header'Authorization:Bearer <authToken>'\
--data-raw''
```

Request Body: N/A

Response:

```
{
  "body": {
    "id": "<SCRIPT ID>",
    "customerUUID": "<CUSTOMER UUID>",
    "title": "<SCRIPT TITLE>",
```

```
"description":"","  
"category":{  
  "id": 6,  
  "name":"<SCRIPT NAME>"  
},  
"scriptStatus":"APPROVED",  
"importedFromId":0,  
"platform":"WINDOWS",  
"severity":2,  
"threshold":12,  
"type":{  
  "id":1,  
  "name":"Python"  
},  
"content":"<SCRIPT CONTENT>",  
"recurringDay":0,  
"approverId":"<USER ID OF APPROVER>",  
"approverName":"<USER NAME OF APPROVER>",  
"created":{  
  "dateTime":1651846745520,  
  "user":{  
    "id":"<SCRIPT ID>",  
    "name":"<USER NAME>",  
  },  
  "updated":{  
    "dateTime":1652865043670,  
    "user":{  
      "id":"<USER ID>",  
      "name":"<USER NAME>",  
    }  
  },  
  "lastExecutedDateTime":1652865043670,  
  "hasBlacklistedCommands":true,  
  "blacklistedCommands":"os.chmod, wget.download"  
}  
}
```

Note: The script content is in base64-encoded format.

List Scripts Based on Script Attributes

[POST]

/sm/v1/scripts/search

Search list of scripts for an user account.

Response Code

- 200: Returns list of scripts
- 500: Internal server error

Input Parameters

Filter (String)	Filter the scripts by providing a query using Qualys syntax. Refer to the “How to Search” topic in the online help for assistance with creating your query. For example – "filter": "status:DEPRECATED" Filter the scripts based on their status. For example: Approved, Pending Review, Pending Test, Rejected, Deprecated.
pageNumber (String)	The page to be returned. Starts from zero.
pageSize (String)	The number of records per page to be included in the response. Default is 10.
sort (String)	Sort the results using a Qualys token. For example: [{"Created.dateTime": "asc"}]
Authorization (String)	(Required) Authorization token to authenticate to the Qualys Cloud Platform. Prepend the token with 'Bearer', followed by a space. For example: Bearer <authToken>

Sample

Request:

```
curl --location--request POST 'https://  
gateway.xxx.eng.xxx.qualys.com /sm/v1/scripts/search' \  
--header 'Content-Type: application/json' \  
--header 'Authorization: Bearer <authToken>' \  
--data-raw '{  
  "filter": "status:DEPRECATED"  
}'
```

Request Body:

- i) Filter scripts with status 'Rejected':

```
{  
  "filter": "status:REJECTED"  
}
```

Response:

```
{  
  "body": {  
    "totalCount": 1,  
    "list": [  
      {  
        "severity": 1,  
        "testAssets": null,  
        "importedFromId": 0,  
        "approverId": null,  
        "created": {  
          "dateTime": 1651490591578,  
          "user": {  
            "name": "<USER NAME>",  
            "id": "<USER ID>"  
          }  
        },  
        "blacklistedCommands": "",  
        "description": "This script is created for Sanity Automation",  
        "lastExecutedDateTime": 0,  
        "threshold": 250,  
        "title": "<SCRIPT TITLE>",  
        "type": {  
          "name": "Powershell",  
          "id": 4  
        },  
        "excludedAssets": null,  
        "assetTags": null,  
      }  
    ]  
  }  
}
```

```
"platform": "WINDOWS",
"approverName": null,
"subscribedModules": [
  "PC"
],
"schedule": {
  "recurringDay": 0,
  "recurringTime": null,
  "frequency": null
},
"customerUuid": "<CUSTOMER UUID>",
"assets": null,
"hasBlacklistedCommands": false,
"id": "72524",
"category": {
  "name": "Data Backup",
  "id": 1
},
"updated": {
  "dateTime": 1651490890451,
  "user": {
    "name": "<USER NAME>",
    "id": "<USER ID>"
  }
},
"status": "REJECTED"
}
}
```


Chapter 3 - Asset-based APIs

Use the following API functions to fetch the asset information:

- [List Assets](#)
- [List Asset Tags](#)

List Assets

/sm/v1/assets/search

[POST]

Search list of assets on which CAR is enabled.

Response Code

- 200: Returns list of assets
- 500: Internal server error

Input Parameters

Authorization (String)	(Required) Authorization token to authenticate to the Qualys Cloud Platform. Prepend the token with 'Bearer', followed by a space. For example: <code>Bearer <authToken></code>
------------------------	---

Sample

Request:

```
curl --location --request POST
'https://gateway.xxx.eng.xxx.qualys.com/sm/v1/assets/search' \

--header 'Authorization: Bearer <authToken>
```

Response:

```
{
  "errorCode": null,
  "message": null,
  "body": {
    "totalCount": <NUMBER OF ASSETS>,
    "list": [
      {
        "sortValues": [],
        "data": {
          "interfaces": [
            {
```

```
"hostname": "<ASSET NAME>",
"macAddress": "<MAC ADDRESS>",
"address": "<ASSET IP>",

"interfaceName": "eth0"
,
{
"hostname": null,
"macAddress": "<MAC ADDRESS>",
"address": "fe80:0:0:0:82a:39ff:feda:4fa5",
"interfaceName": "eth0"
}
],
"address": "<ASSET IP>",
"activatedForModules": [
"PC"
],
"operatingSystem": "OPERATING SYSTEM",
"assetType": "HOST",
"tags": [
12047163,
11516586,
8543820,
9738814
],
"customerUuid": "<CUSTOMER UUID>",
"assetId": <ASSET ID>,
"customerId": <CUSTOMER ID>,
"name": "<ASSET NAME>",
"agentVersion": "<CLOUD AGENT VERSION>",
"id": "<ASSET IP>",
"agentUuid": "<AGENT UUID>"
}
},
{
"sortValues": [],
"data": {
"interfaces": [
{
"hostname": "<HOST NAME>",
"macAddress": "<MAC ADDRESS>",
"address": "<ASSET IP>",
"interfaceName": "ens160"
},
{
```



```
"hostname": null,  
"macAddress": "<MAC ADDRESS>",  
"address": "<ASSET IP>",  
  
"interfaceName": "virbr0"  
},  
{  
"hostname": null,  
"macAddress": "<MAC ADDRESS>",  
"address": "<ASSET IP>",  
"interfaceName": "ens160"  
}  
],  
"address": "<ASSET IP>",  
"activatedForModules": [  
"PC"  
],  
"operatingSystem": "<OPERATING SYSTEM>",  
"assetType": "HOST",  
"tags": [  
8543820  
],  
"customerUuid": "<CUSTOMER UUID>",  
"assetId": <ASSET ID>,  
"customerId": <CUSTOMER ID>,  
"name": "<HOST NAME>",  
"agentVersion": "<AGENT VERSION>",  
"id": "<AGENT ID>",  
"agentUuid": "<AGENT UUID>"  
}  
},  
{  
"sortValues": [],  
"data": {  
"interfaces": [  
{  
"hostname": "<ASSET NAME>",  
"macAddress": "<MAC ADDRESS>",  
"address": "<ASSET IP>",  
"interfaceName": "Intel(R) PRO/1000 MT Network Connection"  
}  
],  
"address": "<ASSET IP>",  
"activatedForModules": [  
"AGENT_FIM",
```

```
        "AGENT_PC",
        "FIM",
        "PC"
    ],
    "operatingSystem": "<OPERATING SYSTEM>",
    "assetType": "HOST",
    "tags": [
        17970415,
        12047183,
        11172212,
        8546868,
        14695569,
        12047182,
        8543820
    ],
    "customerUuid": "2<CUSTOMER UUID>",
    "assetId": <ASSET ID>,
    "customerId": <CUSTOMER ID>,
    "name": "<ASSET NAME>",
    "agentVersion": "<AGENT VERSION>",
    "id": "<AGENT ID>",
    "agentUuid": "<AGENT UUID>"
    }
    }
    ]
    }
}
```

List Asset Tags

/sm/v1/assettags/search

[POST]

Search list of asset tags on which CAR is enabled.

Response Code

- 200: Returns list of asset tags
- 500: Internal server error

Input Parameters

Authorization (String)	(Required) Authorization token to authenticate to the Qualys Cloud Platform. Prepend token with 'Bearer', followed by a space. For example: <code>'Bearer' <authToken></code>
------------------------	---

Sample

Request:

```
curl --location --request POST
'https://gateway.xxx.eng.xxx.qualys.com/sm/v1/assettags/search' \

--header 'Authorization: Bearer <authToken>
```

Response:

```
{
  "errorCode": null,
  "message": null,
  "body": {
    "totalCount": <NUMBER OF ASSETS>,
    "list": [
      {
        "customerUuid": "<CUSTOMER UUID>",
        "tagId": <ASSET TAG>,
        "customerId": <CUSTOMER ID>,
        "name": "<ASSET NAME>",
        "tagUuid": "<ASSET TAG UUID>",
        "id": "<ASSET ID>"
      },
      {
        "backgroundColor": "#0000FF",
        "customerUuid": "<CUSTOMER UUID>",
        "tagId": <ASSET TAG ID>,
        "customerId": <CUSTOMER ID>,
        "name": "<ASSET TAG>",
        "tagUuid": "<ASSET TAG UUID>",
        "id": "<TAG ID>"
      },
      {
        "customerUuid": "<CUSTOMER UUID>",
        "tagId": <TAG ID>,
        "customerId": <CUSTOMER ID>,
        "name": "Internet Facing Assets",
        "tagUuid": "<ASSET TAG UUID>",
        "id": "<TAG ID>"
      }
    ]
  }
}
```

```
    {
      "backgroundColor": "#FF0000",
      "customerUuid": "<CUSTOMER UUID>",
      "tagId": <TAG ID>,
      "customerId": <CUSTOMER ID>,
      "name": "<TAG NAME>",
      "tagUuid": "<ASSET TAG UUID>",
      "id": "<TAG ID>"
    },
  {
    {
      "backgroundColor": "#A2C4C9",
      "customerUuid": "<CUSTOMER UUID>",
      "tagId": <TAG ID>,
      "customerId": <CUSTOMER ID>,
      "name": "<ASSET ID>",
      "tagUuid": "<ASSET TAG UUID>",
      "id": "<TAG ID>"
    },
    {
      "customerUuid": "<CUSTOMER UUID>",
      "tagId": <TAG ID>,
      "customerId": <CUSTOMER ID>,
      "name": "<TAG NAME>",
      "tagUuid": "<ASSET TAG UUID>",
      "id": "<TAG ID>"
    },
    {
      "customerUuid": "<CUSTOMER UUID>",
      "tagId": <TAG ID>,
      "customerId": <CUSTOMER ID>,
      "name": "<TAG NAME>",
      "tagUuid": "<ASSET TAG UUID>"id": "<TAG ID>"
    },
    {
      "customerUuid": "<CUSTOMER UUID>",
      "tagId": <TAG ID>,
      "customerId": <CUSTOMER ID>,
      "name": "<TAG NAME>",
      "tagUuid": "<ASSET TAG UUID>",
      "id": "<TAG ID>"
    },
    {
      "backgroundColor": "#FFFF00",
      "customerUuid": "<CUSTOMER UUID>",
```

```
    "tagId": <TAG ID>,  
    "customerId": <CUSTOMER ID>,  
    "name": "<TAG NAME>",&br/>    "tagUuid": "<ASSET TAG UUID>",&br/>    "id": "<TAG ID>"  
  },  
  {  
    "backgroundColor": "#206CFF",  
  
    "customerUuid": "<CUSTOMER UUID>",&br/>    "tagId": <TAG ID>,  
    "customerId": <CUSTOMER ID>,  
    "name": "<TAG NAME>",&br/>    "tagUuid": "<ASSET TAG UUID>",&br/>    "id": "<TAG ID>"  
  }  
]  
}
```

Chapter 4 - Job-based APIs

Use these API functions to fetch script jobs:

[List Script Jobs](#)

[List Asset Jobs](#)

List Script Jobs

/sm/v1/jobs/search

[POST]

Search for the parent jobs that are created when you execute scripts.

Response Code

- 200: Returns list of jobs

- 500: Internal server error

Input Parameters

Filter (String)	Filter the jobs by providing a query using Qualys syntax. Refer to the “How to Search” topic in the online help for assistance with creating your query. For example – “scriptId: <SCRIPT_ID>”
startAt/endAt	Filter jobs based on the time when the jobs are generated (dateTime) or the time when the jobs are processed at Qualys (processedTime).
pageNumber (String)	The page to be returned. Starts from zero.
pageSize (String)	The number of records per page to be included in the response. Default is 10.
Authorization (String)	(Required) Authorization token to authenticate to the Qualys Cloud Platform. Prepend the token with 'Bearer', followed by a space. For example: <code>Bearer <authToken></code>
sort (String)	Sort the results using a Qualys token. For example, ID or Category: <code>[{"Created.dateTime": "asc"}]</code>

Sample

Request:

```
curl --location --request POST
'https://gateway.xxx.eng.xxx.qualys.com/sm/v1/jobs/search' \
--header 'Content-Type: application/json' \
--header 'Authorization: Bearer <authToken>' \
--data-raw '{
"filter": "script.name:Script test for subscribed modules"
}'
```

Request Body:

i) Filter jobs using script name

```
{
  "filter": "script.name:Script test for subscribed modules"
}
```

Response:

```
{
  "errorCode": null,
  "message": null,
  "body": {
    "totalCount": 13,
    "list": [
      {
        "severity": 2,
        "test": true,
        "created": {
          "dateTime": 1651847969380
        },
        "executionType": "Manual",
        "correlationUuid": "9bde85fb-010e-45fe-8bc0-4b55cc6c3a2a",
        "threshold": 12,
        "title": "Script test for subscribed modules-1651847969",
        "platform": "WINDOWS",
        "updatedDateTime": 1651847969380,
        "scriptId": 72653,
        "customerUuid": "317df02c-4ad1-55e2-83a3-5646a34fceec",
        "isTest": true,
        "scriptType": "Python",
```

```
        "id": "79097",  
        "category": {  
            "name": "General Automation",  
            "id": 6  
        }  
    }  
]  
}  
}
```


List Asset Jobs

/sm/v1/assetjobs/search

[POST]

The asset job is created per asset when a script is executed on it.

Note: If you want to include script result in the response, you can set the 'includeScriptResult' variable to 'True'.

Response Code

- 200: Returns list of asset jobs
- 500: Internal server error

Input Parameters

startAt/endAt (String)	Filter jobs based on the time when a job is generated (dateTime) or based on the time when a job is processed at Qualys (processedTime).
Filter (String)	Filter the asset jobs by providing a query using Qualys syntax. Refer to the "How to Search" topic in the online help for assistance with creating your query. For example - "filter": "job.id:<JOB ID>"
includeScriptResult (String)	This flag can be set to 'true' if you want the script output to be fetched in the response. Note: The script result will be fetched in Base 64 encoded format. You must decode it to view the result.
pageNumber (String)	The page to be returned. Starts from zero.
pageSize (String)	The number of records per page to be included in the response. Default is 10.
Authorization (String)	(Required) Authorization token to authenticate to the Qualys Cloud Platform. Prepend token with 'Bearer' and one space. For example: Bearer <authToken>
sort (String)	Sort the results using a Qualys token. For example, ID, Category: [{"Created.dateTime": "\asc"}]

Sample

Request:

```
curl --location --request POST
'https://gateway.xxx.eng.xxx.qualys.com/sm/v1/assetjobs/search' \
--header 'Content-Type: application/json' \
--header 'Authorization: Bearer <authToken>' \
--data-raw '
```

```
{  
  "filter": "job.id:80507",  
  "includeScriptResult": true,  
  "sort": "[{\"created.dateTime\": \"desc\"}]"  
}'
```

Request Body:

Search job details with job ID:

```
{  
  "filter": "job.id:80507",  
  "includeScriptResult": true,  
  "sort": "[{\"created.dateTime\": \"desc\"}]"  
}
```

Response:

i) Response with the 'IncludeScriptResult' variable set to 'true':

Note: The 'scriptResult' is in base64-encoded format.

```
{  
  "errorCode": null,  
  "message": null,  
  "body": {  
    "totalCount": 1,  
    "list": [  
      {  
        "output": {  
          "code": 0,  
          "text": "SUCCESS"  
        },  
        "customerUuid": "<CUSTOMER UUID>",  
        "enddate": "2022-05-11T06:42:13.692+00:00",  
        "test": false,  
        "isTest": false,  
        "scriptResult": "U2h1bGwgU2NyaXB0IE91dHB1dCBwc-  
mludGVkISEK",
```

```
"created": {
  "dateTime": 1652251134952
},
"id": "80541",
"job": {
  "scriptId": <SCRIPT ID>,
  "scriptType": "Shell",
  "scriptSeverity": 1,
  "scriptName": "<SCRIPT NAME>",
  "correlationUuid": "<CORRELATION UUID>",
  "id": 80014,
  "platform": "LINUX",
  "scriptCategory": "Data Backup"
},
"asset": {
  "address": "<ASSET IP>",
  "name": "sm-pc-test-Linux-vm2",
  "id": 20452610,
  "agentUuid": "<AGENT UUID>",
  "operatingSystem": "CentOS Linux 7.9.2009",
  "tags": [
    {
      "name": "Cloud Agent",
      "tagUuid": "<TAG UUID>",
      "id": 102909758
    },
    {
      "name": "Test tag",
      "tagUuid": "<TAG UUID>",
      "id": 112278818
    }
  ],
}
```

```
{
  "name": "SM 1.0 test tag",
  "tagUuid": "<TAG UUID>",
  "id": 120198213
},
{
  "name": "SM_Tag_Test",
  "tagUuid": "<TAG UUID>",
  "id": 119295749
},
{
  "name": "PostgreSQL",
  "tagUuid": "<TAG UUID>",
  "id": 112207922
},
{
  "name": "testBU3",
  "tagUuid": "<TAG UUID>",
  "id": 103100188
},
{
  "name": "testBU",
  "tagUuid": "<TAG UUID>",
  "id": 34781853
},
{
  "name": "SM<TAG UUID>",
  "id": 119082623
},
{
  "name": "SM 1.1 Tag Test",
```

```
        "tagUuid": "<TAG UUID>",  
        "id": 122379045  
      }  
    ]  
  },  
  "manifestId": "c202ab1e-3fbe-46ec-8e28-  
52f644098880",  
  "status": "SUCCESS"  
}  
]  
}  
}
```

Chapter 5 - Activity-based APIs

Use the following API function to fetch activity logs:

- [List Activity Logs](#)

List Activity Logs

/sm/v1/scripts/activities

[POST]

Search for activities such as create, approve, deprecate, execute, modify, and test carried out by CAR users.

Response Code

- 200: Returns list of activities/audit logs
- 500: Internal server error

Input Parameters

qql (String)	Filter the activities by providing a query using Qualys syntax. Refer to the “How to Search” topic in the online help for assistance with creating your query. For example - "activity: CREATE"
pageNumber (String)	The page to be returned. Starts from zero.
pageSize (String)	The number of records per page to be included in the response. The default value is 10.
sort (String)	Sort the results using a Qualys token. For example, ID, Category and so on. <code>[{"Created.dateTime":"asc"}]</code>
startDate, endDate	Provide the start date and the end date to fetch results between a specified time frame.

Sample

Request:

1) Filter based on the activity type, such as Create, Approve, Deprecate, Execute, Modify, Reject:

Request:

```
curl --location --request POST
'https:// gateway.xxx.eng.xxx.qualys.com/sm/v1/scripts/activities' \
--header 'Content-Type: application/json' \
```

```
--header 'Authorization: Bearer <authToken>' \  
--data-raw '{  
  "qql": "activity: CREATE "  
}'
```

Response:

```
{  
  "auditRecords": [  
    {  
      "id": "a563f016-8a1e-46ca-9d5f-f30a5df7f860",  
      "auditEnabledAppId": 1,  
      "applicationName": "SM",  
      "userName": "<USER NAME>",  
      "userUuid": "<USER UUID>",  
      "customerUuid": "<CUSTOMER UUID>",  
      "client": null,  
      "sourceIp": null,  
      "createdDate": 1651206222012,  
      "targetType": "script",  
      "targetName": "testFor",  
      "action": "CREATE",  
      "auditComment": null,  
      "externalChangeLink": null,  
      "customFields": [  
        {  
          "key": "targetId",  
          "value": "16016"  
        }  
      ]  
    },  
    {  
      ],  
    }  
  ],  
}
```

```
"totalCount": 1,  
"pageNumber": 0,  
"pageSize": 10,  
"applicationName": "SM",  
"clientApp": "SM",  
"auditEnabledAppId": 1  
}
```


Chapter 6 - Script Operation-based APIs

Use the following API functions to perform operations on scripts:

- [Export Scripts](#)
- [Import Scripts](#)
- [Clone Scripts](#)
- [Execute Scripts On Demand](#)
- [Schedule Script Execution](#)

Export Scripts

sm/v1/scripts/export

[GET]

Export one or more scripts by providing script IDs in query parameter.

Response Code

- 200: Exported the scripts
- 400: Bad request (If script is deprecated or rejected)
- 404: If script not found
- 500: Internal server error

Input Parameters

Authorization (String)	(Required) Authorization token to authenticate to the Qualys Cloud Platform. Prepend the token with "Bearer", followed by a space. For example, <pre>Bearer <authToken></pre>
IDs as query parameter (Integer)	Provide single or multiple script IDs as the query parameter. For example: <pre>https://gateway.xxx.eng.xxx.qualys.com/sm/v1/scripts/exportids=<SCRIPT ID1>,<SCRIPT ID2></pre>

Sample

Request:

```
curl --location --request GET  
'https://gateway.xxx.eng.xxx.qualys.com/sm/v1/scripts/exportids=16515' \
```

```
--header 'Authorization: Bearer <authToken>'
```

You can export multiple scripts by providing multiple comma-separated script IDs.

For example, <https://gateway.xxx.eng.xxx.qualys.com/sm/v1/scripts/export?ids=72652,75508>

Response:

```
[
  {
    "id": <SCRIPT ID1>,
    "customerUuiid": "<CUSTOMER UUID>",
    "title": "<SCRIPT TITLE>",
    "description": "",
    "category": {
      "id": 5,
      "name": "System Administration"
    },
    "scriptStatus": "APPROVED",
    "importedFromId": 0,
    "platform": "WINDOWS",
    "severity": 3,
    "threshold": 50,
    "type": {
      "id": 1,
      "name": "Python"
    },
    "content": "<SCRIPT CONTENT>",
    "recurringDay": 0,
    "approverId": "<APPROVER ID>",
    "created": {
      "dateTime": 1651745523598,
      "user": {
        "id": "51fbdb4b-5fb5-fdf6-8141-5a7887ec557b",
        "name": "FIM Automation"
      }
    },
    "updated": {
      "dateTime": 1652674833932,
      "user": {
        "id": "51fbdb4b-5fb5-fdf6-8141-5a7887ec557b",
        "name": "FIM Automation"
      }
    },
    "lastExecutedDateTime": 1652684748401,
```

```

    "hasBlacklistedCommands": true,
    "blacklistedCommands": "os.chmod, wget.download"
  },
  {
    "id": <SCRIPT ID2>,
    "customerUUID": "<CUSTOMER UUID>",
    "title": "<SCRIPT TITLE>",
    "description": "",
    "category": {
      "id": 5,
      "name": "System Administration"
    },
    "scriptStatus": "APPROVED",
    "importedFromId": 0,
    "platform": "WINDOWS",
    "severity": 3,
    "threshold": 50,
    "type": {
      "id": 1,
      "name": "Python"
    },
    "content": "<SCRIPT CONTENT>",
    "recurringDay": 0,
    "approverId": "<APPROVER ID>",
    "approverName": "FIM Automation",
    "created": {
      "dateTime": 1651748729939,
      "user": {
        "id": "51fbdb4b-5fb5-fdf6-8141-5a7887ec557b",
        "name": "FIM Automation"
      }
    },
    "updated": {
      "dateTime": 1652674850859,
      "user": {
        "id": "51fbdb4b-5fb5-fdf6-8141-5a7887ec557b",
        "name": "FIM Automation"
      }
    },
    "lastExecutedDateTime": 1652674850859,
    "hasBlacklistedCommands": true,
    "blacklistedCommands": "os.chmod, wget.download"
  }
}

```

Note: The script content is in base64-encoded format.

Import Scripts

`/sm/v1/scripts/import`

[POST]

Import scripts into CAR. Importing a script only imports the script details and excludes the meta data such as asset details.

Response Code

- 200: Successfully imported the scripts
- 409: Conflict(If duplicate script name is present)
- 429: Too many requests(Maximum script creation limit is reached)
- 500: Internal server error

Input Parameters

File (form-data) option in request body.	Browse and select the file to be imported. Note: The file must be in .json) format.
Authorization (String)	(Required) Authorization token to authenticate to the Qualys Cloud Platform. Prepend token with "Bearer", followed by a space. For example, Bearer authToken.

Sample

Request:

```
curl--location--
requestPOST'https://gateway.xxx.eng.xxx.qualys.com/sm/v1/scripts/i
mport'\

--header'Content-Type:multipart/form-
data;boundary=<calculated_when_request_is_sent>'\

--header'Authorization:Bearer<authToken>'\

--
form'file=@"/C:/Users/abc/Downloads/ExportedScripts_202205050712.j
son"'
```

Response:

```
{

  "ImportedIds":["16508]"

}
```

Clone Scripts

`/sm/v1/scripts/{scriptId}/clone`

[POST]

Clone a script by using script ID or script name. Even if you clone an approved script, you must get it reviewed and approved before you execute it.

You cannot clone deprecated and rejected scripts.

Response Code

- 201: Successfully cloned the script
- 400: Bad request (If script title/description is not in proper format)
- 404: If script with id/name not found
- 429: Too many requests (Maximum script creation limit is reached)
- 500: Internal server error

Input Parameters

Script name/ script ID as Path parameter	Name or ID of the script to be cloned.
Authorization (String)	(Required) Authorization token to authenticate to the Qualys Cloud Platform. Prepend the token with "Bearer", followed by a space. For example, Bearer authToken
scriptId (String)	Name of the newly cloned script. Note: Duplicate script name is not allowed.

Sample

Request:

```
curl--location--
requestPOST'https://gateway.xxx.eng.xxx.qualys.com/sm/v1/scripts/{
ScriptId/ScriptName}/clone'\

--header'Content-Type:application/json'\

--header'Authorization:Bearer <authToken>'\

--data-raw'{

"scriptId":"NewClonedScript"

}
```

Request Body:

```
{  
  "scriptTitle": "<SCRIPT NAME>"  
}
```

Response:

```
{  
  
  "errorCode": "0",  
  
  "message": "Cloned script successfully",  
  
  "body": {  
  
    "id": 16520  
  
  }  
  
}
```

Execute Scripts On Demand

/sm/v1/scripts/{scriptId}/execute

[POST]

Execute the script on demand by using script ID.

Response Code

- 200: Script execution started successfully
- 400: Bad request (If script is deprecated OR asset IDs, asset tag IDS not provided OR number of asset IDs > 25 OR number of asset tag IDs > 25 OR excluded asset IDs >25)
- 404: If script with id not found
- 429: Too many requests (Only one execution allowed within the interval of configured time in minutes)
- 500: Internal server error

Input Parameters

assetTagIds (String)	Multiple comma-separated asset tag IDs can be provided.
testMode (String)	The script execution through public API is supported only in production mode and not in evaluation mode. Hence, this flag must always be set to 'false'.
Authorization (String)	(Required) Authorization token to authenticate to the Qualys Cloud Platform. Prepend token with "Bearer" and one space. For example, Bearer authToken.
assetIds (String)	List of asset IDs on which you want to execute the script. Multiple comma-separated asset IDs can be provided.
assetTagIds (String)	List of asset tag IDs on which on which you want to execute the script.
excludedAssetIds (String)	Asset IDs on which you do not want the script to be executed. Multiple comma-separated asset IDs can be provided.

Sample

Request:

```
curl --location --request POST
https://gateway.xxx.eng.xxx.qualys.com/sm/v1/scripts/72648/execute
\
--header 'Content-Type: application/json' \
--header 'Authorization: Bearer <token>' \
--data-raw '{
  "testMode": false,
  "assetIds": [
    "<ASSET ID>"
  ],
  "assetTagIds": [],
  "excludedAssetIds": []
}'
```

Request Body - Multiple Assets:

```
{
  "testMode": false,
  "assetIds": [
    "<ASSET ID1>", "<ASSET ID2>", "<ASSET ID3>"
  ],
  "assetTagIds": [
    "<ASSET TAG ID1>", "<ASSET TAG ID2>", "<ASSET TAG ID3>"
  ]
}
```

```
],  
  "excludedAssetIds": [  
    "<ASSET ID1>", "<ASSET ID2>", "<ASSET ID3>"  
  ]  
}
```

Response:

```
{  
  "body": {  
    "correlationUuid": "<CORRELATION UUID>"  
  }  
}
```

Note: Correlation UUID is returned when the script is executed. User can use this as filter in request body to find the job details using /jobs/search POST API.

See “List Script Jobs” on page 22.

Schedule Script Execution

/sm/v1/scripts/scheduler

[POST]

Create a schedule to enable script execution at a specific date and time in future. Schedules can be of two types:

- One-time schedule
- Recurring schedule

Notes:

- StartDate, EndDate, and StartTime are mandatory fields
- Recurring schedule job can be any of the following:
 - Hourly
 - Daily
 - Weekly
 - Monthly

You must have a unique title for the schedule. The following error message is displayed if another schedule already exists by the same title:

“Scheduler with the same title already exists: <Schedule Title>”

Response Code

- 201: Successfully scheduled a script
- 400: Bad request (Assets or Asset tags are empty OR based on configured schedule, the given trigger will never fire)
- 404: If script with id not found
- 409: Conflict (If duplicate schedule name is present)
- 500: Internal server error

Input Parameters

activate (String)	Activate flag can be set to true if user wants to activate the schedule for execution of script.
Authorization (String)	(Required) Authorization token to authenticate to the Qualys Cloud Platform. Prepend token with "Bearer" and one space. For example, Bearer authToken.
assetTags: Uuid (String) , ID (Integer)	Provide the agent UUID and the Asset Tag ID. For example: <pre>[{UUId: "0479cf1f-46a8-47ac-af52-3984e60f825b", id: 119082623}]</pre>
Assets: UUID (String) , ID (Integer)	Provide the agent UUID and the asset ID. For example: <pre>[{UUId: "2a44cadf-beea-4ef7-9c5e-05639851018f", id: 21094690}]</pre>
Description (String)	Provide a description for the schedule.
excludedAssets: UUID (String), ID (Integer)	Asset IDs on which you do not want the script to be executed. Multiple comma-separated asset IDs can be provided. For example: <pre>excludedAssets: [{UUId: "322ff7aa-cc5a-4674-8201-bfb06bbf2c1f", id: 21789601}]</pre>
Script ID (String)	The ID of the script to be scheduled for execution.
Script title (String)	The title of the script to be executed.
title (String)	The title of the schedule.
user ID (String)	The customer UUID.
user name (String)	Customer's user name.
endDate (String)	Last date of the schedule.
startDate (String)	Date on which the schedule should start.
startTime (String)	Time at which the schedule should start.
scheduleType (String)	Recurrence type of the schedule - ONE_TIME, DAILY, HOURLY, WEEKLY.
hourlyInterval (Integer)	Only applicable to 'Hourly' schedule type. Indicates that the script is to be executed with an interval of the specified number of hours.
daysOfWeek (String)	Applicable only for 'Weekly' schedule type. Indicates that the script is to be executed with an interval of the specified number of days of the week.
recurrenceDate (Integer)	Applicable for 'Monthly' schedule type. Denotes on which date of the month the script is to be executed.
recurrenceMonth (Integer)	Applicable for 'Monthly' schedule type. Denotes on which month of the year the script is to be executed.

Sample

Request:

```
curl --location --request POST
'https://gateway.xxx.eng.xxx.qualys.com/sm/v1/scripts/scheduler' \
--header 'Content-Type: application/json' \
--header 'Authorization: Bearer <token>' \
--data-raw '{
  "activate": true,
  "assetTags": [],
  "assets": [
    {
      "UUId": "<AGENT UUID>",
      "id": <ASSET ID>
    }
  ],
  "description": "",
  "excludedAssets": [],
  "scripts": [
    {
      "id": <SCRIPT ID>,
      "title": "<SCRIPT TITLE>"
    }
  ],
  "title": "<SCHEDULE TITLE>",
  "user": {
    "id": "<USER ID>",
    "name": "<USER NAME>"
  },
  "scheduleType": "ONE_TIME"
  "endDate": "2022-05-11",
  "startDate": "2022-05-11",
  "startTime": "07:25:00",
  "scheduleType": "ONE_TIME"
}'
```

Request Body - One-time Schedule:

```
{
  "activate": true,
  "assetTags": [],
  "assets": [
    {
      "UUId": "<AGENT UUID>",
```

```
        "id": <ASSET ID>
      }
    ],
    "description": "",
    "excludedAssets": [],
    "scripts": [
      {
        "id": "<SCRIPT ID>",
        "title": "<SCRIPT TITLE>"
      }
    ],
    "title": "SCHEDULE TITLE",
    "user": {
      "id": "<USER ID>",
      "name": "<USER NAME>"
    },
    "endDate": "2022-05-11",
    "startDate": "2022-05-11",
    "startTime": "07:25:00",
    "scheduleType": "ONE_TIME"
  }
}
```

Request Body - Recurring Monthly Schedule:

```
{
  "activate": true,
  "assetTags": [],
  "assets": [
    {
      "UUId": "<AGENT UUID>",
      "id": "<ASSET ID>"
    }
  ],
}
```

```
"description": "",
"excludedAssets": [],
"scripts": [
  {
    "id": "<SCRIPT ID>",
    "title": "<SCRIPT TITLE>"
  }
],
"title": "<SCHEDULE TITLE>",
"user": {
  "id": "<USER ID>",
  "name": "<USER NAME>"
},
"endDate": "2022-12-31",
"startDate": "2022-05-12",
"startTime": "09:20:00",
"scheduleType": "MONTHLY",
"recurrenceDate": 7,
"recurrenceMonth": 1,
"monthlyScheduleType": "MONTHLY_DATE_OF_MONTH_JOB"
}
```

Request Body - Recurring Weekly Schedule:

```
{
  "activate": true,
  "assetTags": [],
  "assets": [
    {
      "UUId": "<AGENT UUID>",
      "id": <ASSET ID>
    },
    {
      "UUId": "<AGENT UUID>",
      "id": <ASSET ID>
    }
  ],
}
```

```
"description": "",
"excludedAssets": [],
"scripts": [
  {
    "id": <SCRIPT ID>,
    "title": "<SCRIPT TITLE>"
  }
],
"title": "<SCHEDULE TITLE>",
"user": {
  "id": "<USER ID>",
  "name": "<USER NAME>"
},
"endDate": "2022-05-16",
"startDate": "2022-05-11",
"startTime": "10:49:00",
"scheduleType": "WEEKLY",
"daysOfWeek": [
  "1",
  "2"
]
}
```

Request Body - Recurring Hourly Schedule:

```
{
  "activate": true,
  "assetTags": [],
  "assets": [
    {
      "UUID": "<AGENT UUID>",
      "id": <ASSET ID>
    }
  ],
  "description": "",
  "excludedAssets": [],
  "scripts": [
    {
      "id": <SCRIPT ID>,
      "title": "<SCRIPT TITLE>"
    }
  ]
}
```

```
    }  
  ],  
  "title": "<SCHEDULE TITLE>",  
  "user": {  
    "id": "<USER ID>",  
    "name": "<USER NAME>"  
  },  
  "endDate": "2022-05-16",  
  "startDate": "2022-05-11",  
  "startTime": "10:49:00",  
  "scheduleType": "HOURLY",  
  "hourlyInterval": 6  
}
```

Request Body - Recurring Daily Schedule:

```
{  
  "activate": false,  
  "assetTags": [],  
  "assets": [  
    {  
      "UUIId": "<AGENT UUID>",  
      "id": "<ASSET ID>"  
    }  
  ],  
  "description": "",  
  "excludedAssets": [],  
  "scripts": [  
    {  
      "id": "<SCRIPT ID>",  
      "title": "<SCRIPT TITLE>"  
    }  
  ],  
  "title": "<SCHEDULE TITLE>",  
}
```

```
"user": {  
  "id": "<USER ID>",  
  "name": "<USER NAME>"  
},  
"endDate": "2022-05-15",  
"startDate": "2022-05-11",  
"startTime": "09:42:00",  
"scheduleType": "DAILY"  
}
```

Response:

```
{  
  "errorCode": "0",  
  "message": "Script scheduler created successfully",  
  "body": {  
    "id": "<Schedule ID>"  
  }  
}
```