



Qualys Cloud Platform v3.x

API Release Notes

Version 3.9

November 24, 2021

Qualys Cloud Suite API gives you many ways to integrate your programs and API calls with Qualys capabilities. You'll find all the details in our user guides, available at the time of release. Just log in to your Qualys account and go to Help > Resources.

What's New

[AM API: Added Support for the New cloudProvider Parameter to View Cloud Provider for Assets](#)

[AM API: Search host assets using IBM attributes](#)

[AM API: View Image ID for GCP Host Assets](#)

[CA API: Ability to Fetch Binary Information](#)

[WAS API: Added OAuth2 Support in the Authentication Records](#)

[WAS API: Create Report API to Use Default Template for Reports](#)

URL to the Qualys API Server

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 Cloud Platform 3.9 brings you many more API improvements and updates!

[Issues Addressed](#)

AM API: Added Support for the New cloudProvider Parameter to View Cloud Provider for Assets

API affected	/qps/rest/2.0/search/am/hostasset/
New or Updated APIs	Updated API
DTD or XSD changes	Yes

With this release, we have added support for a cloudProvider parameter to view assets and details including cloud providers.

Sample: Search for assets and its cloud provider

Let us search assets and view details including its cloud provider.

API Request

```
curl -n -u "USERNAME:PASSWORD" -H "content-type: text/xml"-X "POST" --
"https://qualysapi.qualys.com/qps/rest/2.0/am/hostasset" < file.xml
Note: "file.xml" contains the request POST data.
```

Request POST data

```
<ServiceRequest>
<preferences>
<limitResults>1000</limitResults>
</preferences>
  <filters>
    <Criteria field="cloudProviderType" operator="EQUALS">OCI
    </Criteria>
  </filters>
</ServiceRequest>
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<ServiceResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="https://qualysapi.qualys.com/qps/rest/2.0/
search/am/tag">
  <responseCode>SUCCESS</responseCode>
  <count>1</count>
  <hasMoreRecords>>false</hasMoreRecords>
  <data>
    <HostAsset>
      <id>9473595</id>
      <name>instance-20210707-1513-vm</name>
      <created>2021-07-08T11:16:00Z</created>
      <modified>2021-07-22T08:36:47Z</modified>
      <type>HOST</type>
```



```

        </OciTag>
    </list>
</tags>
</ociInstanceTags>
<ociVnic>
    <vnic>
        <list>
            <OciVnic>
                <ociId>ocid1.instance.oc1.example-
1.anzwuljr2hxpjnacg24zfhrrbtxditvfibpfmilexaqfe7accrmofntg7kdoa</ociId>
                <vnicId>ocid1.vnic.oc1.example-
1.abzwuljroind3uecaqvg4zvwltg7jdo6rb7q3zssmaj4r62krzk3nag3untq</vnicId>
                <vlanTag>1629</vlanTag>

<virtualRouterIp>10.10.10.1</virtualRouterIp>

<subnetCidrBlock>10.10.10.1/22</subnetCidrBlock>

<privateIpAddress>10.10.10.225</privateIpAddress>

<macAddress>02:00:2:00:2a:2f</macAddress>
            </OciVnic>
        </list>
    </vnic>
</ociVnic>
</OciAssetSourceSimple>
</list>
</sourceInfo>
<criticalityScore>2</criticalityScore>
<qwebHostId>1773656</qwebHostId>
<lastComplianceScan>2021-07-22T06:54:52Z</lastComplianceScan>
<lastVulnScan>2021-07-22T06:25:07Z</lastVulnScan>
<lastSystemBoot>2021-07-22T05:28:57Z</lastSystemBoot>
<lastLoggedOnUser>opc</lastLoggedOnUser>
<fqdn>instance-20210707-1513-vm</fqdn>
<os>Oracle Enterprise Linux 7.9</os>
<dnsHostName>instance-20210707-1513-vm
</dnsHostName>
<agentInfo>
    <agentVersion>4.6.0.32</agentVersion>
    <agentId>f392eb80-d1d1-42ae-b1fc-057c75cc4b03</agentId>
    <status>STATUS_INACTIVE</status>
    <lastCheckedIn>2021-07-22T06:30:47Z</lastCheckedIn>
    <connectedFrom>10.10.10.1</connectedFrom>
    <chirpStatus>Scan Complete</chirpStatus>
    <platform>Linux</platform>
    <activatedModule>IOC,AGENT_PC,FIM,AGENT_VM</activatedModule>
    <manifestVersion>
        <vm>VULNSIGS-VM-2.5.237.2-1</vm>

```

```

        <pc>VULNSIGS-PC-2.5.237.2-1</pc>
    </manifestVersion>
    <agentConfiguration>
        <id>588206</id>
        <name>new_default_with_EDR</name>
    </agentConfiguration>
    <activationKey>
        <activationId>63155864-3daf-4eed-a906-
7d932ba70906</activationId>
    </activationKey>
    </agentInfo>
    <networkGuid>6b48277c-0742-61c1-82bb-
cac0f9c4094a</networkGuid>
    <address>10.88.29.225</address>
    <trackingMethod>QAGENT</trackingMethod>
    <cloudProvider>OCI</cloudProvider>
    <manufacturer>QEMU</manufacturer>
    <model>Standard PC (i440FX + PIIX, 1996)</model>
    <totalMemory>15467</totalMemory>
    <timezone>UTC</timezone>
    <biosDescription>EFI Development Kit II / OVMF 1.4.1
12/03/2020</biosDescription>
    <openPort>
        <list>
            <HostAssetOpenPort>
                <port>10003</port>
                <protocol>TCP</protocol>
            </HostAssetOpenPort>
        </list>
    </openPort>
    <software>
        <list>
            <HostAssetSoftware>
                <name>perl-Socket</name>
                <version>2.010-5.e17.x86_64</version>
            <HostAssetSoftware>
                <name>xz-lib</name>
                <version>5.2.2-1.e17.x86_64</version>
            </HostAssetSoftware>
        </list>
    </software>
    <vuln>
        <list>
            <HostAssetVuln>
                <qid>105936</qid>
                <hostInstanceVulnId>155406640</hostInstanceVulnId>
                <firstFound>2021-07-08T11:45:30Z</firstFound>
                <lastFound>2021-07-22T06:25:07Z</lastFound>
            </HostAssetVuln>
        </list>
    </vuln>

```

```

        </list>
    </vuln>
    <processor>
        <list>
            <HostAssetProcessor>
                <name>AMD EPYC 7J13 64-Core Processor</name>
            </HostAssetProcessor>
        </list>
    </processor>
    <volume>
        <list>
            <HostAssetVolume>
                <name>/dev</name>
                <size>8077692928</size>
                <free>8077692928</free>
            </HostAssetVolume>
        </list>
    </volume>
    <account>
        <list>
            <HostAssetAccount>
                <username>root</username>
            </HostAssetAccount>
        </list>
    </account>
    <networkInterface>
        <list>
            <HostAssetInterface>
                <hostname>instance-20210707-1513-vm</hostname>
                <interfaceName>ens3</interfaceName>
                <macAddress>02:00:17:00:2a:2f</macAddress>
                <type>LOCAL</type>
                <address>10.10.10.1</address>
                <gatewayAddress>10.10.10.1</gatewayAddress>
            </HostAssetInterface>
        </list>
    </networkInterface>
    <isDockerHost>>false</isDockerHost>
</HostAsset>
</data>
</ServiceResponse>

```

Sample: Get asset API that shows the cloud provider for assets

The Get response for an asset also returns the cloud provider for the assets.

API Request

```
curl -n -u "USERNAME:PASSWORD" -H "content-type: text/xml"-X "GET" --
"https://qualysapi.qualys.com/qps/rest/2.0/get/am/hostasset/9473595"
```

XML Output

```

<?xml version="1.0" encoding="UTF-8"?>
<ServiceResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="https://qualysapi.qualys.com/qps/xsd/2.0/a
m/hostasset.xsd">
  <responseCode>SUCCESS</responseCode>
  <count>1</count>
  <data>
    <HostAsset>
      <id>9473595</id>
      <name>instance-20210707-1513-vm</name>
      <created>2021-07-08T11:16:00Z</created>
      <modified>2021-07-22T08:36:47Z</modified>
      <type>HOST</type>
      <tags>
        <list>
          <TagSimple>
            <id>7909822</id>
            <name>Cloud Agent</name>
          </TagSimple>
        </list>
      </tags>
      <sourceInfo>
        <list>
          <AssetSource/>
          <OciAssetSourceSimple>
            <assetId>9473595</assetId>
            <type>OCI</type>
            <firstDiscovered>2021-07-
08T11:16:00Z</firstDiscovered>
            <lastUpdated>2021-07-22T06:27:32Z</lastUpdated>
            <ociId>ocidl.instance.oc1.us-sanjose-
1.anzwuljr2hxpjncg24zfhrbtxditvfibpfmilexaqfe7accrmofntg7kdoa</ociId>
            <displayName>instance-20210707-
1513_vm</displayName>
            <compartmentId>ocidl.compartment.oc1..aaaaaaaamp4sh3db6lewbjnt63z5m2afjfu
p1le6yifdaumghtgj6w47tynq</compartmentId>
            <shape>VM.Standard.E4.Flex</shape>
            <state>RUNNING</state>
            <region>us-sanjose-1</region>
            <availabilityDomain>vqAO:US-SANJOSE-1-AD-
1</availabilityDomain>
            <image>ocidl.image.oc1.us-sanjose-
1.aaaaaaaajgv5qfzo6ruvsux3m32cz45peuudv744ist4sxeuexxcsultwmcq</image>
            <faultDomain>FAULT-DOMAIN-2</faultDomain>
            <hostName>instance-20210707-1513-vm</hostName>

```

```

    <canonicalRegion>us-sanjose-1</canonicalRegion>
    <ociInstanceTags>
      <tags>
        <list>
          <OciTag>
            <key>CreatedOn</key>
            <value>2021-07-
07T09:44:09.376Z</value>
            <type>DEFINED</type>
            <namespace>Oracle-Tags</namespace>
          </OciTag>
          <OciTag>
            <key>CreatedBy</key>
            <value>oktasso/vmagare@qualys.com</value>
            <type>DEFINED</type>
            <namespace>Oracle-Tags</namespace>
          </OciTag>
        </list>
      </tags>
    </ociInstanceTags>
    <ociVnic>
      <vnic>
        <list>
          <OciVnic>
            <ociId>ocid1.instance.oc1.us-sanjose-
1.anzwuljr2hxpjnacg24zfhbrtxditvfibpffmlexaqfe7accrmofntg7kdoa</ociId>
            <vnicId>ocid1.vnic.oc1.us-sanjose-
1.abzwuljroind3uecaqvg4zvwltg7jdo6rb7q3zssmaj4r62krzk3nag3untq</vnicId>
            <vlanTag>1629</vlanTag>
          </OciVnic>
        </list>
      </vnic>
    </ociVnic>
  </OciAssetSourceSimple>
</list>
</sourceInfo>
<criticalityScore>2</criticalityScore>
<qwebHostId>1773656</qwebHostId>
<lastComplianceScan>2021-07-22T06:54:52Z</lastComplianceScan>
<lastVulnScan>2021-07-22T06:25:07Z</lastVulnScan>

```



```

<lastSystemBoot>2021-07-22T05:28:57Z</lastSystemBoot>
<lastLoggedOnUser>opc</lastLoggedOnUser>
<os>Oracle Enterprise Linux 7.9</os>
<dnsHostName>instance-20210707-1513-vm
</dnsHostName>
  <agentInfo>
    <agentVersion>4.6.0.32</agentVersion>
    <agentId>f392eb80-d1d1-42ae-b1fc-057c75cc4b03</agentId>
    <status>STATUS_INACTIVE</status>
    <lastCheckedIn>2021-07-22T06:30:47Z</lastCheckedIn>
    <connectedFrom>10.88.29.225</connectedFrom>
    <chirpStatus>Scan Complete</chirpStatus>
    <platform>Linux</platform>
    <activatedModule>IOC,AGENT_PC,FIM,AGENT_VM</activatedModule>
    <manifestVersion>
      <vm>VULNSIGS-VM-2.5.237.2-1</vm>
      <pc>VULNSIGS-PC-2.5.237.2-1</pc>
    </manifestVersion>
    <agentConfiguration>
      <id>588206</id>
      <name>new_default_with_EDR</name>
    </agentConfiguration>
    <activationKey>
      <activationId>63155864-3daf-4eed-a906-
7d932ba70906</activationId>
    </activationKey>
  </agentInfo>
  <networkGuid>6b48277c-0742-61c1-82bb-
cac0f9c4094a</networkGuid>
  <address>10.88.29.225</address>
  <trackingMethod>QAGENT</trackingMethod>
  <cloudProvider>OCI</cloudProvider>
  <manufacturer>QEMU</manufacturer>
  <model>Standard PC (i440FX + PIIX, 1996)</model>
  <totalMemory>15467</totalMemory>
  <timezone>UTC</timezone>
  <biosDescription>EFI Development Kit II / OVMF 1.4.1
12/03/2020</biosDescription>
  <openPort>
    <list>
      <HostAssetOpenPort>
        <port>10003</port>
        <protocol>TCP</protocol>
      </HostAssetOpenPort>
    </list>
  </openPort>
  <software>
    <list>
      <HostAssetSoftware>

```

```

        <name>perl-Socket</name>
        <version>2.010-5.el7.x86_64</version>
    </HostAssetSoftware>
    <HostAssetSoftware>
        <name>rpm</name>
        <version>4.11.3-45.el7.x86_64</version>
    </HostAssetSoftware>
</list>
</software>
<vuln>
    <list>
        <HostAssetVuln>
            <qid>105936</qid>
            <hostInstanceVulnId>155406640</hostInstanceVulnId>
            <firstFound>2021-07-08T11:45:30Z</firstFound>
            <lastFound>2021-07-22T06:25:07Z</lastFound>
        </HostAssetVuln>
        <HostAssetVuln>
            <qid>45141</qid>
            <hostInstanceVulnId>155406641</hostInstanceVulnId>
            <firstFound>2021-07-08T11:45:30Z</firstFound>
            <lastFound>2021-07-22T06:25:07Z</lastFound>
        </HostAssetVuln>
    </list>
</vuln>
<processor>
    <list>
        <HostAssetProcessor>
            <name>AMD EPYC 7J13 64-Core Processor</name>
        </HostAssetProcessor>
        <HostAssetProcessor>
            <name>AMD EPYC 7J13 64-Core Processor</name>
        </HostAssetProcessor>
    </list>
</processor>
<volume>
    <list>
        <HostAssetVolume>
            <name>/dev</name>
            <size>8077692928</size>
            <free>8077692928</free>
        </HostAssetVolume>
        <HostAssetVolume>
            <name>/boot/efi</name>
            <size>209489920</size>
            <free>201732096</free>
        </HostAssetVolume>
    </list>
</volume>

```

```

<account>
  <list>
    <HostAssetAccount>
      <username>root</username>
    </HostAssetAccount>
    <HostAssetAccount>
      <username>opc</username>
    </HostAssetAccount>
  </list>
</account>
<networkInterface>
  <list>
    <HostAssetInterface>
      <hostname>instance-20210707-1513-vm</hostname>
      <interfaceName>ens3</interfaceName>
      <macAddress>02:00:17:00:2a:2f</macAddress>
      <type>LOCAL</type>
      <address>10.88.29.225</address>
      <gatewayAddress>10.88.28.1</gatewayAddress>
    </HostAssetInterface>
    <HostAssetInterface>
      <hostname>instance-20210707-1513-vm</hostname>
      <interfaceName>ens3</interfaceName>
      <macAddress>02:00:17:00:2a:2f</macAddress>
      <type>LOCAL</type>
      <address>fe80:0:0:0:0:17ff:fe00:2a2f</address>
      <gatewayAddress>10.88.28.1</gatewayAddress>
    </HostAssetInterface>
  </list>
</networkInterface>
<isDockerHost>>false</isDockerHost>
</HostAsset>
</data>
</ServiceResponse>

```

XSD update for asset.xsd file

XSD: <platform API server>/qps/xsd/2.0/am/hostasset.xsd

We added cloud provider element to HOSTASSET.XSD file.

```

<?xml version="1.0" encoding="UTF-8"?>
<schema xmlns="http://www.w3.org/2001/XMLSchema"
  targetNamespace="http://am.oxm.api.portal.qualys.com/v2"
  xmlns:tns="http://am.oxm.api.portal.qualys.com/v2"
  xmlns:common="http://oxm.api.portal.qualys.com/common"
  elementFormDefault="qualified">

  <include schemaLocation="asset.xsd" />
  <include schemaLocation="asset_common.xsd" />

```

```

<include schemaLocation="agent_source.xsd" />

<import namespace="http://oxm.api.portal.qualys.com/common"
schemaLocation="http://oxm.api.portal.qualys.com/common/qualys_common.xsd
" />

<simpleType name="AssetTrackingMethod">
  <restriction base="string">
    <enumeration value="NONE" />
    <enumeration value="IP" />
    <enumeration value="DNSNAME" />
    <enumeration value="NETBIOS" />
    <enumeration value="INSTANCE_ID" />
    <enumeration value="QAGENT" />
    <enumeration value="OCA" />
    <enumeration value="ORACLE" />
    <enumeration value="SEM" />
    <enumeration value="VIRTUAL_MACHINE_ID"/>
    <enumeration value="PASSIVE_SCANNER" />
    <enumeration value="GCP_INSTANCE_ID" />
  </restriction>
</simpleType>

<complexType name="HostAssetOpenPort">
  <sequence>
    <element name="port" type="integer" />
    <element name="protocol" minOccurs="0" type="tns:Protocol"/>
    <element name="serviceId" type="long" minOccurs="0" />
    <element name="serviceName" type="string" minOccurs="0" />
  </sequence>
</complexType>
  <complexType name="HostAssetOpenPortQList">
    <sequence>
      <element name="count" type="int" maxOccurs="1" minOccurs="0"/>
      <element name="list" minOccurs="0" maxOccurs="unbounded"
type="tns:HostAssetOpenPort"/>
      <element name="set" minOccurs="0" maxOccurs="unbounded"
</sequence>
    </complexType>

    <complexType name="HostAssetSoftware">
      <sequence>
        <element name="name" type="string" />
        <element name="version" type="string" default="unkown" />
      </sequence>
    </complexType>
      <complexType name="HostAssetSoftwareQList">
        <sequence>
          <element name="count" type="int" maxOccurs="1" minOccurs="0"/>

```

```

        <element name="list" minOccurs="0" maxOccurs="unbounded"
type="tns:HostAssetSoftware"/>
        <element name="set" minOccurs="0" maxOccurs="unbounded"
</sequence>
</complexType>

    <complexType name="HostAssetProcessor">
    <sequence>
    <element name="name" type="string" />
    <element name="speed" type="long" />
    </sequence>
</complexType>
    <complexType name="HostAssetProcessorQList">
    <sequence>
    <element name="count" type="int" maxOccurs="1" minOccurs="0"/>
    <element name="list" minOccurs="0" maxOccurs="unbounded"
type="tns:HostAssetProcessor"/>
    <element name="set" minOccurs="0" maxOccurs="unbounded"
</sequence>
</complexType>

    <complexType name="HostAssetVolume">
    <sequence>
    <element name="name" type="string" />
    <element name="size" type="long" />
    <element name="free" type="long" />
    </sequence>
</complexType>
    <complexType name="HostAssetVolumeQList">
    <sequence>
    <element name="count" type="int" maxOccurs="1" minOccurs="0"/>
    </sequence>
</complexType>

    <complexType name="HostAssetAccount">
    <sequence>
    <element name="username" type="string" />
    </sequence>
</complexType>
    <complexType name="HostAssetAccountQList">
    <sequence>
    <element name="count" type="int" maxOccurs="1" minOccurs="0"/>
    <element name="list" minOccurs="0" maxOccurs="unbounded"
type="tns:HostAssetAccount"/>
    </sequence>
</complexType>

    <simpleType name="HostAssetInterfaceType">
    <restriction base="string">

```

```

    <enumeration value="LOCAL" />
    <enumeration value="PUBLIC" />
    <enumeration value="ELASTIC" />
    <enumeration value="PRIVATE" />
    <enumeration value="UNKNOWN_TYPE" />
  </restriction>
</simpleType>

  <complexType name="HostAssetInterface">
    <sequence>
      <element name="hostname" type="string" />
      <element name="interfaceId" type="string" />
      <element name="interfaceName" type="string" />
      <element name="macAddress" type="string" />
      <element name="type" type="tns:HostAssetInterfaceType" />
      <element name="address" type="string" minOccurs="0" />
      <element name="dnsAddress" type="string" minOccurs="0" />
      <element name="gatewayAddress" type="string" minOccurs="0" />
    </sequence>
  </complexType>
  <complexType name="HostAssetInterfaceQList">
    <sequence>
      <element name="count" type="int" maxOccurs="1" minOccurs="0"/>
      <element name="list" minOccurs="0" maxOccurs="unbounded"
type="tns:HostAssetInterface"/>
    </sequence>
  </complexType>

  <complexType name="HostAssetVuln">
    <sequence>
      <element name="qid" type="long" />
      <element name="hostInstanceVulnId" type="long" />
      <element name="firstFound" type="dateTime" />
      <element name="lastFound" type="dateTime" />
    </sequence>
  </complexType>
  <complexType name="HostAssetVulnQList">
    <sequence>
      <element name="count" type="int" maxOccurs="1" minOccurs="0"/>
      <element name="list" minOccurs="0" maxOccurs="unbounded"
type="tns:HostAssetVuln"/>
    </sequence>
  </complexType>

  <complexType name="HostDockerInfo">
    <sequence>
      <element name="dockerVersion" type="string"/>
      <element name="noOfContainers" type="integer"/>

```

```

    <element name="noOfImages" type="integer"/>
  </sequence>
</complexType>

<complexType name="HostAsset">
  <complexContent>
    <extension base="tns:Asset">
      <sequence>
        <element name="qwebHostId" type="long" minOccurs="0" />
        <element name="lastComplianceScan" type="dateTime" minOccurs="0" />
        <element name="lastVulnScan" type="dateTime" minOccurs="0" />
        <element name="vulnsUpdated" type="dateTime" minOccurs="0" />
        <element name="informationGatheredUpdated" type="dateTime"
minOccurs="0" />
        <element name="lastSystemBoot" type="dateTime" minOccurs="0" />
        <element name="lastLoggedOnUser" type="string" minOccurs="0" />
        <element name="domain" type="string" minOccurs="0" />
        <element name="FQDN" type="string" minOccurs="0" />
        <element name="os" type="string" minOccurs="0" />
        <element name="dnsHostName" type="string" minOccurs="0" />
        <element name="AgentInfo" type="tns:QAgentAssetSource" minOccurs="0"
/>
        <element name="netbiosName" type="string" minOccurs="0" />
        <element name="netbiosNetworkId" type="long" minOccurs="0" />
        <element name="networkGuid" type="common:uuid" minOccurs="0" />
        <element name="address" type="string" minOccurs="0" />

        <element name="trackingMethod" type="tns:AssetTrackingMethod"
minOccurs="0" />
        <element name="cloudProvider" type="string" minOccurs="0"/>
        <element name="manufacturer" type="string" minOccurs="0" />
        <element name="model" type="string" minOccurs="0" />
        <element name="totalMemory" type="long" minOccurs="0" />
        <element name="timezone" type="string" minOccurs="0" />
        <element name="biosDescription" type="string" minOccurs="0" />

        <element name="openPort" minOccurs="0"
type="tns:HostAssetOpenPortQList" />
        <element name="software" minOccurs="0"
type="tns:HostAssetSoftwareQList" />
        <element name="vuln" minOccurs="0" type="tns:HostAssetVulnQList" />

        <element name="processor" type="tns:HostAssetProcessorQList"
minOccurs="0" />
        <element name="volume" type="tns:HostAssetVolumeQList" minOccurs="0"
/>
        <element name="account" type="tns:HostAssetAccountQList"
minOccurs="0" />
        <element name="networkInterface" type="tns:HostAssetInterfaceQList"

```

```
minOccurs="0" />
  <element name="isDockerHost" type="string" minOccurs="0"/>
  <element name="dockerInfo" type="tns:HostDockerInfo" minOccurs="0"/>
</sequence>
</extension>
</complexContent>
</complexType>
</schema>
```


AM API: Search host assets using IBM attributes

API affected	/qps/rest/2.0/search/am/hostasset
New or Updated APIs	Updated
DTD or XSD changes	No

The Asset Management API has been updated to allow searching host assets using IBM attributes.

Input Parameters

New input parameters for IBM attributes are described below.

Parameter	Description
ibmId={value}	The ID of your IBM resource.
ibmTagKey={value}	Tag key of the IBM resource.
ibmTagValue={value}	Value of the IBM resource tag.
datacenterId={value}	ID of the datacenter in which the IBM resource if located.
ibmLocation={value}	Name of datacenter in which the IBM resource if located.

All parameters support text input with EQUALS operator.

Sample - Searching IBM assets in your account

API request:

```
curl -u "USERNAME:PASSWORD" -H "content-type: text/xml" -X "POST"
--data-binary @-
"https://qualysapi.qualys.com/qps/rest/2.0/search/am/hostasset" <
file.xml
```

Note: "file.xml" contains the request POST data.

Request POST Data:

```
<?xml version="1.0" encoding="UTF-8"?>
<ServiceRequest>
  <filters>
    <Criteria field="ibmId" operator="EQUALS">64486457</Criteria>
  </filters>
</ServiceRequest>
```

XML output:

```
<?xml version="1.0" encoding="UTF-8"?>
<ServiceResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="http://qualysapi.qualys.com/qps/xsd/2.0/am
/hostasset.xsd">
  <responseCode>SUCCESS</responseCode>
  <count>1</count>
  <hasMoreRecords>>false</hasMoreRecords>
  <data>
    <HostAsset>
      <id>1940247</id>
      <name>COMW8X86-34-160</name>
      <created>2018-08-22T09:36:57Z</created>
      <modified>2021-11-08T03:48:10Z</modified>
      <type>HOST</type>
      <sourceInfo>
        <list>
          <IBMAssetSourceSimple>
            <assetId>1940247</assetId>
            <type>IBM</type>
            <ibmId>64486457</ibmId>
            <location>wdc07</location>
            <datacenterId>2017603</datacenterId>
            <deviceName>&quot;sme-centos01.Qualys-
              Inc.cloud&quot;</deviceName>
            <publicVlan>1330,1234</publicVlan>
            <domain>Qualys-Inc.cloud</domain>
            <privateVlan>1473,1474,1500</privateVlan>
            <publicIpAddress>10.10.10.111</publicIpAddress>
            <privateIpAddress>10.10.10.111</privateIpAddress>
          </IBMAssetSourceSimple>
          <AssetSource/>
        </list>
      </sourceInfo>
      <qwebHostId>27103</qwebHostId>
      <lastSystemBoot>2018-11-01T18:44:32Z</lastSystemBoot>
      <lastLoggedOnUser>root</lastLoggedOnUser>
      <domain>WORKGROUP</domain>
      <fqdn>sme-win01.Qualys-Inc.cloud.WORKGROUP</fqdn>
      <os>CentOS Linux 7.5.1804</os>
      <dnsHostName>sme-win01.Qualys-Inc.cloud</dnsHostName>
      <agentInfo>
        <agentVersion>2.1.0.494</agentVersion>
        <agentId>6710851f-1d18-4b2a-ac05-ea972e10ebb5</agentId>
        <status>STATUS_ACTIVE</status>
        <lastCheckedIn>2021-11-08T03:48:10Z</lastCheckedIn>
        <connectedFrom>10.10.10.111</connectedFrom>
        <chirpStatus>Inventory Scan Complete</chirpStatus>
        <platform>Windows</platform>
        <activatedModule>AGENT_PC</activatedModule>
      </agentInfo>
    </HostAsset>
  </data>
</ServiceResponse>
```

```
<agentConfiguration>
  <id>10001</id>
  <name>Suspend SelfPatch</name>
</agentConfiguration>
<activationKey>
  <activationId>28cf22f0-89a4-459c-b9ae-
    bc661901c4ff</activationId>
  <title>Accuracy T34 PC Windows</title>
</activationKey>
</agentInfo>
<address>10.10.10.111</address>
<trackingMethod>QAGENT</trackingMethod>
<manufacturer>Xen</manufacturer>
<model>HVM domU</model>
<totalMemory>986</totalMemory>
<timezone>-05:00</timezone>
<biosDescription>Xen 4.7.5-1.21 08/13/2018</biosDescription>
<openPort>
  <list>
    <HostAssetOpenPort>
      <port>5353</port>
      <protocol>UDP</protocol>
    </HostAssetOpenPort>
    ...
  </list>
</openPort>
<software>
  <list>
    <HostAssetSoftware>
      <name>cronie-anacron</name>
      <version>1.4.11-19.e17</version>
    </HostAssetSoftware>
    <HostAssetSoftware>
      <name>groff-base</name>
      <version>1.22.2-8.e17</version>
    </HostAssetSoftware>
    ...
  </list>
</software>
<processor>
  <list>
    <HostAssetProcessor>
      <name>Intel(R) Xeon(R) Gold 6130</name>
      <speed>2100</speed>
    </HostAssetProcessor>
  </list>
</processor>
<volume>
  <list>
```

```
        <HostAssetVolume>
          <name>/</name>
          <size>24694149120</size>
          <free>22382100480</free>
        </HostAssetVolume>
        ...
      </list>
    </volume>
    <account>
      <list>
        <HostAssetAccount>
          <username>root</username>
        </HostAssetAccount>
        ...
      </list>
    </account>
    <networkInterface>
      <list>
        <HostAssetInterface>
          <interfaceName>eth1</interfaceName>
          <macAddress>06:d2:2b:49:8d:9e</macAddress>
          <type>LOCAL</type>
          <address>fe80:0:0:0:4d2:2bff:fe49:8d9e</address>
          <gatewayAddress>169.61.80.145</gatewayAddress>
        </HostAssetInterface>
        ...
      </list>
    </networkInterface>
    <isDockerHost>>false</isDockerHost>
  </HostAsset>
</data>
</ServiceResponse>
```

AM API: View Image ID for GCP Host Assets

API affected	/qps/rest/2.0/get/am/hostasset
New or Updated APIs	Updated
DTD or XSD changes	No

With this release, we have added support to view the image ID for GCP host assets.

Sample: Get host asset API that shows the image ID for assets

The Get response for a host asset also returns the image ID for the GCP assets.

API Request

```
curl -n -u "USERNAME:PASSWORD" -H "content-type: text/xml"-X "GET" --  
"https://qualysapi.qualys.com/qps/rest/2.0/get/am/hostasset/9094428"
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>  
<ServiceResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  
xsi:noNamespaceSchemaLocation="https://qualysapi.qualys.com/qps/xsd/2.0/a  
m/hostasset.xsd">  
  <responseCode>SUCCESS</responseCode>  
  <count>1</count>  
  <data>  
    <HostAsset>  
      <id>9094428</id>  
      <name>ubuntu</name>  
      <created>2021-06-22T13:28:30Z</created>  
      <modified>2021-11-03T09:23:42Z</modified>  
      <type>HOST</type>  
      <tags>  
        <list>  
          <TagSimple>  
            <id>17071712</id>  
            <name>Test-Rj</name>  
          </TagSimple>  
          <TagSimple>  
            <id>7977614</id>  
            <name>Cloud Agent</name>  
          </TagSimple>  
        </list>  
      </tags>  
      <sourceInfo>  
        <list>  
          <GcpAssetSourceSimple>  
            <assetId>9094428</assetId>
```

```
<type>GCP</type>
<firstDiscovered>2021-06-
22T13:28:30Z</firstDiscovered>
<lastUpdated>2021-07-08T06:07:33Z</lastUpdated>
<gcpInstanceTags>
  <tags>
    <list>
      <GcpTags>
        <key>owner</key>
        <value>cloudagent</value>
      </GcpTags>
      <GcpTags>
        <key>lifecycle</key>
        <value>2021-12-12</value>
      </GcpTags>
      <GcpTags>
        <key>name</key>
        <value>ubuntu</value>
      </GcpTags>
      <GcpTags>
        <key>department</key>
        <value>lxag-qa</value>
      </GcpTags>
      <GcpTags>
        <key>jira</key>
        <value>clgov-223</value>
      </GcpTags>
    </list>
  </tags>
</gcpInstanceTags>
<instanceId>8003762316249967606</instanceId>
<hostname>ubuntu.c.qlys-dev-
lxag.internal</hostname>
<machineType>e2-medium</machineType>
<imageId>projects/centos-
cloud/global/images/centos-6-v20191014</imageId>
<zone>us-centrall1-a</zone>
<projectIdNo>884299025086</projectIdNo>
<state>RUNNING</state>
<projectId>qlys-dev-lxag</projectId>
<network>default</network>
<macAddress>42:01:0a:80:00:03</macAddress>
<publicIpAddress>34.67.192.156</publicIpAddress>
<privateIpAddress>10.128.0.3</privateIpAddress>
</GcpAssetSourceSimple>
<AssetSource/>
</list>
</sourceInfo>
<criticalityScore>2</criticalityScore>
```

```
<qwebHostId>1752639</qwebHostId>
<lastComplianceScan>2021-07-08T04:16:46Z</lastComplianceScan>
<lastVulnScan>2021-07-08T03:49:07Z</lastVulnScan>
<lastSystemBoot>2021-06-22T13:34:33Z</lastSystemBoot>
<lastLoggedOnUser>abc</lastLoggedOnUser>
<os>Ubuntu Linux 20.04.1</os>
<dnsHostName>ubuntu.c.qlys-dev-lxag.internal</dnsHostName>
<agentInfo>
  <agentVersion>4.5.0.11</agentVersion>
  <agentId>148c8f73-c6f6-40d6-a93e-117025bb6a24</agentId>
  <status>STATUS_INACTIVE</status>
  <lastCheckedIn>2021-07-08T06:07:33Z</lastCheckedIn>
  <connectedFrom>34.122.147.137</connectedFrom>
  <chirpStatus>Inventory Scan Complete</chirpStatus>
  <platform>LINUX_UBUNTU</platform>
</agentInfo>
<activatedModule>AGENT_PC,FIM,AGENT_VM,IOC</activatedModule>
<manifestVersion>
  <vm>VULNSIGS-VM-2.5.228.3-2</vm>
  <pc>VULNSIGS-PC-2.5.228.3-2</pc>
</manifestVersion>
<agentConfiguration>
  <id>169201</id>
  <name>selfpatch</name>
</agentConfiguration>
<activationKey>
  <activationId>059c7758-cd3e-425e-b9e7-
0e781a518c35</activationId>
  <title>Solaris</title>
</activationKey>
</agentInfo>
<networkGuid>6b48277c-0742-61c1-82bb-
cac0f9c4094a</networkGuid>
<address>10.128.0.3</address>
<trackingMethod>QAGENT</trackingMethod>
<cloudProvider>GCP</cloudProvider>
<manufacturer>Google</manufacturer>
<model>Google Compute Engine</model>
<totalMemory>3935</totalMemory>
<timezone>UTC</timezone>
<biosDescription>Google Google 01/01/2011</biosDescription>
<openPort>
  <list>
    <HostAssetOpenPort>
      <port>53</port>
      <protocol>TCP</protocol>
    </HostAssetOpenPort>
    <HostAssetOpenPort>
      <port>22</port>
```

```
        <protocol>TCP</protocol>
      </HostAssetOpenPort>
    <HostAssetOpenPort>
      <port>10001</port>
      <protocol>TCP</protocol>
    </HostAssetOpenPort>
  </list>
</openPort>
<software>
  <list>
    <HostAssetSoftware>
      <name>libgomp1:amd64</name>
      <version>10.3.0-1ubuntu1~20.04</version>
    </HostAssetSoftware>
    <HostAssetSoftware>
      <name>libgcc-s1:amd64</name>
      <version>10.3.0-1ubuntu1~20.04</version>
    </HostAssetSoftware>
  </list>
</software>
<vuln>
  <list>
    <HostAssetVuln>
      <qid>115068</qid>
      <hostInstanceVulnId>154353300</hostInstanceVulnId>
      <firstFound>2021-06-22T18:43:38Z</firstFound>
      <lastFound>2021-07-08T03:49:07Z</lastFound>
    </HostAssetVuln>
    <HostAssetVuln>
      <qid>105213</qid>
      <hostInstanceVulnId>154353302</hostInstanceVulnId>
      <firstFound>2021-06-22T18:43:38Z</firstFound>
      <lastFound>2021-07-08T03:49:07Z</lastFound>
    </HostAssetVuln>
  </list>
</vuln>
<processor>
  <list>
    <HostAssetProcessor>
      <name>Intel (R) Xeon (R)</name>
      <speed>2300</speed>
    </HostAssetProcessor>
    <HostAssetProcessor>
      <name>Intel (R) Xeon (R)</name>
      <speed>2300</speed>
    </HostAssetProcessor>
  </list>
</processor>
<volume>
```



```
<list>
  <HostAssetVolume>
    <name>/snap/google-cloud-sdk/188</name>
    <size>242745344</size>
    <free>0</free>
  </HostAssetVolume>
</list>
</volume>
<account>
  <list>
    <HostAssetAccount>
      <username>achaudhari</username>
    </HostAssetAccount>
  </list>
</account>
<networkInterface>
  <list>
    <HostAssetInterface>
      <hostname>ubuntu.c.qlys-dev-
lxag.internal</hostname>
      <interfaceName>ens4</interfaceName>
      <macAddress>42:01:0a:80:00:03</macAddress>
      <address>fe80:0:0:0:4001:aff:fe80:3</address>
      <gatewayAddress>10.128.0.1</gatewayAddress>
    </HostAssetInterface>
  </list>
</networkInterface>
<isDockerHost>>false</isDockerHost>
</HostAsset>
</data>
</ServiceResponse>
```

CA API: Ability to Fetch Binary Information

API affected	/qps/rest/1.0/process/ca/binaryinfo/
New or Updated APIs	New
DTD or XSD changes	Yes

With this release, you can fetch installer binary information using API. You must provide platform and architecture parameters in the request body of the curl request.

Input Parameters

Use these parameters to fetch installer binary information on the particular platform. Depending on the availability for your platform, you will be fetch the binary information.

Parameter	Description
platform={value}	(Required) Specify platform type. Valid values are ALL, WINDOWS, MACOSX, LINUX, AIX, LINUX_UBUNTU, BSD, SOLARIS_X_86, SOLARIS_SPARC, LINUX_PPC_64_LE, and LINUX_COREOS If you provide platform value as "ALL" in the request body, information of all the available binaries for all the platforms will be shown in the response. Platform value is case sensitive.
architecture={value}	(Required) Specify platform architecture. Valid values are ALL, X_86_64, ARM_64, X_64, POWER_5, PPC_64_LE, and SPARC If you provide architecture value as "ALL" in the request body, information of all the available binaries for all the architectures will be shown in the response. Architecture value is case sensitive.

For more information on supported platform and architecture, refer to the “Cloud Agent Platform Availability Matrix” section from [Cloud Agent Getting Started Guide](#).

Sample - Fetch Binary Information for Windows X86_64

API request:

```
curl -u fo_username:password -X POST -H "Content-Type: text/xml" -H "X-Requested-With: curl" --data-binary @info_binary.xml
"https://qualysapi.qualys.com/qps/rest/1.0/process/ca/binaryinfo/"
```

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

Contents of info_binary.xml

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

```
        <platform>WINDOWS</platform>
        <architecture>X_86_64</architecture>
    </BinaryInfo>
</data>
</ServiceRequest>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<ServiceResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="https://qualysapi.qualys.com/qps/xsd/1.0/c
a/binaryinfo.xsd">
    <responseCode>SUCCESS</responseCode>
    <count>1</count>
    <data>
        <AllBinaryInfo>
            <platforms>
                <Platform>
                    <name>Windows</name>
                    <version>4.1.0.67</version>
                    <hash>Hash-SHA-256 :
00fd45af84c28561757d35edee42cb3a8348c2c4008d526f7d57f32c05ad10bc</hash>
                    <extension>.exe</extension>
                </Platform>
            </platforms>
        </AllBinaryInfo>
    </data>
</ServiceResponse>
```

Sample - Fetch Binary Information for All Platforms/Architectures

API request:

```
curl -u fo_username:password -X POST -H "Content-Type: text/xml" -H "X-
Requested-With: curl" --data-binary @info_binary.xml
"https://qualysapi.qualys.com/qps/rest/1.0/process/ca/binaryinfo/"
```

Note: "info_binary.xml" contains the request POST data.

Contents of info_binary.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<ServiceRequest>
    <data>
        <BinaryInfo>
            <platform>ALL</platform>
            <architecture>ALL</architecture>
        </BinaryInfo>
    </data>
```

</ServiceRequest>

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<ServiceResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="https://qualysapi.qualys.com/qps/xsd/1.0/c
a/binaryinfo.xsd">
  <responseCode>SUCCESS</responseCode>
  <count>1</count>
  <data>
    <AllBinaryInfo>
      <platforms>
        <Platform>
          <name>Windows</name>
          <version>4.1.0.51</version>
          <hash>f5c1947925946be884a62aa5dd5f3ba11c3f5b66c3947070b1272927bbbe08cb</h
          ash>
          <extension>.exe</extension>
        </Platform>
        <Platform>
          <name>MACOSX</name>
          <version>3.7.0.55</version>
          <hash>Hash-SHA-256 :
15f1db35fe28da613f2acaf295c0e10b2d10fbbcb3030f2097a16f9d827b1511</hash>
          <extension>.pkg</extension>
        </Platform>
        <Platform>
          <name>Linux</name>
          <version>4.6.0.56</version>
          <hash>Hash-SHA-256 :
a3ffe919072e6dd048e429c1f443845e321c1105863087c0d4364eb4587c731b</hash>
          <extension>.rpm</extension>
        </Platform>
        <Platform>
          <name>LINUX_ARM</name>
          <version>3.8.0.45</version>
          <hash>Hash-SHA-256 :
dd65faecd3ff35ca99ee62bd5ae8733114e30cdd4c44809b9181f878c7c2e884</hash>
          <extension>.rpm</extension>
        </Platform>
        <Platform>
          <name>AIX</name>
          <version>3.10.0.16</version>
          <hash>Hash-SHA-256 :
8b231ed842898b58ddef9e04e6c31e9438dac8509225165c8786739d95f7006b</hash>
          <extension>.bff.gz</extension>
        </Platform>
```

```
<Platform>
  <name>LINUX_UBUNTU</name>
  <version>4.6.0.56</version>
  <hash>Hash-SHA-256 :
b718956f5c6c5b02ab13bb3a6d4e4874c57f85269b04f8d04aaaebb6d2caf9f8</hash>
  <extension>.deb</extension>
</Platform>
<Platform>
  <name>LINUX_UBUNTU_ARM</name>
  <version>3.8.0.45</version>
  <hash>Hash-SHA-256 :
ff9577b289fde499f0523207cb420cc5cf73ae87ce4f025551691d35f66124e9</hash>
  <extension>.deb</extension>
</Platform>
<Platform>
  <name>LINUX_PPC64</name>
  <version></version>
  <hash></hash>
  <extension>.rpm</extension>
</Platform>
<Platform>
  <name>LINUX_PPC64LE</name>
  <version>2.6.8.28</version>
  <hash>Hash-SHA-256 :
533f093de6549db60af3f515ca99f1975498b32fd08d81b96267d6946be3ffca</hash>
  <extension>.rpm</extension>
</Platform>
<Platform>
  <name>BSD</name>
  <version>3.12.0.6</version>
  <hash>Hash-SHA-256 :
11f8261a36dd6a208a0914f4a15fedc87be4e6f192458331f43f1dfac371f83a</hash>
  <extension>.txz</extension>
</Platform>
<Platform>
  <name>SOLARIS_X86</name>
  <version>3.11.0.7</version>
  <hash>Hash-SHA-256 :
e1f8565417a86d17b0a2da500fce9956af188a13661c252f1f02aca7acf0cedf</hash>
  <extension>.pkg</extension>
</Platform>
<Platform>
  <name>SOLARIS_SPARC</name>
  <version>3.11.0.7</version>
  <hash>Hash-SHA-256 :
c8394acb7548b0ee8fd808e305d65b713afb7e76ecea19fe94ff6b2adee7f990</hash>
  <extension>.pkg</extension>
</Platform>
<Platform>
```

```
        <name>LINUX_COREOS</name>
        <version>3.5.0.20</version>
        <hash>Hash-SHA-256 :
f5700ab7f6d3cd1810d3589fb9b6d01007dc771dc8dea66f8be35e9ad9e3fc3e</hash>
        <extension>.tar.xz</extension>
    </Platform>
</platforms>
</AllBinaryInfo>
</data>
</ServiceResponse>
```

XSD:

<platform API server>/qps/xsd/1.0/ca/binaryInfo.xsd

WAS API: Added OAUTH2 Support in the Authentication Records

API affected	/qps/rest/3.0/search/was/webappauthrecord /qps/rest/3.0/get/was/webappauthrecord/<id> /qps/rest/3.0/create/was/webappauthrecord /qps/rest/3.0/update/was/webappauthrecord/<id>
New or Updated APIs	Updated API
DTD or XSD changes	Yes

With this release, we now support OAuth2 for authenticating your Swagger/Open API file during WAS scans. You just need to configure OAuth2 details in the authentication records to scan your API files using OAuth2. Note that an OAuth2 record is only used for the authentication of the Swagger/Open API file.

We support these four types of OAuth2 grant types: 1) Authorization Code (parameter name is AUTH_CODE), 2) Implicit (parameter name is IMPLICIT), 3) Resource Owner Password Credentials (parameter name is PASSWORD), and 4) Client Credentials (parameter name is CLIENT_CREDS). Based on the grant types, we support different types of fields. See Input Parameters.

In the Create and Update authentication record API request, you can use the new <oauth2Record> tag to configure OAuth2 record. In <oauth2Record> tag, you can specify the grant type in the <grantType> tag and the fields supported by each grant type.

In the Authentication Search API, we added these four new keywords that you can specify in the "contents" parameter to search for OAuth2 records: OAUTH2_AUTH_CODE, OAUTH2_IMPLICIT, OAUTH2_PASSWORD, and OAUTH2_CLIENT_CREDS.

Note

When creating an authentication record, you can specify either a Form record (used for web application authentication) or an OAuth2 record (used for the Swagger/Open API file authentication) in the request. While updating an authentication record,

- Send the Form record with type as NONE if you want to set an OAuth2 record instead of a form record.
- Send OAuth2 with grant type as NONE if you want to set a Form record instead of an OAuth2 record.

Permissions

- You must have the WAS module enabled.
- You must have "API access" and "Access WAS module" permissions.
- You must have "Create Authentication Record" permission.

Input Parameters

Use these parameters to create and update OAuth2 authentication record:

Parameter	Description
oauth2Record.grantType	(Required if authentication type is OAuth2) Valid values are: 1) NONE, AUTH_CODE, IMPLICIT, PASSWORD, and CLIENT_CREDS. NONE means no grant type is selected.

These are fields we support for each grant type:

Grant Type	Input Fields
AUTH_CODE	We support these fields for Authorization Code: 1) seleniumScript, 2) redirectUrl, 3) accessTokenUrl, 4) clientId (optional), 5) clientSecret (optional), 6) scope, (optional) and 7) accessTokenExpiredMsgPattern (optional) Note: Selenium script is mandatory for authorization code. We support parametrized username and password in the selenium script. See “Create a Selenium script to parameterize username and password” in the WAS API guide.
IMPLICIT	We support these fields for Implicit: 1) seleniumScript, 2) redirectUrl Note: Selenium script is mandatory for Implicit. We support parametrized username and password in the selenium script. See “Create a Selenium script to parameterize username and password” in the WAS API guide.
PASSWORD	We support these fields for Resource Owner Password Credentials: 1) accessTokenUrl, 2) username, 3) password, 4) clientId (optional), 5) clientSecret (optional), 6) scope (optional), and 7) accessTokenExpiredMsgPattern (optional)
CLIENT_CREDS	We support these fields for Client Credentials: 1) accessTokenUrl, 2) clientId (optional), 3) clientSecret (optional), 4) scope, (optional)

Sample: Create an OAuth2 authentication record with grant type as Client Credentials

API Request

```
curl -n -u "USERNAME:PASSWORD" -H "content-type: text/xml"-X "POST" --
data-binary @-
"https://qualysapi.qualys.com/rest/3.0/create/was/webappauthrecord" <
file.xml
```

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

Request POST data

```
<ServiceRequest>
  <data>
    <WebAppAuthRecord>
      <name><![CDATA[GrantType-Client-credentials-SPP]]></name>
      <oauth2Record>
        <grantType>CLIENT_CREDS</grantType>
        <accessTokenUrl>http://www.authTokenUrl.com
        </accessTokenUrl>
        <clientId>clientIdVal</clientId>
        <clientSecret>clientSecretVal</clientSecret>
        <scope>scope</scope>
      </oauth2Record>
    </WebAppAuthRecord>
  </data>
</ServiceRequest>
```

Sample: Create an OAuth2 authentication record with selenium script

Let us create an OAuth2 authentication record with grant type Implicit that requires selenium script.

API Request

```
curl -n -u "USERNAME:PASSWORD" -H "content-type: text/xml"-X "POST" --
data-binary @-
"https://qualysapi.qualys.com/rest/3.0/create/was/webappauthrecord" <
file.xml
Note: "file.xml" contains the request POST data.
```

Request POST data

```
<ServiceRequest>
  <data>
    <WebAppAuthRecord>
      <name>
        <![CDATA[OAuth2 and Server Auth Record]]>
      </name>
      <serverRecord>
        <sslOnly>>true</sslOnly>
        <fields>
          <set>
            <WebAppAuthServerRecordField>
              <type>DIGEST</type>
              <domain>realm</domain>
              <username>
                <![CDATA[username]]>
              </username>
            </WebAppAuthServerRecordField>
          </set>
        </fields>
      </serverRecord>
    </WebAppAuthRecord>
  </data>
</ServiceRequest>
```

```
        <password>password</password>
      </WebAppAuthServerRecordField>
    </set>
  </fields>
</serverRecord>
<oauth2Record>
  <grantType>IMPLICIT</grantType>
  <redirectUrl>http://www.redirectUrl.com</redirectUrl>
  <seleniumScript>
    <name>
      <![CDATA[seleniumScriptOK]]>
    </name>
    <data>
      <![CDATA[
        <?xml version="1.0" encoding="UTF-8"?>
        <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0
Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
        <html xmlns="http://www.w3.org/1999/xhtml"
xml:lang="en" lang="en">
          <head>
            <meta http-equiv="Content-Type"
content="text/html; charset=UTF-8" />
            <link rel="selenium.base"
href="http://10.10.31.25/" />
            <title>seleauth</title>
          </head>
          <body>
            <table cellpadding="1" cellspacing="1"
border="1">
              <thead>
                <tr>
                  <td rowspan="1"
colspan="3">Untitled Test Case</td>
                </tr>
              </thead>
              <tbody>
                <tr>
                  <td>open</td>
                <td>http://10.10.31.25/login_2/index.php</td>
                <td></td>
                </tr>
                <tr>
                  <td>type</td>
                  <td>username</td>
                  <td>@@authusername@@</td>
                </tr>
                <tr>
                  <td>type</td>

```

```
        <td>name=password</td>
        <td>@@authpassword@@</td>
    </tr>
    <tr>
        <td>click</td>
        <td>css=input[type="submit"]</td>
        <td></td>
    </tr>
</tbody>
</table>
</body></html>]]>
</data>
<regex>
    <![CDATA[selenium]]>
</regex>
</seleniumScript>
<seleniumCreds>true</seleniumCreds>
<username>uname</username>
<password>pwd</password>
</oauth2Record>
</WebAppAuthRecord>
</data>
```

Sample: Update a Form Authentication record to OAuth2 record

Let us update a form authentication record to set OAuth2 record with Client Credentials grant type. If you want to set an OAuth2 record instead of a form record, then set the form record with type as NONE.

API Request

```
curl -n -u "USERNAME:PASSWORD" -H "content-type: text/xml"-X "POST" --
data-binary @-
"https://qualysapi.qualys.com/rest/3.0/update/was/webappauthrecord/<id>"
< file.xml
```

Note: "file.xml" contains the request POST data.

Request POST data

```
<ServiceRequest>
  <data>
    <WebAppAuthRecord>
      <name><![CDATA[Form and Server Auth SPP15]]></name>
      <serverRecord>
        <sslOnly>true</sslOnly>
        <fields>
          <set>
            <WebAppAuthServerRecordField>
              <type>DIGEST</type>
              <domain>realm</domain>
```

```
        <username><![CDATA[username]]></username>
        <password>password</password>
    </WebAppAuthServerRecordField>
</set>
</fields>
</serverRecord>
<formRecord>
    <type>NONE</type>
</formRecord>
<oauth2Record>
    <grantType>CLIENT_CREDS</grantType>
    <accessTokenUrl>http://www.authTokenUrl.com
</accessTokenUrl>
    <clientId>clientIdVal</clientId>
    <clientSecret>clientSecretVal</clientSecret>
    <scope>scope</scope>
</oauth2Record>
</WebAppAuthRecord>
</data>
</ServiceRequest>
```

Sample: Update a Form Authentication record to OAuth2 record with selenium script

Let us update a form authentication record to set OAuth2 record with grant type Implicit that requires selenium script. If you want to set an OAuth2 record instead of a form record, then set the form record with type as NONE .

API Request

```
curl -n -u "USERNAME:PASSWORD" -H "content-type: text/xml"-X "POST" --
data-binary @-
"https://qualysapi.qualys.com/rest/3.0/update/was/webappauthrecord/<id>"
< file.xml
```

Note: "file.xml" contains the request POST data.

Request POST data

```
<ServiceRequest>
  <data>
    <WebAppAuthRecord>
      <name>
        <![CDATA[OAuth2 and Server Auth Record]]>
      </name>
      <serverRecord>
        <sslOnly>true</sslOnly>
        <fields>
          <set>
            <WebAppAuthServerRecordField>
              <type>DIGEST</type>
              <domain>realm</domain>
```

```
        <username>
          <![CDATA[username]]>
        </username>
        <password>password</password>
      </WebAppAuthServerRecordField>
    </set>
  </fields>
</serverRecord>
<oauth2Record>
  <grantType>IMPLICIT</grantType>
  <redirectUrl>http://www.redirectUrl.com</redirectUrl>
  <seleniumScript>
    <name>
      <![CDATA[seleniumScriptOK]]>
    </name>
    <data>
      <![CDATA[
        <?xml version="1.0" encoding="UTF-8"?>
        <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0
Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
        <html xmlns="http://www.w3.org/1999/xhtml"
xml:lang="en" lang="en">
          <head>
            <meta http-equiv="Content-Type"
content="text/html; charset=UTF-8" />
            <link rel="selenium.base"
href="http://10.10.31.25/" />
            <title>seleauth</title>
          </head>
          <body>
            <table cellpadding="1" cellspacing="1"
border="1">
              <thead>
                <tr>
                  <td rowspan="1"
colspan="3">Untitled Test Case</td>
                </tr>
              </thead>
              <tbody>
                <tr>
                  <td>open</td>
                <td>http://10.10.31.25/login_2/index.php</td>
                <td></td>
                </tr>
                <tr>
                  <td>type</td>
                  <td>name=username</td>
                  <td>@@authusername@@</td>
                </tr>
              </tbody>
            </table>
          </body>
        </html>
      </CDATA[
    </data>
  </seleniumScript>
</oauth2Record>
```

```

        </tr>
        <tr>
            <td>type</td>
            <td>name=password</td>
            <td>@@authpassword@@</td>
        </tr>
        <tr>
            <td>click</td>
            <td>css=input[type="submit"]</td>
            <td></td>
        </tr>
    </tbody>
</table>
</body></html>]]>
</data>
<regex>
    <![CDATA[selenium]]>
</regex>
</seleniumScript>
<seleniumCreds>>true</seleniumCreds>
<username>uname</username>
<password>pwd</password>
</oauth2Record>
</WebAppAuthRecord>
</data>
</ServiceRequest>

```

Sample: Search OAuth2 records with Implicit grant type

Let us search OAuth2 records with Implicit grant type by passing OAUTH2_IMPLICIT keyword in the “contents” parameter.

```

curl -n -u "USERNAME:PASSWORD" -H "content-type: text/xml" -X "POST" --
data-binary @-
"https://qualysapi.qualys.com/rest/3.0/search/was/webappauthrecord" <
file.xml

```

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

Request POST data

```

<ServiceRequest>
  <filters>
    <Criteria field="contents" operator="IN">FORM_CUSTOM,SERVER_DIGEST,
      OAUTH2_IMPLICIT</Criteria>
  </filters>
</ServiceRequest>

<ServiceRequest>
  <filters>
    <Criteria field="contents" operator="EQUALS">OAUTH2_IMPLICIT

```

```

    </Criteria>
  </filters>
</ServiceRequest>

```

Updated XSD

<platform API server>/qps/xsd/3.0/was/webappauthrecord.xsd

We added the element oauth2Record under WebAppAuthRecord.

The elements grantType, accessTokenUrl, redirectUrl, username, password, clientId, clientSecret, scope, accessTokenExpiredMsgPattern, seleniumCreds, and seleniumScript are added under WebAppAuthOAuth2Record in the XSD.

All the new elements are in bold.

```

...
<xs:complexType name="WebAppAuthRecord">
  <xs:all>
    <xs:element name="id" type="xs:long" minOccurs="0"/>
    <xs:element name="name" type="Cdata" minOccurs="0"/>
    <xs:element name="owner" type="User" minOccurs="0"/>
    <xs:element name="formRecord" type="WebAppAuthFormRecord"
minOccurs="0"/>
    <xs:element name="serverRecord" type="WebAppAuthServerRecord"
minOccurs="0"/>
    <xs:element name="oauth2Record" type="WebAppAuthOAuth2Record"
minOccurs="0"/>
    <xs:element name="tags" type="TagList" minOccurs="0"/>
    <xs:element name="comments" type="CommentList" minOccurs="0"/>
    <xs:element name="createdDate" type="xs:dateTime"
minOccurs="0"/>
    <xs:element name="createdBy" type="User" minOccurs="0"/>
    <xs:element name="updatedDate" type="xs:dateTime"
minOccurs="0"/>
    <xs:element name="updatedBy" type="User" minOccurs="0" />
  </xs:all>
</xs:complexType>
...
<xs:complexType name="WebAppAuthOAuth2Record">
  <xs:all>
    <xs:element name="grantType" minOccurs="0">
    <xs:simpleType>
    <xs:restriction base="xs:string">
    <xs:enumeration value="NONE"/>
    <xs:enumeration value="AUTH_CODE"/>
    <xs:enumeration value="IMPLICIT"/>
    <xs:enumeration value="PASSWORD"/>
    <xs:enumeration value="CLIENT_CREDS"/>
    </xs:restriction>

```

```
    </xs:simpleType>
  </xs:element>
  <xs:element name="accessTokenUrl" type="Url" minOccurs="0"/>
  <xs:element name="redirectUrl" type="Url" minOccurs="0"/>
  <xs:element name="username" type="Cdata" minOccurs="0"/>
  <xs:element name="password" type="Cdata" minOccurs="0"/>
  <xs:element name="clientId" type="Cdata" minOccurs="0"/>
  <xs:element name="clientSecret" type="Cdata" minOccurs="0"/>
  <xs:element name="scope" type="Cdata" minOccurs="0"/>
  <xs:element name="accessTokenExpiredMsgPattern" type="Cdata"
minOccurs="0"/>
    <xs:element name="seleniumCreds" type="xs:boolean"
default="false" minOccurs="0"/>
    <xs:element name="seleniumScript" type="SeleniumScript"
minOccurs="0"/>
  </xs:all>
</xs:complexType>
...
```


WAS API: Create Report API to Use Default Template for Reports

Currently, you need to provide either a template ID or display and filter information when generating a report via Create Report API. Henceforth, you can generate a report without the template ID or display and filter information. In such a case, we will use the default template based on the type of the report to generate the report.

Issues Addressed

Asset Management

- We fixed an issue where the search/am/tag API endpoints returned an invalid response.