Table of Contents

About this Deployment Guide ................................................................. 4
   About Qualys ....................................................................................... 4
   Qualys Support ................................................................................ 4

Overview ........................................................................................................ 5
   Pre-requisites ...................................................................................... 5
   How to Copy CAMS/QGS Appliance VHD to Your Account ...................... 5
   How to Create Azure Image .................................................................... 6
   How to Deploy VM From the Image ........................................................ 8
   How to Create Public IP Address Prefix ................................................ 13
   How to Create a Public IP Address and a VM Association ....................... 13
   How to Access the CAMS/QGS Azure Appliance Using the Text UI ........... 15
   How to add an Inbound Port on the CAMS/QGS Azure Appliance ............ 16
   How to add a Secondary Hard Disk on the CAMS/QGS Azure Appliance ... 17
   How to Collect the Diagnostics Reports on the Azure Appliance ............... 18
About this Deployment Guide

This deployment guide contains the information for deploying, interacting, and configuring Centralized Appliance Management Service (CAMS) QGS Appliance on Microsoft Azure Cloud.

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 founding member of the Cloud Security Alliance (CSA). For more information, please visit www.qualys.com

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 online support information at www.qualys.com/support/.
Overview

The Qualys Gateway Service (QGS) is a packaged virtual appliance created by Qualys that provides proxy services for Qualys Cloud Agent deployments that require proxy connectivity in order to connect to the Qualys Cloud Platform.

This document outlines the steps required to set up a Centralized Appliance Management Service (CAMS) Qualys Gateway Service (QGS) appliance on the Microsoft Azure Cloud Platform (Azure).

Pre-requisites

- To set up the CAMS QGS appliance on Azure Cloud Platform, you need Microsoft Azure account.
- You must have CLI installed on your machine to use Azure CLI to launch and execute the command.
- To get the CAMS/QGS Azure VHD image, submit a service request to Qualys support.

How to Copy CAMS/QGS Appliance VHD to Your Account

You need to contact Qualys support to get the BLOB storage VHD URL.

Once you receive the BLOB storage VHD URL from Qualys support, you must use the following command to start copying the VHD using Azure CLI.

```
az storage blob copy start --source-uri "<Blob SAS URL provided by Qualys Support>" --account-name <Storage account name> --account-key "<Storage account key>" --destination-blob <destination blob name> --destination-container <destination Container name>
```

Example:

```
az storage blob copy start --source-uri "https://scannerstore.blob.core.windows.net/qvsa-images/qualys-qgs-2.0.0-17.vhd?sp=r&st=2023-02-16T06:13:42Z&se=2024-02-11T14:13:42Z&sr=c&sp=r&spr=https&sv=2021-06-08&sig=Lid%2F%2FEXWUGIhNwSVM6o%2FYrA2%2FyxsqymwPm1MMONQeD%3D" --account-name scannerstorage --account-key "Abcdefghijkl/XabePHYIyXXqchQ/mvghcYvFopImSos2z87ThXU1HRSc02k+awZUEPS" --destination-blob qualys-qgs-Azure.2.0.0-17.vhd --destination-container scanner-images
```

where:
- source-uri is the CAMS/QGS Azure image link provided by Qualys Operations
- account-name is the storage account name
- account-key is the storage account key
- destination-blob is the blob name
destination-container is the destination storage container name
Help: -h, --help for output usage information

How to Create Azure Image

The current version of CAMS/QGS supported Azure image is 2.0.0-17

1. Go to the Azure Portal and select the images once the image upload is successfully completed.
2. Select the correct Subscription and Resource group as per your requirement.
3. Click Create new to create a new image.

- Give the image a name. Remember that this image is a template that will be deployed to a different virtual machine later.
- Ensure that the location is the same as the location of your storage account.

4. In the OS disk section, select Linux and the OS type. Refer to the following screenshot.
- Click Browse on the Storage Blob field. A new panel can list your storage accounts. Using this panel, navigate through the storage account and container to locate the Security Access Manager VHD that was uploaded.

5. Click **Create** to create the image. This process typically takes minutes to complete. Return to the Images panel once the process is finished to ensure the new image was created.
How to Deploy VM From the Image

1. Go to the Azure portal to find a managed image. Search and select images.

2. Select the image you want to use from the list. The image Overview page opens.
3. Click **Create VM**, as shown in the following screenshot.

- Enter the virtual machine information. Make sure to select the License type as **Other**.

- Ensure the VM minimum requirement is selected as mentioned in the **QGS User Guide**.
- The public inbound ports should strictly be selected as None.

4. Select a size for the VM. To see more sizes, select View all or change the Supported disk type filter.

5. For disk, make sure to select the Delete with VM option so as not to flood Azure with redundant disks.
6. In Networking tab, select **None** as the public IP and **NIC network security group** as Basic.

- Make sure to select **Delete public IP** and **Delete NIC when VM is deleted** so you do not run out of NICs.
How to Deploy VM From the Image

Note: Do not use any options on the Management and Monitoring tab. As highlighted in the following screenshot.

7. In the Advanced tab, select Enable user data and Add the following details as user data.

```
#cloud-config
write_files:
  - owner: root:root
    path: /opt/qualys/cloud.env
    permissions: '0644'
    content: |
      POD_SUFFIX="Add your corresponding POD suffix here"
```
To know the POD suffixes for corresponding PODs, refer to the following table:

<table>
<thead>
<tr>
<th>Platform</th>
<th>Cloud Agent</th>
<th>Platform URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>US 1</td>
<td>qagpublic.qg1.apps.qualys.com</td>
<td>qg1.apps.qualys.com</td>
</tr>
<tr>
<td>US 2</td>
<td>qagpublic.qg2.apps.qualys.com</td>
<td>qg2.apps.qualys.com</td>
</tr>
<tr>
<td>US 4</td>
<td>qagpublic.qg4.apps.qualys.com</td>
<td>qg4.apps.qualys.com</td>
</tr>
<tr>
<td>EU 1</td>
<td>qagpublic.qg1.apps.qualys.eu</td>
<td>qg1.apps.qualys.eu</td>
</tr>
<tr>
<td>EU 2</td>
<td>qagpublic.qg2.apps.qualys.eu</td>
<td>qg2.apps.qualys.eu</td>
</tr>
<tr>
<td>IN 1</td>
<td>qagpublic.qg1.apps.qualys.in</td>
<td>qg1.apps.qualys.in</td>
</tr>
<tr>
<td>CA 1</td>
<td>qagpublic.qg1.apps.qualys.ca</td>
<td>qg1.apps.qualys.ca</td>
</tr>
<tr>
<td>AE 1</td>
<td>qagpublic.qg1.apps.qualys.ae</td>
<td>qg1.apps.qualys.ae</td>
</tr>
<tr>
<td>UK1</td>
<td>qagpublic.qg1.apps.qualys.co.uk</td>
<td>qg1.apps.qualys.co.uk</td>
</tr>
</tbody>
</table>

Important:
- While copying the user data, avoid the spaces or blank lines after the last sentence of the user data.
- Use any Online YAML validator to ensure the indentation in the user data is correct. Every dot represents one space.

Note: To ensure a valid YAML configuration, refer to the Important section on page 8 of the Qualys Gateway Service AWS Deployment Guide, and perform the steps precisely.

8. Add relevant tags as required and create a VM.

**How to Create Public IP Address Prefix**

To create a public IP address prefix, you need to visit the Azure portal. Follow all the steps mentioned in the Azure portal.

**How to Create a Public IP Address and a VM Association**

Note the NIC of your VM using the following steps:

1. Log in to the Azure portal.
2. Go to the CAMS/QGS azure VM under the Virtual machines tab.
3. Go to Networking option under the Setting tab. As shown in the following screenshot.
How to Create a Public IP Address and a VM Association

4. Under the Public IP Prefix section, click **Add IP Address** to add a new IP address.

5. Now, go to the **Public IP Addresses** tab and click on the IP you created. Associate this IP with the NIC of your VM.
Refer to the following screenshot to see the associated public IP address.

How to Access the CAMS/QGS Azure Appliance Using the Text UI

The following are the steps given for accessing the CAMS/QGS Azure appliance using the text UI.

1. Click the CAMS/QGS Azure VM.
2. Go to Serial Console under Help in the left panel.
3. Refer to the following screenshot to view the appliance Text UI.

To create or register a new appliance, follow the steps mentioned in the QGS User Guide.
How to add an Inbound Port on the CAMS/QGS Azure Appliance

To use the tunnel, cache, or patch port on the appliance; you must add the inbound port rule on the CAMS/QGS Azure appliance, as mentioned in the following section.

1. Click the **Networking** tab of the appliance to which the inbound port rules need to be added.

![Networking tab](image)

2. Add the inbound port rule as per your network standards. Make sure to use the correct port; here, in the example cache port is 8080, and the selected protocol is TCP. Save the rule, and it can be added to the VM.

![Add inbound security rule](image)
How to add a Secondary Hard Disk on the CAMS/QGS Azure Appliance

The following are steps for adding the secondary hard disk while deploying the Azure VM.

1. Go to the Disks tab and select **Create and attach a new disk**.

2. Add a required size (more than 250GB in case of patch mode), Name, select the Source type, etc, and click **OK**.

- Another method for adding the secondary disk to the appliance is to use the Disks option on the left-hand pane of a deployed Azure VM.

- Click **Create and attach a new disk** option. Refer to the following screenshot.
- Click the **Edit** icon, add the secondary disk details and click **Save**.

---

**How to Collect the Diagnostics Reports on the Azure Appliance**

To collect the diagnostics report, you must add an inbound port rule on port 22. Otherwise, you cannot SCP on the port to collect the diagnostics report.

**Note:** Disable the rule after collecting the report if the rule is no longer in use.