Qualys®

Virtual Firewall Appliance

User Guide

February 16, 2022

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

Table of Contents

VMware and Hyper-V Configuration

Follow the steps below to deploy your WAF firewall cluster in VMware (vCenter) or Microsoft Hyper-V and configure your DNS. You'll need to funnel traffic through the WAF cluster by changing your DNS.

Once you complete these steps, we'll start monitoring your web application for security violations. Also your WAF cluster will start making outbound connections to the Qualys Cloud Platform for regular health checks - these confirm the cluster is properly configured and has the latest software.

Tell me the steps

1) Download the OVA image (VMware) or the VHD image (Hyper-V). You'll get the image when you add a new WAF appliance (go to WAF Appliances > WAF Clusters, click the New WAF Appliance button).

2) Import the image in your virtualization platform. The OVA image supports VMware for production (and can be used in VirtualBox for test purposes only), while the VHD image supports Microsoft Hyper-V.

3) Set up the virtual appliance using the CLI (Command Line Interface).

4) Verify the registration of the appliance.

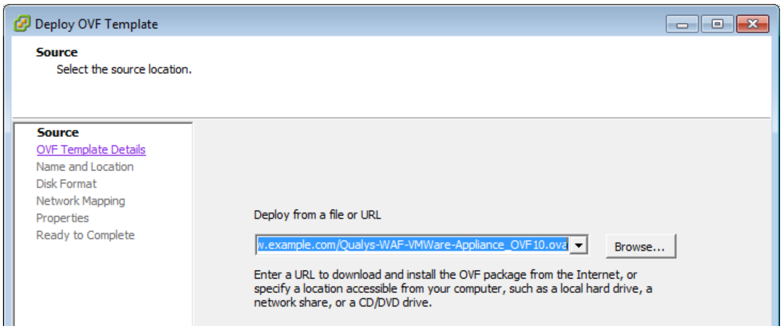
5) Test availability of your web application through Qualys WAF. Once confirmed, you'll need to alias DNS entries to direct traffic at your origin infrastructure.

Import and Register your WAF Appliance

Using vCenter

Start your VMware Client.

Choose "Deploy OVA File". This starts the OVA Template wizard. Browse to the downloaded OVA and select it (or enter the URL where the OVA can be downloaded).



Deploy OVF Template

Source
Select the source location.

Source
OVF Template Details
Name and Location
Disk Format
Network Mapping
Properties
Ready to Complete

Deploy from a file or URL

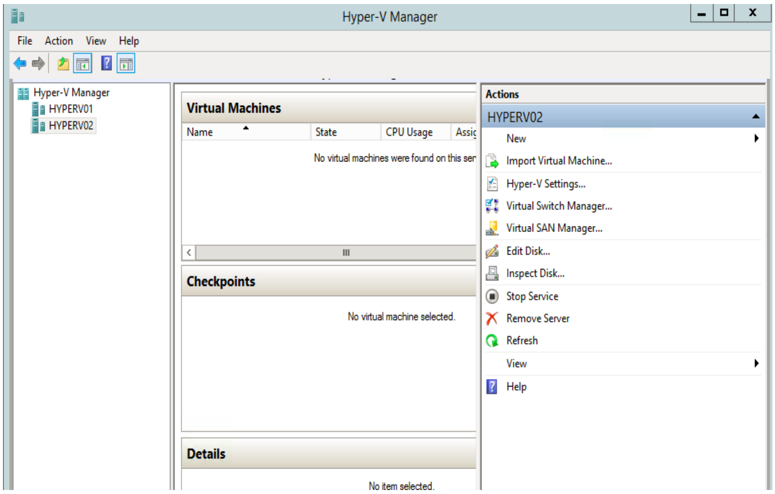
w.example.com/Qualys-WAF-VMWare-Appliance_OVF10.ova

Enter a URL to download and install the OVF package from the Internet, or specify a location accessible from your computer, such as a local hard drive, a network share, or a CD/DVD drive.

Using Hyper-V

Start your Hyper-V Manager.

Select New > Virtual Machine… and using the "New Virtual Machine Wizard" create a new virtual machine.



No virtual machines were found on this ser

No virtual machine selected.

No item selected.

Good to know

Hyper-V appliance currently does not support static network configuration through the CLI. You will need to setup an external DHCP configuration, and configure it to provide a permanent IP address to the VM's mac-address. Bear this in mind especially if you're using a virtual switch for WAF connectivity, on Hyper-V Manager. To monitor your network configuration through CLI, you can use "ifconfig", "show network", "network [help]", and "routes [help]" commands.

Step through the wizard

We provide a default name for your WAF instance, and you can change it. Select disk format and mapping settings appropriate for your environment. Do not set WAF-specific properties in the wizard as they are deprecated and will be removed in a future release. You will set properties using the CLI. See Set Up the Appliance using the CLI

Set Up the Appliance using the CLI

Log in as “waf-user” via SSH or System Console

The first login forces you to change your password.

```
$ ssh waf-user@10.1.1.5
You are required to change your password immediately (root
enforced)
WARNING: Your password has expired.
You must change your password now and login again!
Changing password for user waf-user.
New password: C-om34EhbTz.6aiMU4C
Retype new password: C-om34EhbTz.6aiMU4C
passwd: all authentication tokens updated successfully.

Connection to 10.1.1.5 closed.
```

Configuration

Set the required properties: waf_service_url (URL of Qualys Cloud Platform hosting your account) and registration_code. See WAF registration parameters. More properties may be required depending on your networking environment. See CLI Reference for details.

```
$ ssh waf-user@10.1.1.5

qualys waf # help
Commands (type help <command>):
===============================
deregister help passwd save show status viewlog diag ifconfig
reboot set shutdown sysinfo waf exit network routes setup ssh
unset

qualys waf # set
Syntax: set KEY=VALUE
    Valid keys:
       waf_service_url
       proxy_url
       sem_syslog_addr
       registration_code
       waf_ssl_passphrase

qualys waf # set waf_service_url=https://rns.qualys.com
qualys waf # set registration_code=A30BC162-785A-4BAF-A5D5-
1A2DE9C6DA3A
qualys waf # save
Saved Successfully
```

Reboot may be required

...if you are changing the token (e.g. re-registration).

```
qualys waf # reboot
Are you sure you want to reboot?  <y/N> y
Rebooting

Broadcast message from waf-user@dhcp-10-1-1-5
(/dev/pts/0) at 18:05 ...


The system is going down for reboot NOW!
Connection to 10.1.1.5 closed.
```

Verify Registration

You can do this using the CLI as shown below, or the WAF user interface (go to WAF Appliances > WAF Clusters).

```
qualys waf # status
Checking status.... Done.
Connectivity to Qualys: OK
Registration status: OK
Sensor Id: 2b9af5aa-f99e-45bf-86dd-3d45a4d6b3f7
Registration Code: 3F159371-6188-4B7C-8C6D-48E764ADF00D
qualys waf # quit

Connection to 10.1.1.5 closed.
```

Note: When you check the appliance status, “Connectivity to Qualys” may show OK even if you do not set the WAF_SERVICE_URL. This is because WAF_SERVICE_URL takes the default value https://rns.qualys.com:443/ when not explicitly set to a custom value.

That’s it! You’ve configured your WAF virtual appliance. Once you’re done we’ll start a distributed network of sensors for your WAF cluster. Also your WAF cluster will start making outbound connections to the Qualys Cloud Platform.

WAF registration parameters

While registering a WAF appliance, you need to provide WAF registration code and other properties as appropriate using the variables below:

Variable	Description
WAF_SERVICE_URL	(Required) The URL of the Qualys Cloud Platform hosting your Qualys account. Supported platform URLs are: US Platform 1 https://rns.qualys.com US Platform 2 https://rns.qg2.apps.qualys.com US Platform 3 https://rns.qg3.apps.qualys.com EU Platform 1 https://rns.qualys.eu EU Platform 2 https://rns.qg2.apps.qualys.eu India Platform 1 https://rns.qg1.apps.qualys.in Note: When you check the appliance status, “Connectivity to Qualys" may show OK even if you do not set the WAF_SERVICE_URL. This is because WAF_SERVICE_URL takes the default value https://rns.qualys.com:443/ when not explicitly set to a custom value.
REGISTRATION_CODE	(Required) Enter the WAF registration code in this format: REGISTRATION_CODE=your_code. You can find this code by going to the WAF clusters list (WAF Appliances > WAF Clusters).
PROXY_URL	(Required if a proxy is required for the WAF cluster to access the Qualys Cloud Platform) If the WAF needs to connect to the Qualys Cloud Platform through an HTTP proxy, please input the URL of the proxy. Enter the proxy URL in this format: PROXY_URL=proxy_url
WAF_SSL_PASSPHRASE	(Required if the appliance protects a site communicating over SSL) If your web application’s primary or secondary base URL uses the HTTPS protocol, the Qualys Cloud Platform portal protects the private key by encrypting it with a 64 byte dedicated passphrase. This way, it’s not accessible in clear on the Qualys Platform. This WAF_SSL_PASSPHRASE needs to be set on the appliance, for decrypting the key. Enter the passphrase in this format: WAF_SSL_PASSPHRASE=passphrase

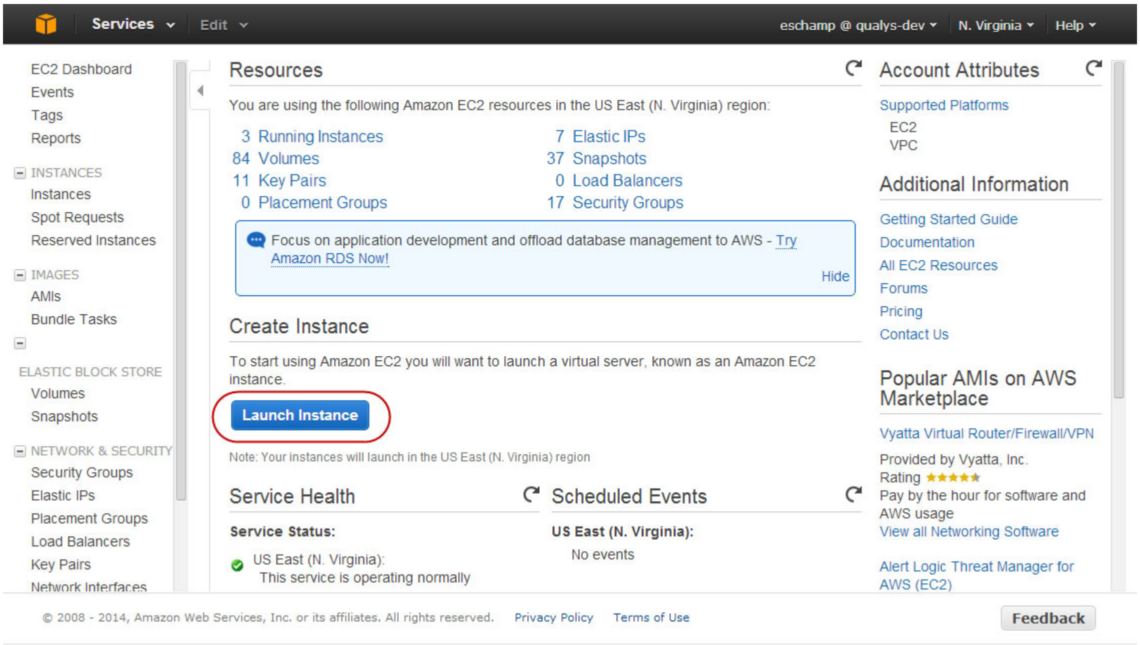
Amazon EC2 Configuration

Follow the steps below to deploy your WAF firewall cluster in Amazon EC2 and configure your DNS. You'll need to funnel traffic through the WAF cluster by changing your DNS.

Once you complete these steps, we'll start monitoring your web application for security violations. Also your WAF cluster will start making outbound connections to the Qualys Cloud Platform for regular health checks - these confirm the cluster is properly configured and has the latest software.

Launch New EC2 Instance

1) Go to your Amazon EC2 Dashboard and launch an instance



Resources

You are using the following Amazon EC2 resources in the US East (N. Virginia) region:

3 Running Instances	7 Elastic IPs
84 Volumes	37 Snapshots
11 Key Pairs	0 Load Balancers
0 Placement Groups	17 Security Groups

Focus on application development and offload database management to AWS - Try Amazon RDS Now!

Create Instance

To start using Amazon EC2 you will want to launch a virtual server, known as an Amazon EC2 instance.

Note: Your instances will launch in the US East (N. Virginia) region

Service Health

Service Status:

✓ US East (N. Virginia):
This service is operating normally

Scheduled Events

US East (N. Virginia):
No events

Account Attributes

Supported Platforms
EC2
VPC

Additional Information

Getting Started Guide
Documentation
All EC2 Resources
Forums
Pricing
Contact Us

Popular AMIs on AWS Marketplace

Vyatta Virtual Router/Firewall/VPN
Provided by Vyatta, Inc.
Rating ★★★★★
Pay by the hour for software and AWS usage
View all Networking Software

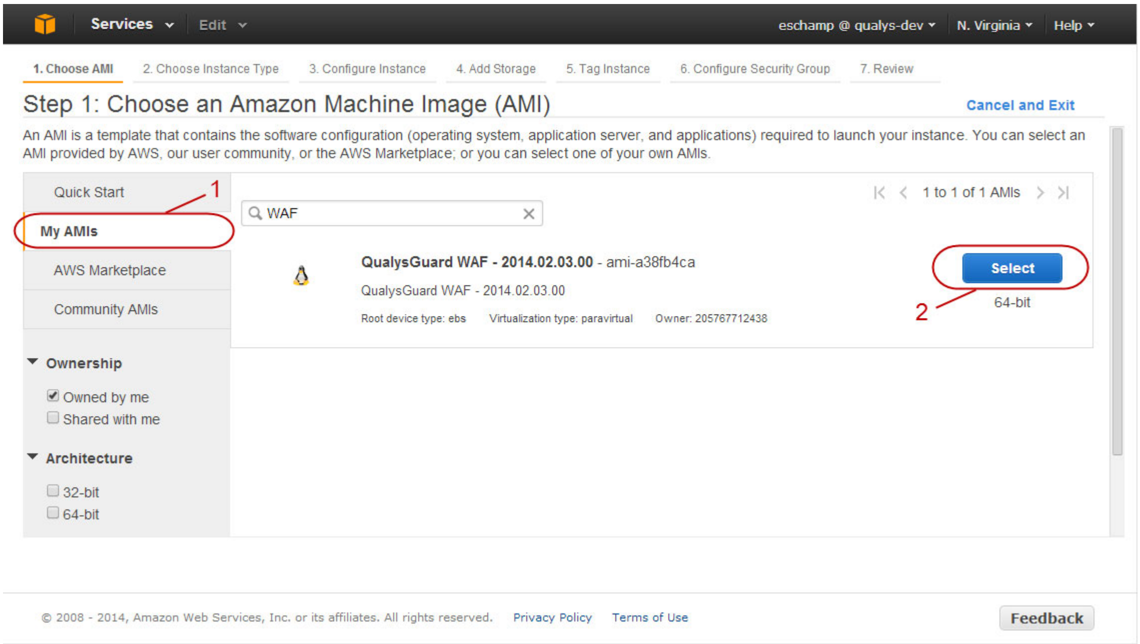
Alert Logic Threat Manager for AWS (EC2)

© 2008 - 2014, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use

2) Choose the WAF AMI

Click My AMIs (1) and then select the QualysGuard WAF AMI (2).

Tip Use the search box to find this quickly. Just enter “WAF” and click Enter.



Step 1: Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

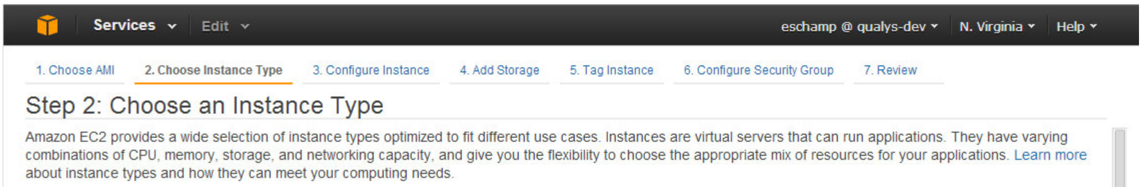
QualysGuard WAF - 2014.02.03.00 - ami-a38fb4ca
QualysGuard WAF - 2014.02.03.00
Root device type: ebs   Virtualization type: paravirtual   Owner: 205767712438

© 2008 - 2014, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Don’t see the WAF AMI? Please contact your Technical Account Manager or our Support Team for assistance.

3) Choose Instance Type

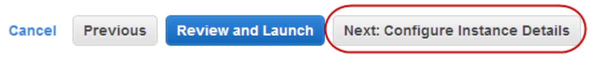
You’ll choose from a wide variety of instance types.



Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. Learn more about instance types and how they can meet your computing needs.

Select an instance type and then click “Next: Configure Instance Details”.



4) Configuration

Open Advanced Details. In the User Data field, enter your WAF registration code and other properties as appropriate. See WAF registration parameters.

5) Additional steps (optional)

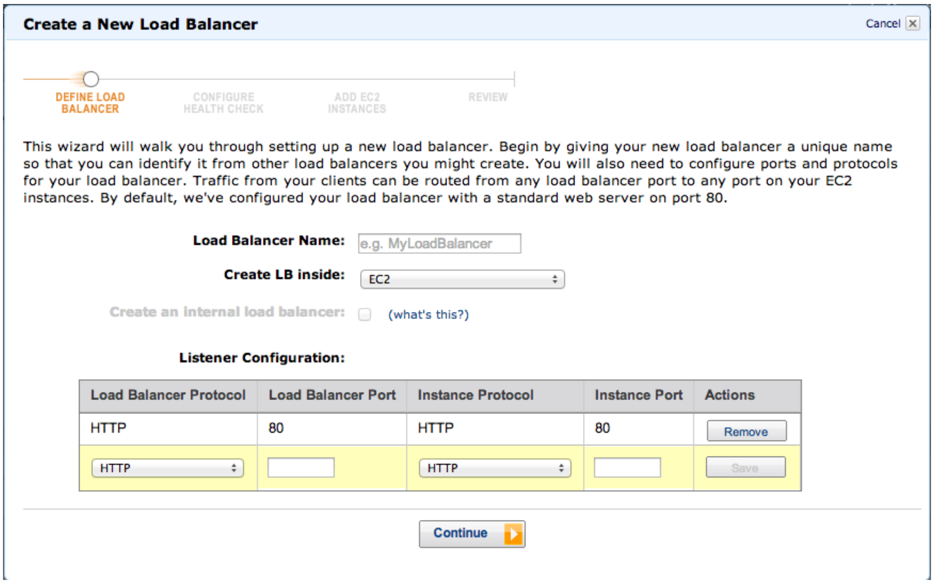
You might want to add storage, tag the instance and configure security groups.

6) Click Review and Launch

Be sure to wait until the WAF AMI status is green (this means it's running). Then you're ready to add the AMI instance to the EC2 load balancer (see the next section).

Add Your WAF AMI to the Load Balancer

1) Create an HTTP Load Balancer Instance



Create a New Load Balancer

This wizard will walk you through setting up a new load balancer. Begin by giving your new load balancer a unique name so that you can identify it from other load balancers you might create. You will also need to configure ports and protocols for your load balancer. Traffic from your clients can be routed from any load balancer port to any port on your EC2 instances. By default, we've configured your load balancer with a standard web server on port 80.

Load Balancer Name: e.g. MyLoadBalancer

Create LB inside: EC2

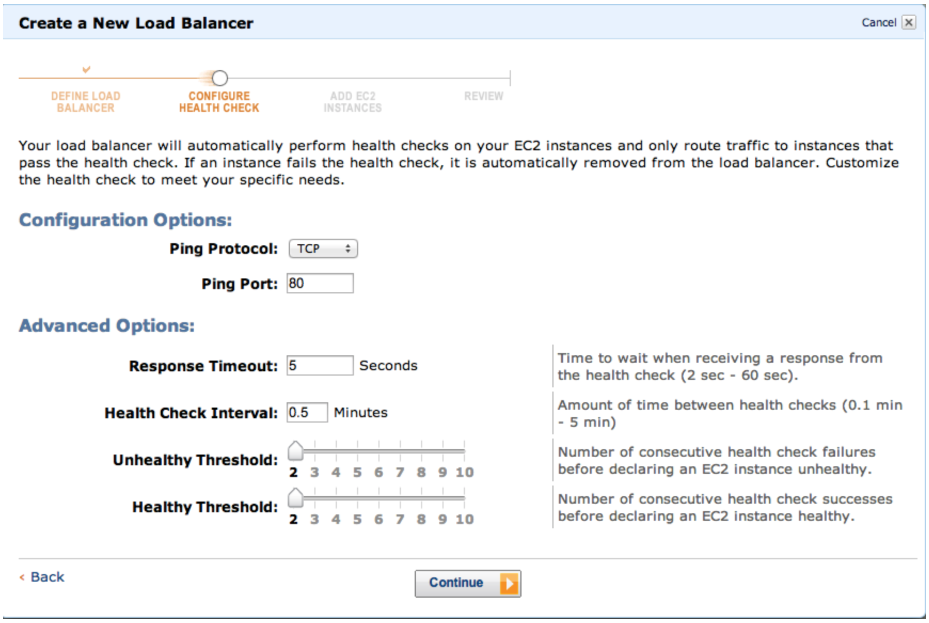
Create an internal load balancer: □ (what's this?)

Listener Configuration:

Load Balancer Protocol	Load Balancer Port	Instance Protocol	Instance Port	Actions
HTTP	80	HTTP	80	Remove
HTTP		HTTP		Save

2) Set up your Health Checks

Choose the TCP Ping Protocol option. Later, when your web application is online, you can choose a URL for a comprehensive health check.



Your load balancer will automatically perform health checks on your EC2 instances and only route traffic to instances that pass the health check. If an instance fails the health check, it is automatically removed from the load balancer. Customize the health check to meet your specific needs.

Configuration Options:

Ping Protocol: TCP

Ping Port: 80

Advanced Options:

Response Timeout: 5 Seconds — Time to wait when receiving a response from the health check (2 sec - 60 sec).

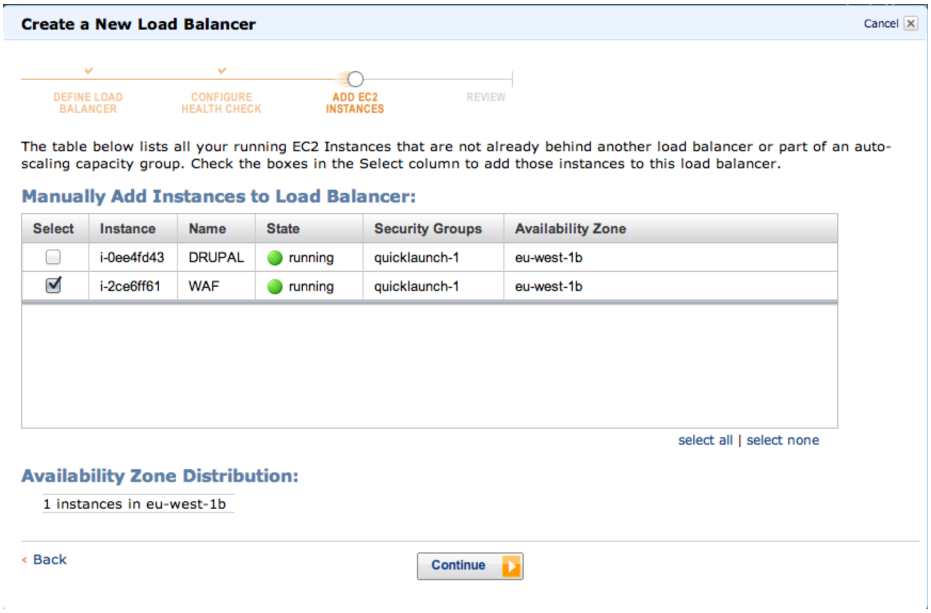
Health Check Interval: 0.5 Minutes — Amount of time between health checks (0.1 min - 5 min)

Unhealthy Threshold: 2 — Number of consecutive health check failures before declaring an EC2 instance unhealthy.

Healthy Threshold: 2 — Number of consecutive health check successes before declaring an EC2 instance healthy.

3) Add Your WAF Instance in the Cluster

Click the “Select” check box beside your WAF instance to add it to the load balancer. Your load balancer is now created and will soon be able to handle requests.



The table below lists all your running EC2 Instances that are not already behind another load balancer or part of an auto-scaling capacity group. Check the boxes in the Select column to add those instances to this load balancer.

Manually Add Instances to Load Balancer:

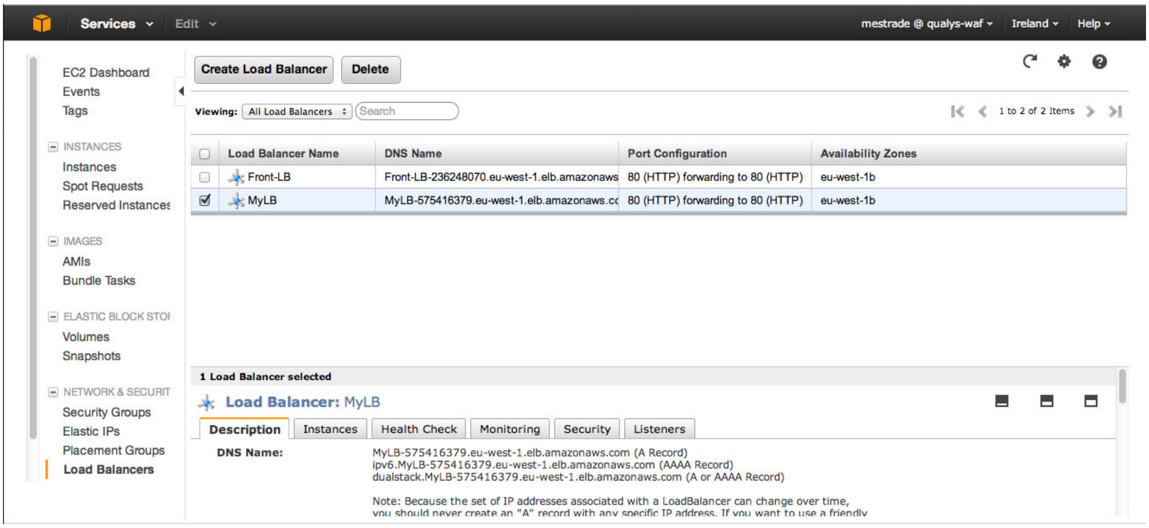
Select	Instance	Name	State	Security Groups	Availability Zone
□	i-0ee4fd43	DRUPAL	● running	quicklaunch-1	eu-west-1b
☑	i-2ce6ff61	WAF	● running	quicklaunch-1	eu-west-1b

Availability Zone Distribution:

1 instances in eu-west-1b

4) Redirect Your Traffic to the Load Balancer Hostname

Test the availability of your web application through the load balancer. Once confirmed, you'll need to alias your DNS entries to the Amazon EC2 load balancer you just created.



☐	Load Balancer Name	DNS Name	Port Configuration	Availability Zones
☐	Front-LB	Front-LB-236248070.eu-west-1.elb.amazonaws	80 (HTTP) forwarding to 80 (HTTP)	eu-west-1b
☑	MyLB	MyLB-575416379.eu-west-1.elb.amazonaws.cc	80 (HTTP) forwarding to 80 (HTTP)	eu-west-1b

1 Load Balancer selected

Load Balancer: MyLB

DNS Name: MyLB-575416379.eu-west-1.elb.amazonaws.com (A Record)
ipv6.MyLB-575416379.eu-west-1.elb.amazonaws.com (AAAA Record)
dualstack.MyLB-575416379.eu-west-1.elb.amazonaws.com (A or AAAA Record)

Note: Because the set of IP addresses associated with a LoadBalancer can change over time,
you should never create an "A" record with any specific IP address. If you want to use a friendly

That's it! You've configured your WAF virtual appliance. Once you're done we'll start a distributed network of sensors for your WAF cluster. Also your WAF cluster will start making outbound connections to the Qualys Cloud Platform (HTTPS over TCP-443).

Microsoft Azure Configuration

Follow the steps below to deploy your WAF firewall on Microsoft Azure.

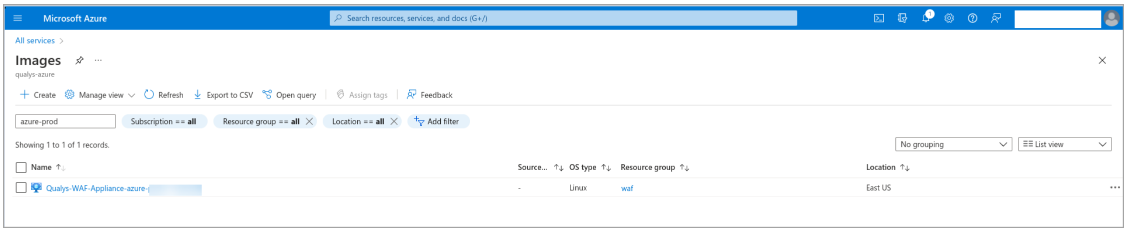
Once you complete these steps, we'll start monitoring your web application for security violations. Also your WAF appliance will start making outbound connections to the Qualys Cloud Platform for regular health checks. This confirms that the appliance is properly configured and has the latest software.

Deploy WAF on Azure

1) Go to your Azure Dashboard and under Images find the Qualys WAF image.

Click All services, and then click Images. Search for the WAF image.

Tip Use the search box to find this quickly. Just enter "WAF" and click Enter.



azure-prod | Subscription == **all** | Resource group == **all** | Location == **all**

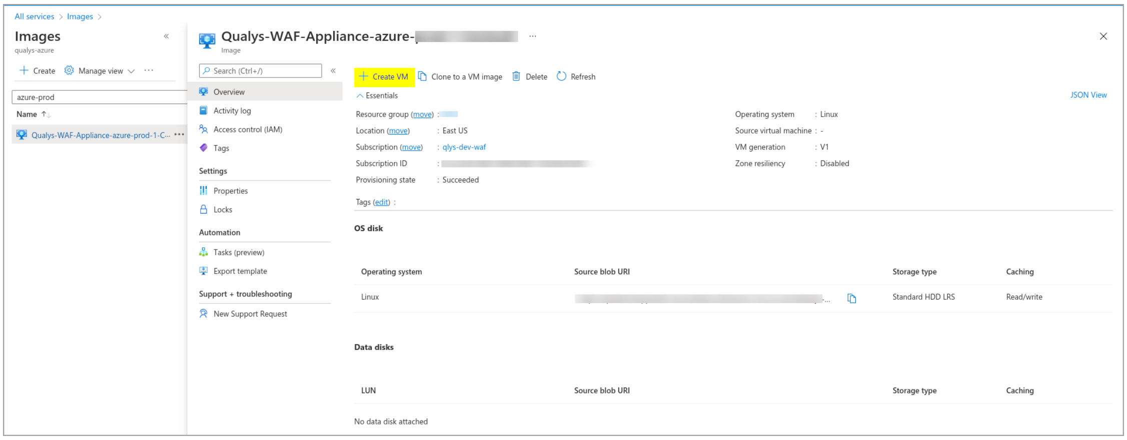
Showing 1 to 1 of 1 records.

☐ Name ↑↓	Source... ↑↓	OS type ↑↓	Resource group ↑↓	Location ↑↓
☐ Qualys-WAF-Appliance-azure-[redacted]	-	Linux	waf	East US

Don't see the WAF image? Please contact your Technical Account Manager or our Support.

2) Create the WAF VM.

Click the WAF image, and then click Create VM.



Resource group (move) : [redacted]
Location (move) : East US
Subscription (move) : qlys-dev-waf
Subscription ID : [redacted]
Provisioning state : Succeeded

Operating system : Linux
Source virtual machine : -
VM generation : V1
Zone resiliency : Disabled

Tags (edit) :

OS disk

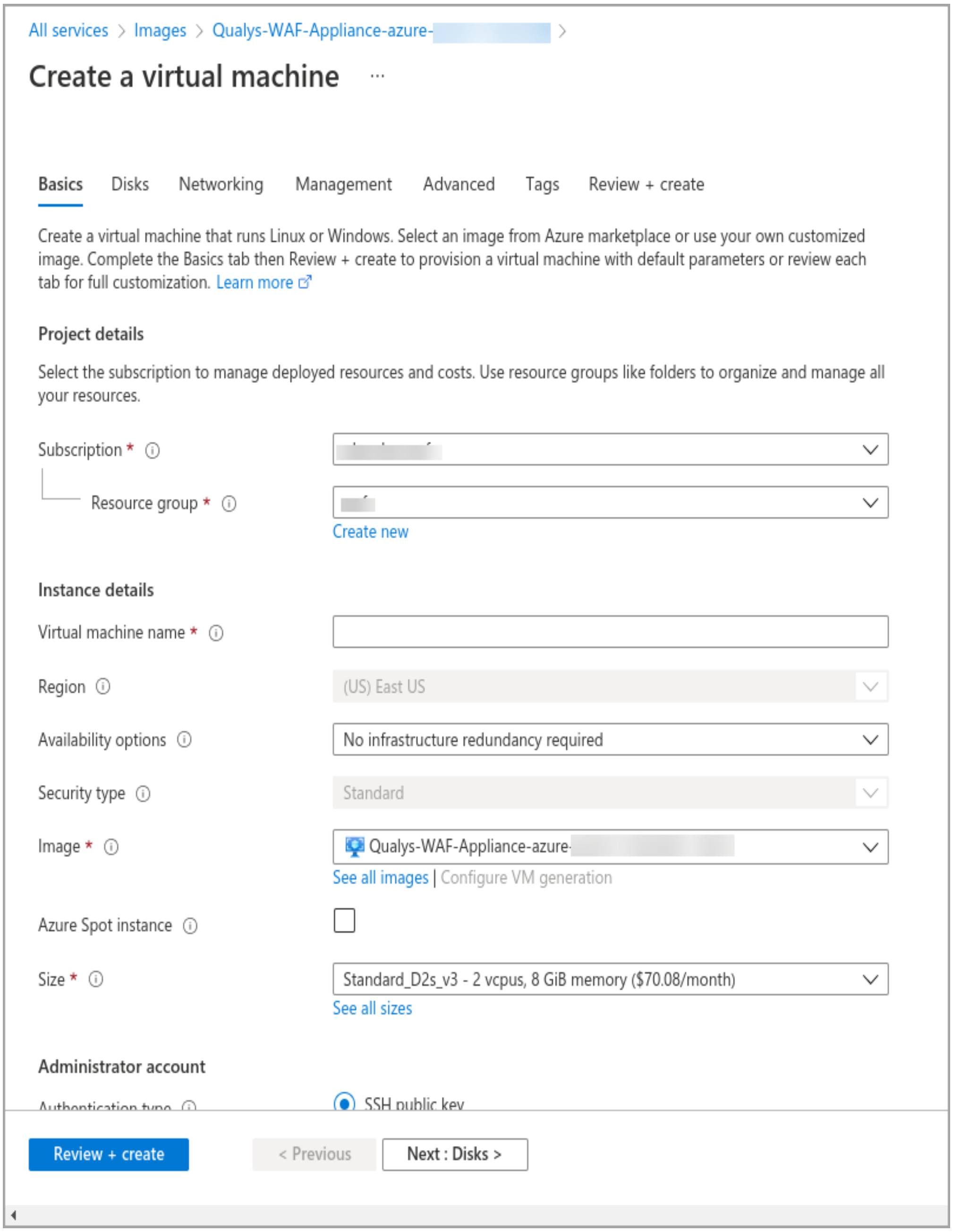
Operating system	Source blob URI	Storage type	Caching
Linux	[redacted]	Standard HDD LRS	Read/write

Data disks

LUN	Source blob URI	Storage type	Caching

No data disk attached

Perform the 7 configuration steps from Basics to Review + create. In the Create a virtual machine page > Basic, enter the required information.


All services > Images > Qualys-WAF-Appliance-azure-[redacted] >
Create a virtual machine ...
Basics
Disks
Networking
Management
Advanced
Tags
Review + create

Create a virtual machine that runs Linux or Windows. Select an image from Azure marketplace or use your own customized image. Complete the Basics tab then Review + create to provision a virtual machine with default parameters or review each tab for full customization. Learn more

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ [redacted]

Resource group * ⓘ [redacted]
Create new

Instance details

Virtual machine name * ⓘ

Region ⓘ (US) East US

Availability options ⓘ No infrastructure redundancy required

Security type ⓘ Standard

Image * ⓘ Qualys-WAF-Appliance-azure[redacted]
See all images | Configure VM generation

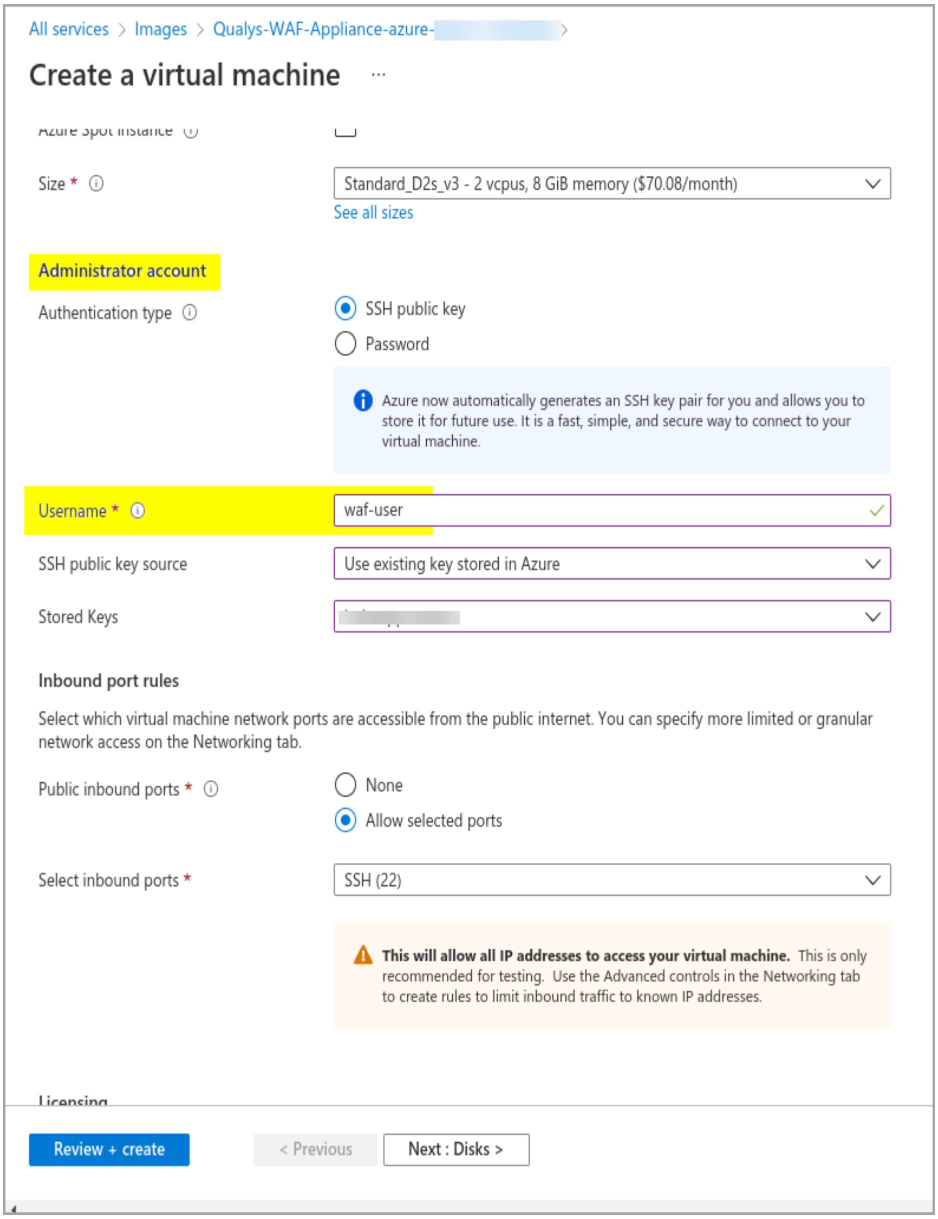
Azure Spot instance ⓘ □

Size * ⓘ Standard_D2s_v3 - 2 vcpus, 8 GiB memory ($70.08/month)
See all sizes

Administrator account

Authentication type ⓘ ● SSH public key

While creating a WAF VM, in the Create a virtual machine > Basic > Administrator account section, enter **waf-user** in the Username field.



All services > Images > Qualys-WAF-Appliance-azure-[redacted] >

Create a virtual machine ...

Azure Spot instance ⓘ □

Size * ⓘ Standard_D2s_v3 - 2 vcpus, 8 GiB memory ($70.08/month)

See all sizes

Administrator account

Authentication type ⓘ
● SSH public key
○ Password

Azure now automatically generates an SSH key pair for you and allows you to store it for future use. It is a fast, simple, and secure way to connect to your virtual machine.

Username * ⓘ waf-user ✓

SSH public key source: Use existing key stored in Azure

Stored Keys: [redacted]

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

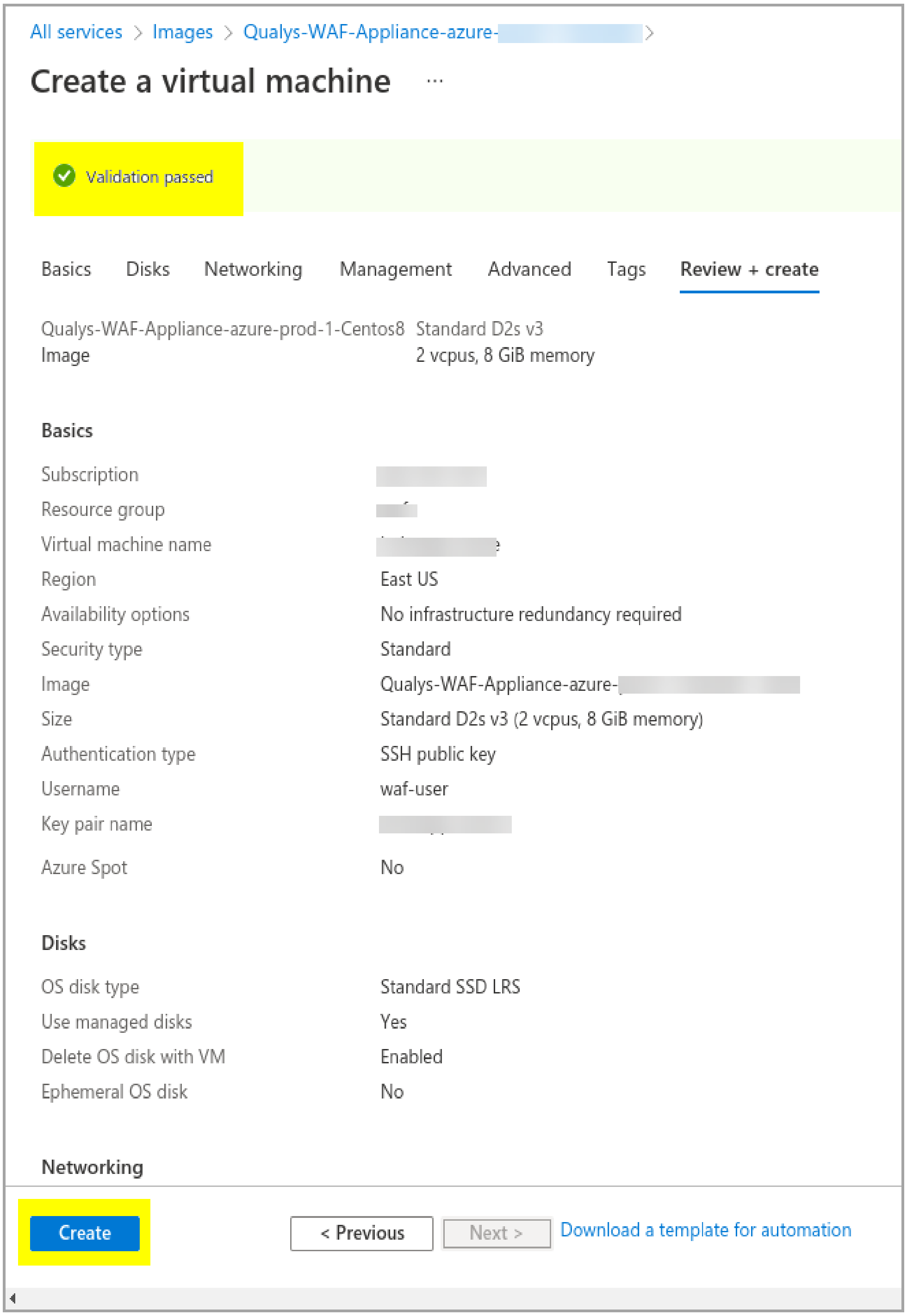
Public inbound ports * ⓘ
○ None
● Allow selected ports

Select inbound ports *: SSH (22)

This will allow all IP addresses to access your virtual machine. This is only recommended for testing. Use the Advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses.

Licensing

Complete the remaining configuration process, and click Create to create the instance.



Create a virtual machine ...

Qualys-WAF-Appliance-azure-prod-1-Centos8
Image

Standard D2s v3
2 vcpus, 8 GiB memory

Basics

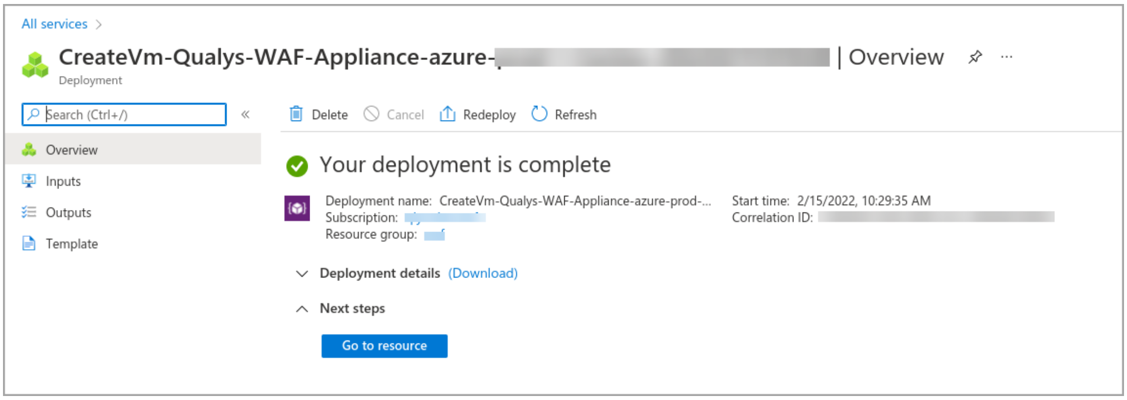
Subscription	[redacted]
Resource group	[redacted]
Virtual machine name	[redacted]
Region	East US
Availability options	No infrastructure redundancy required
Security type	Standard
Image	Qualys-WAF-Appliance-azure-[redacted]
Size	Standard D2s v3 (2 vcpus, 8 GiB memory)
Authentication type	SSH public key
Username	waf-user
Key pair name	[redacted]
Azure Spot	No

Disks

OS disk type	Standard SSD LRS
Use managed disks	Yes
Delete OS disk with VM	Enabled
Ephemeral OS disk	No

Networking

Once the Azure instance deployment is complete, you will get the message as displayed in the following image.



Your deployment is complete

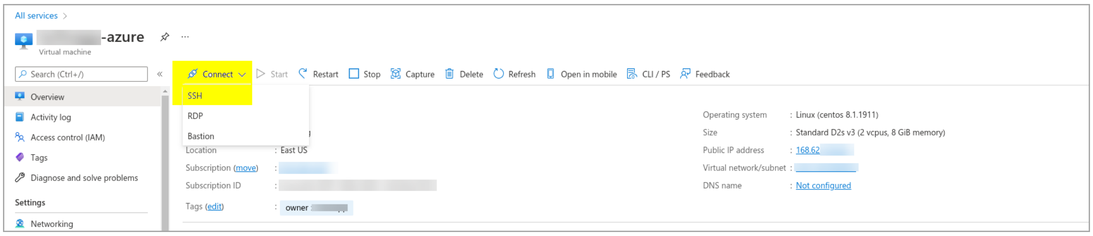
Deployment name: CreateVm-Qualys-WAF-Appliance-azure-prod-...
Subscription: [redacted]
Resource group: [redacted]
Start time: 2/15/2022, 10:29:35 AM
Correlation ID: [redacted]

Deployment details (Download)

Next steps

3) Once the VM is created, you get the ssh command to connect to the VM.

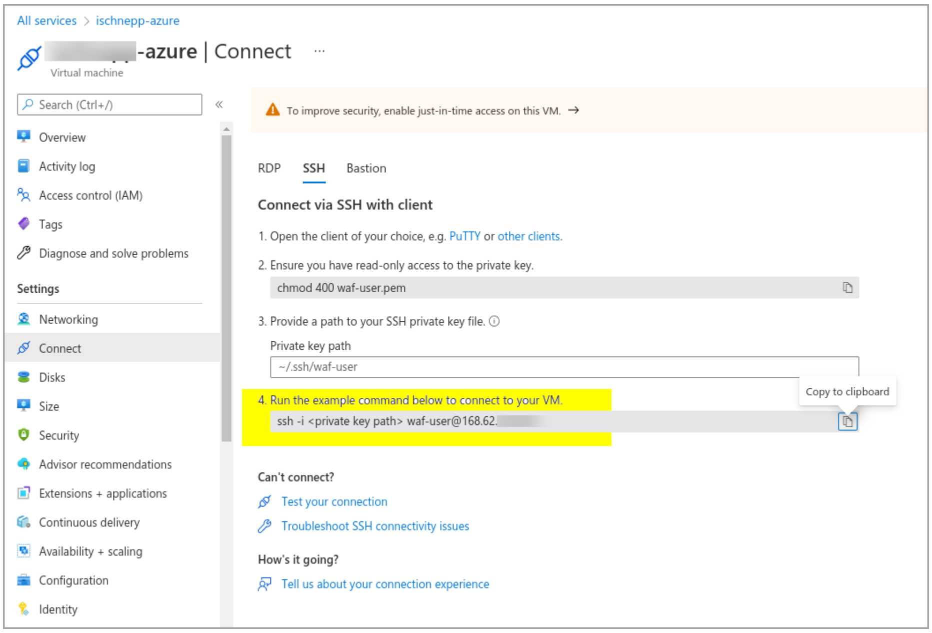
For the new WAF Azure instance, click Connect > SSH.



Location : East US
Subscription (move) : [redacted]
Subscription ID : [redacted]
Tags (edit) : owner [redacted]

Operating system : Linux (centos 8.1.1911)
Size : Standard D2s v3 (2 vcpus, 8 GiB memory)
Public IP address : 168.62[redacted]
Virtual network/subnet : [redacted]
DNS name : Not configured

Use the command provided in the example to connect to your Azure WAF appliance.



To improve security, enable just-in-time access on this VM. →

Connect via SSH with client

1. Open the client of your choice, e.g. PuTTY or other clients.
2. Ensure you have read-only access to the private key.

```
chmod 400 waf-user.pem
```

3. Provide a path to your SSH private key file. ⓘ

Private key path: ~/.ssh/waf-user

4. Run the example command below to connect to your VM.

```
ssh -i <private key path> waf-user@168.62.[redacted]
```

Can't connect?

Test your connection

Troubleshoot SSH connectivity issues

How's it going?

Tell us about your connection experience

4) Register the appliance to Qualys Cloud Platform

Connect to the WAF VM and using the CLI enter your WAF registration code and other properties as appropriate. See Set Up the Appliance using the CLI.

That's it! You've configured your WAF virtual appliance. Your WAF appliance will start making outbound connections to the Qualys Cloud Platform (HTTPS over TCP-443).

Google Cloud Configuration

Follow the steps below to deploy your WAF firewall on Google Cloud Platform (GCP).

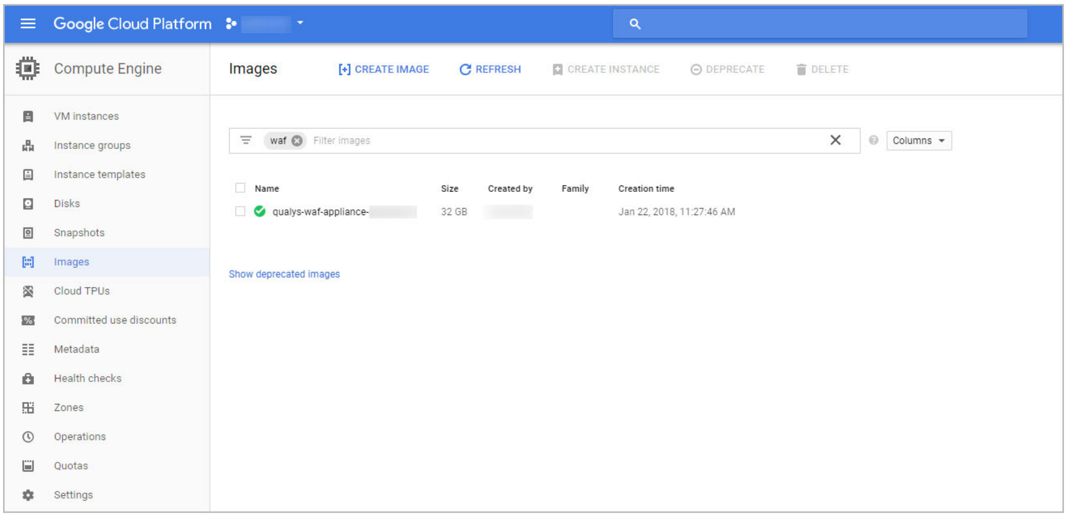
Once you complete these steps, we'll start monitoring your web application for security violations. Also your WAF appliance will start making outbound connections to the Qualys Cloud Platform for regular health checks - these confirm the appliance is properly configured and has the latest software.

Deploy WAF on Google Cloud Platform

1) Go to your GCP Dashboard and under Images find the Qualys WAF image.

Click Images and then search for the WAF image.

Tip Use the search box to find this quickly. Just enter "WAF" and click Enter.

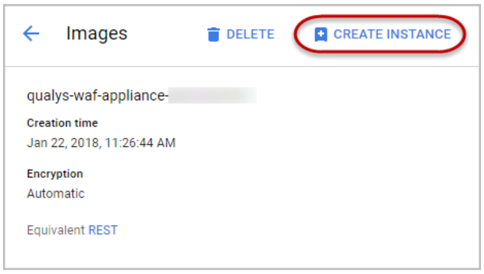


☐ Name	Size	Created by	Family	Creation time
☐ qualys-waf-appliance-[redacted]	32 GB	[redacted]		Jan 22, 2018, 11:27:46 AM

Don't see the WAF image? Please contact your Technical Account Manager or our Support.

2) Create the WAF Instance

Click the WAF image, and then click CREATE INSTANCE.



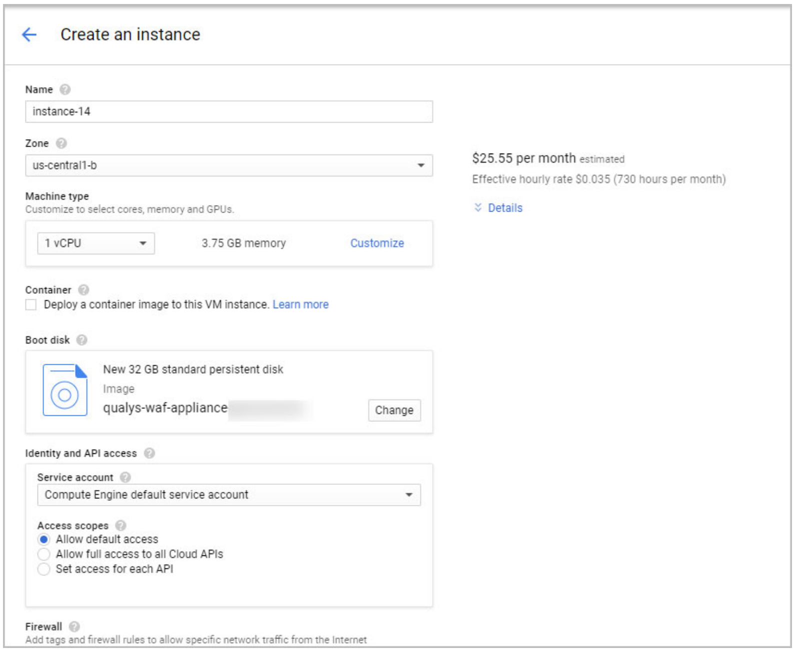
qualys-waf-appliance-[redacted]

Creation time
Jan 22, 2018, 11:26:44 AM

Encryption
Automatic

Equivalent REST

Provide the basic information, choose Machine type, and configure access and network settings for the instance.



Name: instance-14

Zone: us-central1-b

Machine type
Customize to select cores, memory and GPUs.
1 vCPU — 3.75 GB memory

Container
□ Deploy a container image to this VM instance.

Boot disk
New 32 GB standard persistent disk
Image
qualys-waf-appliance[redacted]

Identity and API access
Service account: Compute Engine default service account
Access scopes
● Allow default access
○ Allow full access to all Cloud APIs
○ Set access for each API

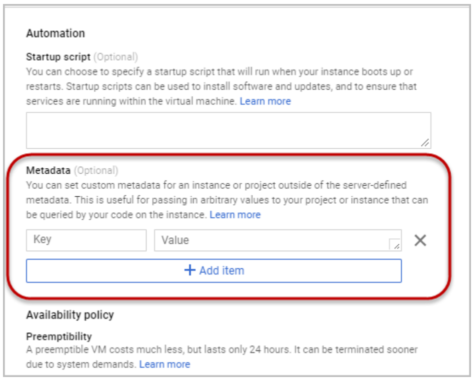
Firewall
Add tags and firewall rules to allow specific network traffic from the Internet

$25.55 per month estimated
Effective hourly rate $0.035 (730 hours per month)

3) Register the appliance to Qualys Cloud Platform

You can provide the WAF registration details while creating the instance or later once the instance is created.

To provide WAF registration details during instance creation, enter the variable and values in the form of key value pairs in the Metadata section.



Automation

Startup script (Optional)
You can choose to specify a startup script that will run when your instance boots up or restarts. Startup scripts can be used to install software and updates, and to ensure that services are running within the virtual machine. Learn more

Metadata (Optional)
You can set custom metadata for an instance or project outside of the server-defined metadata. This is useful for passing in arbitrary values to your project or instance that can be queried by your code on the instance. Learn more

Availability policy

Preemptibility
A preemptible VM costs much less, but lasts only 24 hours. It can be terminated sooner due to system demands. Learn more

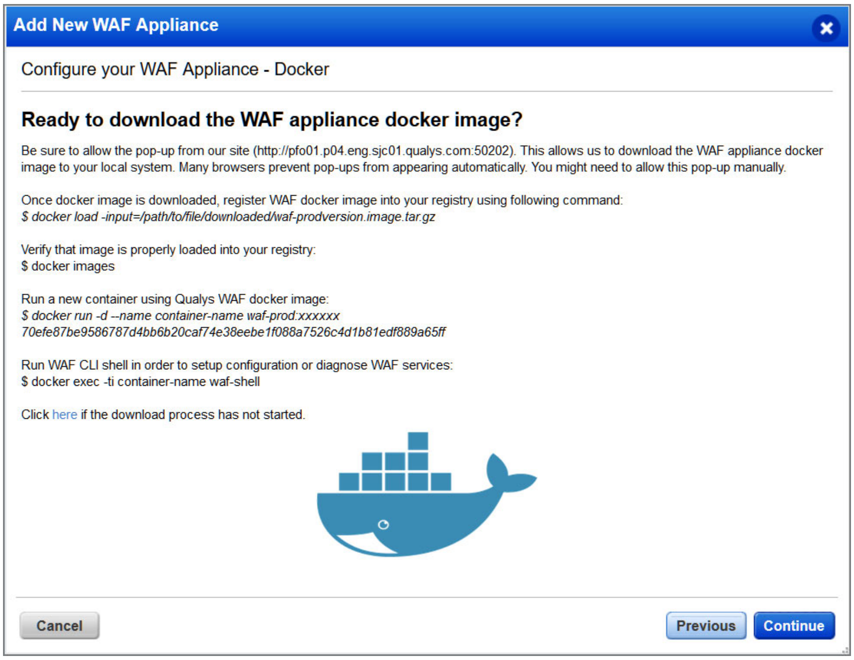
To register a WAF appliance once the instance is created, connect to the WAF instance and using the CLI enter your WAF registration code and other properties as appropriate. See WAF registration parameters.

That's it! You've configured your WAF virtual appliance. Your WAF appliance will start making outbound connections to the Qualys Cloud Platform (HTTPS over TCP-443).

Docker Configuration

You can install the WAF appliance on a docker container.

Go to WAF Appliances > WAF Appliances, and click New WAF Appliance. Select an existing WAF cluster or create a new one. In the Add New WAF Appliance wizard, select Docker and click Continue to download the docker image file.



Ready to download the WAF appliance docker image?

Be sure to allow the pop-up from our site (http://pfo01.p04.eng.sjc01.qualys.com:50202). This allows us to download the WAF appliance docker image to your local system. Many browsers prevent pop-ups from appearing automatically. You might need to allow this pop-up manually.

Once docker image is downloaded, register WAF docker image into your registry using following command:

```
$ docker load -input=/path/to/file/downloaded/waf-prodversion.image.tar.gz
```

Verify that image is properly loaded into your registry:

```
$ docker images
```

Run a new container using Qualys WAF docker image:

```
$ docker run -d --name container-name waf-prod:xxxxxx
70efe87be9586787d4bb6b20caf74e38eebe1f088a7526c4d1b81edf889a65ff
```

Run WAF CLI shell in order to setup configuration or diagnose WAF services:

```
$ docker exec -ti container-name waf-shell
```

Click here if the download process has not started.

Refer to the onscreen instructions to create a container from the docker image. Click Continue to get the registration code of the cluster to register the WAF appliance to. See CLI Reference for information on registering the WAF appliance through CLI.

Ensure that the docker container has proper network connectivity for WAF appliance to communicate and register with the Qualys Cloud Platform (WAF_SERVICE_URL) in order to start sending WAF events.

CLI Reference

The command line interface is used to set up the WAF appliance. Commands and Variables are described below.

Commands

Command	Description
help	List all commands or give detailed help for a specific command. For more information about a command, type help followed by the command.
deregister	De-registers the sensor from its cluster and shutdown.

diag [details]	Simple diagnostic tool (nslookup, perfstat, fetchurl, ssl).
	Example to forge a specific servername value (SNI):
	`diag ssl www.domain.com:443 "foo.domain.com"`
	Example to forge a specific host header value:
	`diag fetchurl https://servername.domain.com "Host: foo.domain.com"`

exit	Exit the CLI. The user will be prompted if there are unsaved changes.
ifconfig	Show the current interface configuration.
network	Configure the network interface, i.e. add, change, delete network route, and set nameservers to be used.
passwd	Change the password for user waf-user.
reboot	Reboot the WAF cluster.
routes	Show network routing.
save	Save the current configuration.
set **`variable`**={value}	Set a key value for configuration.
setup	Helps you set up properties by prompting for registration code, WAF service URL, proxy URL and SSL passphrase.
show [details]	Show the current saved and unsaved settings. Show details will include settings from the virtualization platform.
shutdown	Shutdown the WAF sensor.
ssh	Configure the public ssh keys, i.e. add, delete, list.
status	Display the registration status of the WAF cluster.
sysinfo	Display system information.
viewlog [**`n`**]	View the last N lines of the WAF cluster log.
waf	Manage the WAF process, i.e. start, stop, restart, reconfigure, get status.

Command	**Description**
unset **`variable`**	Clear the value for a variable.
ca	Add, Delete or List CA certificates.
core [status|enable|disable]	Enable or disable generating the core dump file upon crash. By default core is enabled.

Variables

Variable	Description
waf_service_url	(Required) The URL of the Qualys Cloud Platform hosting your Qualys account. Supported platform URLs are: US Platform 1 https://rns.qualys.com US Platform 2 https://rns.qg2.apps.qualys.com US Platform 3 https://rns.qg3.apps.qualys.com EU Platform 1 https://rns.qualys.eu EU Platform 2 https://rns.qg2.apps.qualys.eu India Platform 1 https://rns.qg1.apps.qualys.in
registration_code	(Required) Enter the WAF registration code in this format: registration_code=your_code. You can find this code by going to the WAF clusters list (WAF Appliances > WAF Clusters).
proxy_url	(Required if a proxy is required for the WAF cluster to access the Qualys Cloud Platform) If the WAF needs to connect to the Qualys Cloud Platform through an HTTP proxy, please input the URL of the proxy. Enter the proxy URL in this format: proxy_url=proxy_url
waf_ssl_passphrase	(Required if the appliance protects a site communicating over SSL) If your web application's primary or secondary base URL uses the HTTPS protocol, the Qualys Cloud Platform portal protects the private key by encrypting it with a 64 byte dedicated passphrase. This way, it's not accessible in clear on the Qualys Platform. This waf_ssl_passphrase needs to be set on the appliance, for decrypting the key. Enter the passphrase in this format: waf_ssl_passphrase=passphrase
sem_syslog_addr	The Security Event Manager to send transaction logs via syslog to. The syslog messages will be formatted as described in RFC5424. Syntax: **PROTOCOL:HOSTNAME:PORT** where PROTOCOL is "tcp" or "udp", and PORT is standard syslog port 514 by default Example: **TCP:sysloghost.example.com:514**

Contact 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/.