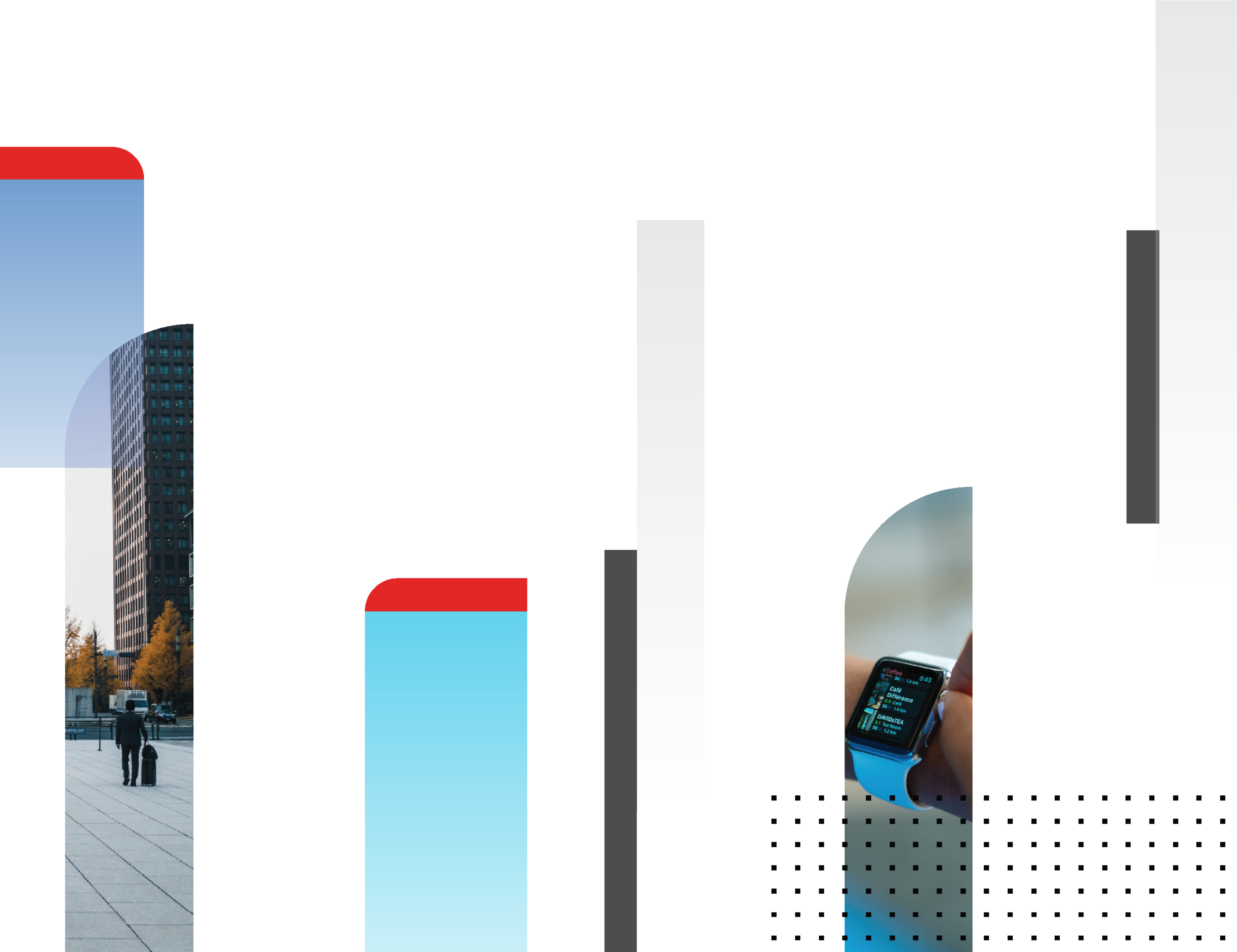
AWS Administration Guide

FortiAnalyzer 7.0



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FortiAnalyzer 7.0 AWS Administration Guide
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About FortiAnalyzer for AWS

Fortinet FortiAnalyzer securely aggregates log data from Fortinet devices (both physical and virtual) and other syslog-compatible devices. Using a comprehensive suite of easily-customized reports, users can filter and review records, including traffic, event, virus, attack, web content, and email data, mining the data to determine your security stance and assure regulatory compliance. FortiAnalyzer is one of several versatile Fortinet management products that provide a diverse deployment types, growth flexibility, advanced customization through APIs and simple licensing.

Highlights of FortiAnalyzer for AWS include the following:

- Predefined and customized charts help monitor, maintain, and identify attack patterns, acceptable use policies, and demonstrate policy compliance
- Scalable architecture allows the device to run in collector or analyzer modes for optimized log processing
- Advanced features such as event correlation, forensic analysis, and vulnerability assessment provide essential tools for in-depth protection of complex networks

Bring your own license (BYOL) is annual perpetual licensing. The BYOL license is available from resellers or your distributors.

This guide describes how to deploy FortiAnalyzer-VM for AWS in one of two ways:

• Deploying -VM using 1-Click Launch on page 9

• Deploying FortiAnalyzer-VM using manual launch on page 11 (for those who require custom configuration)

1-Click Launch creates the minimum size of EBS storage for quick setup and viewing. For production purposes, you will need more storage later. To have more storage initially, use manual launch. You can also manually add storage after the launch as described in Adding additional storage (optional) on page 15.

-VMs can be deployed on the AWS Elastic Compute Cloud (EC2). Prior to deploying the VM, an Amazon EC2 account is required. You can deploy the -VM using the AWS Marketplace launch or directly from the EC2 console.

Instance type support

FortiAnalyzer supports the following instance types on AWS. Depending on the instance type, certain maximum limits are applied.

Supported instances in the AWS marketplace listing may be changed without notice and may vary between BYOL models. See Order types on page 6.

For more detail about AWS instance types, see Amazon EC2 Instance Types.

The corresponding size of disks to the FortiAnalyzer instances have to be manually added, up to the allowed limits. The following lists instance types supported for the different licensing models.

BYOL

- t3.large / t3.xlarge / t3.2xlarge
- m4.large / m4.xlarge / m4.2xlarge / m4.4xlarge / m4.10xlarge / m4.16xlarge

- m5.large / m5.xlarge / m5.2xlarge / m5.4xlarge / m5.8xlarge / m5.12xlarge / m5.16xlarge / m5.24xlarge
- c4.2xlarge / c4.4xlarge / c4.8xlarge
- c5.xlarge / c5.2xlarge / c5.4xlarge / c5.9xlarge / c5.12xlarge / c5.18xlarge / c5.24xlarge
- h1.2xlarge / h1.4xlarge / h1.8xlarge / h1.16xlarge
- d2.xlarge / d2.2xlarge / d2.4xlarge / d2.8xlarge

The amount of logging per day and storage capacity vary depending on the license used. Refer to price lists available through your resellers/distributors.

Region support

The following regions are supported. See Order types on page 6.

Instance support may vary depending on the regions.

For detail about regions, refer to Regions and Availability Zones.

Region code	Description
Us-east-1	North Virginia
Us-east-2	Ohio
Us-west-1	North California
Eu-central-1	Frankfurt
Eu-west-1	Ireland
Eu-west-2	London
Eu-west-3	Paris
Ap-southwest-1	Singapore
Ap-southeast-2	Sydney
Ap-south-1	Mumbai
Ap-northeast-1	Tokyo
Ap-northeast-2	Seoul
Sa-east-1	Sao Paulo
Ca-central-1	Quebec
Us-gov-1	GovCloud

AWS China is supported but does not appear with these regions when you log into the AWS portal. To use AWS resources on AWS China, you must have an AWS China account separate from your global AWS account.

Licensing

You must have a license to deploy FortiAnalyzer for AWS. The following sections provide information on licensing FortiAnalyzer for AWS:

- Order types on page 6
- Creating a support account on page 6

Order types

On AWS, there are usually two order types: bring your own license (BYOL) and pay as you go/on-demand (PAYG).

BYOL is annual perpetual licensing as opposed to PAYG, which is an hourly subscription available with marketplace-listed products. BYOL licenses are available for purchase from resellers or your distributors, and prices are listed in the publicly available price list which is updated quarterly. BYOL licensing provides the same ordering practice across all private and public clouds, no matter what the platform is. You must activate a license for the first time you access the instance from the GUI or CLI before you can start using various features.

PAYG has no licenses. FortiAnalyzer becomes available for use immediately after the instance is created. Term-based prices (hourly or annually) are mentioned in the marketplace product page.

In both BYOL and PAYG, cloud vendors charge separately for resource consumption on computing instances, storage, and so on, without use of software running on top of it (in this case FortiAnalyzer).

For BYOL, you typically order a combination of products and services including support entitlement. PAYG includes support, for which you must contact Fortinet Support with your customer information. See *Support Information* on the marketplace product page.

To purchase PAYG/on-demand, subscribe to the product on the marketplace. FortiAnalyzer will obtain the PAYG/on-demand license from FortiCare using the API. You must contact Fortinet Support with your customer information to obtain support entitlements.See Creating a support account on page 6.

For the latest on-demand pricing and support details, see the following marketplace product pages:

- FortiAnalyzer Centralized Security Management (Max 2 managed devices)
- FortiAnalyzer Centralized Security Management (Max 10 managed devices)
- FortiAnalyzer Centralized Security Management (Max 30 managed devices)
- FortiAnalyzer Centralized Security Management (Max 100 managed devices)
- FortiAnalyzer Centralized Security Management (Max 500 managed devices)

Creating a support account

FortiAnalyzer for AWS supports the bring-your-own-license (BYOL) licensing model. See Order types on page 6.

To make use of Fortinet technical support and ensure products function properly, you must complete certain steps to activate your entitlement. Our support team can identify your registration in the system thereafter.

First, if you do not have a Fortinet account, you can create one at Fortinet Account Creation.

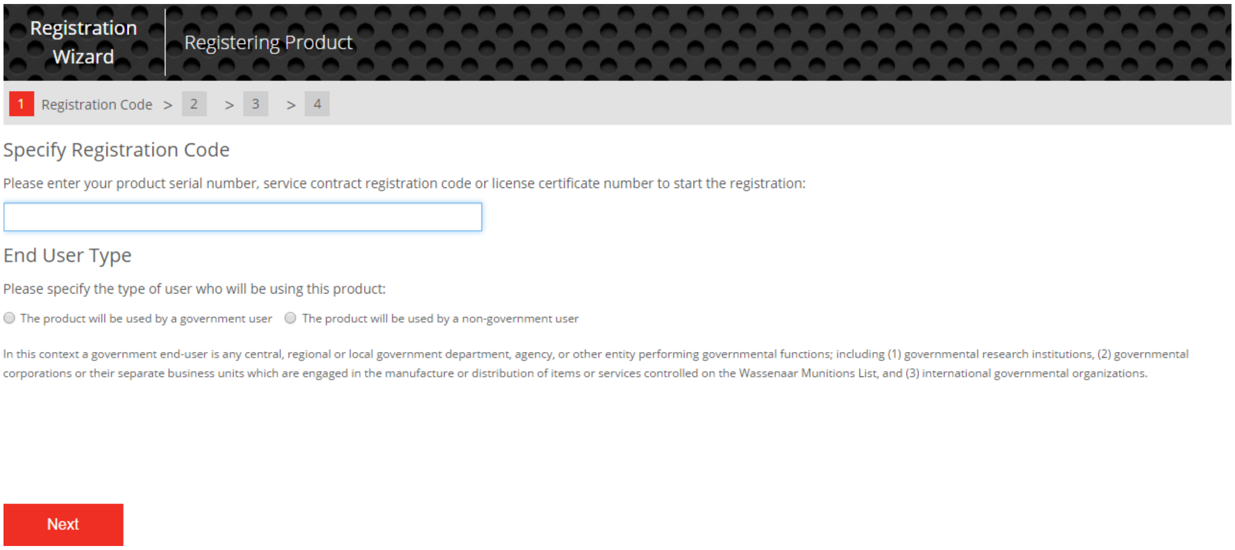
BYOL

Licenses for the BYOL licensing model can be obtained through any Fortinet partner. If you don't have a partner, contact awssales@fortinet.com for assistance in purchasing a license.

After you purchase a license or obtain an evaluation license, you will receive a PDF with an activation code.

To register a BYOL license:

1. Go to Customer Service & Support and create a new account or log in with an existing account.
2. Go to *Asset* > *Register/Renew* to start the registration process.



Specify Registration Code

Please enter your product serial number, service contract registration code or license certificate number to start the registration:

End User Type

Please specify the type of user who will be using this product:

○ The product will be used by a government user ○ The product will be used by a non-government user

In this context a government end-user is any central, regional or local government department, agency, or other entity performing governmental functions; including (1) governmental research institutions, (2) governmental corporations or their separate business units which are engaged in the manufacture or distribution of items or services controlled on the Wassenaar Munitions List, and (3) international governmental organizations.

3. In the *Specify Registration Code* field, enter your license activation code, then select *Next* to continue registering the product.
4. Enter your details in the other fields as required.
5. At the end of the registration process, download the license (.lic) file to your computer. You will upload this license later to activate the FortiAnalyzer-VM.
   After registering a license, Fortinet servers may take up to 30 minutes to fully recognize the new license. When you upload the license (.lic) file to activate the FortiAnalyzer-VM, if you get an error that the license is invalid, wait 30 minutes and try again.

On-demand (PAYG)

To register an on-demand license:

1. Deploy and boot the FortiAnalyzer-VM on-demand Elastic Compute Cloud (EC2) instance.
2. In the AWS management console, view the newly booted instance's instance ID. You can see the account that this instance was launched in by clicking your credentials on the top navigation bar.
3. Obtain the FortiAnalyzer-VM serial number visible at the top of the *Register with FortiCare* section or by running "get system status" via the CLI of the new FAZ/FMG instance during an SSH session.
4. Go to FortiCloud and create a new account or log in with an existing account.
5. Go to *Asset Management* > *Register Now* to start the registration process.
6. In the *Registration Code* field, enter the serial number, and select *Next*.

7. In the *AWS account ID* field, enter the account ID that you gathered from AWS.
   If you provide an AWS account ID that does not match the one that the FortiAnalyzer reported to FortiCare during its initial bootup, FortiCloud rejects it.
8. Complete the registration.
9. After completing the registration, contact Fortinet Customer Support to provide your FortiAnalyzer instance's serial number and the email address associated with your Fortinet account.

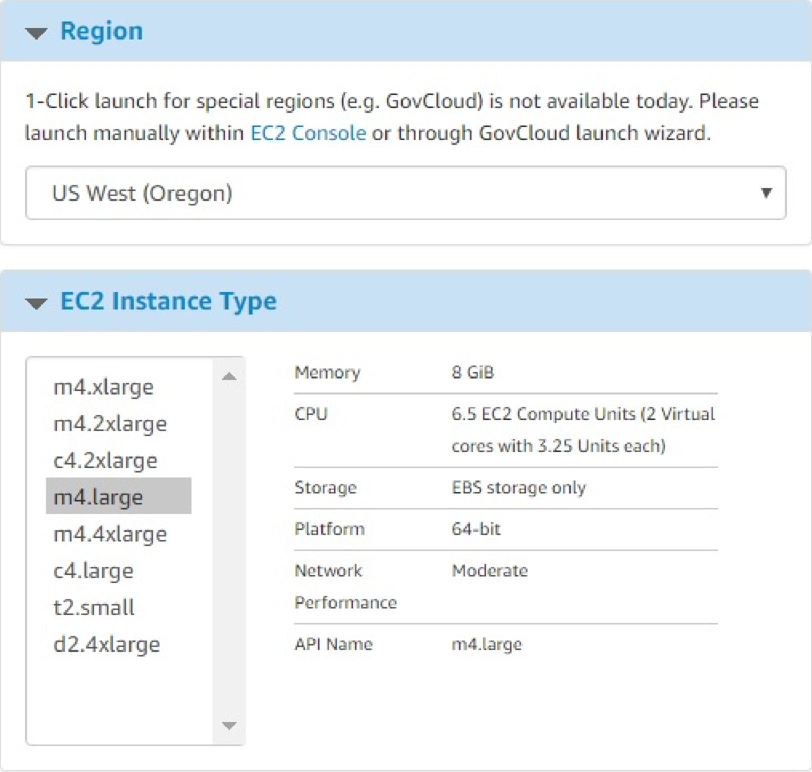
Deploying FortiAnalyzer-VM

You can deploy FortiAnalyzer-VM in one of two ways: through 1-click or manual launch.

Deploying -VM using 1-Click Launch

To deploy -VM using 1-Click Launch:

1. Go to the AWS Marketplace page for FortiAnalyzer-VM BYOL. Select *Continue*.
2. Select the desired region and instance type. Ensure the instance type fits the size of your deployment and potential future growth.

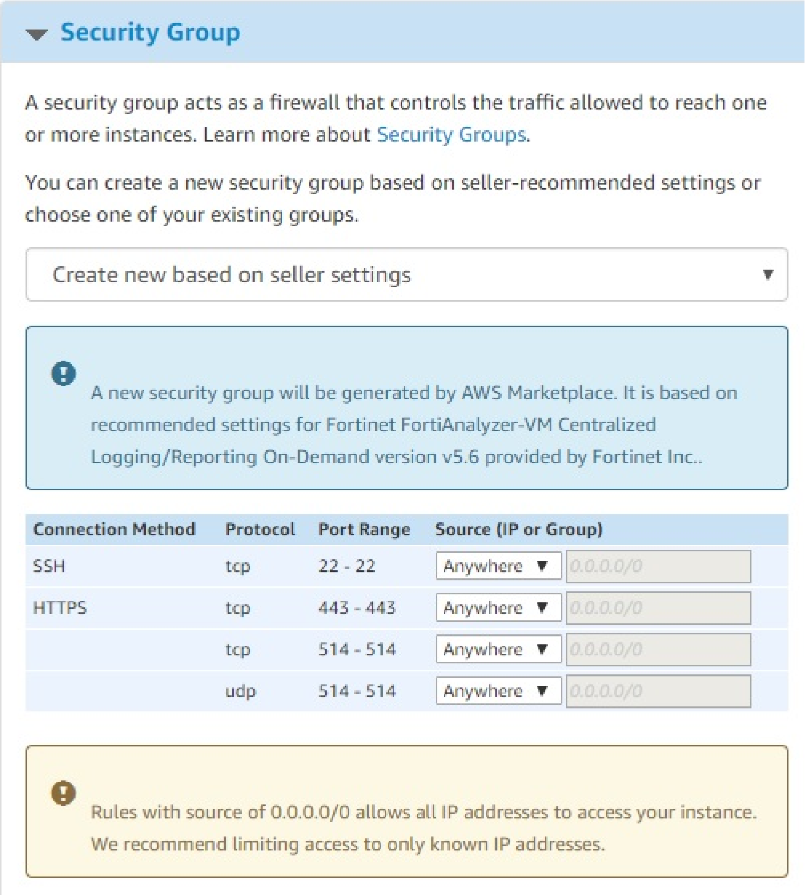


1-Click launch for special regions (e.g. GovCloud) is not available today. Please launch manually within EC2 Console or through GovCloud launch wizard.

US West (Oregon)

Memory	8 GiB
CPU	6.5 EC2 Compute Units (2 Virtual cores with 3.25 Units each)
Storage	EBS storage only
Platform	64-bit
Network Performance	Moderate
API Name	m4.large

3. Select a VPC and subnet as required. Under *Security Group*, ensure *Create new based on seller settings* is selected from the dropdown list. The only open port required for the VM's initial configuration is port 443, which allows for an HTTPS connection to the GUI. You can also open the remaining ports to allow for all potential FortiAnalyzer communication.



Security Group

A security group acts as a firewall that controls the traffic allowed to reach one or more instances. Learn more about Security Groups.

You can create a new security group based on seller-recommended settings or choose one of your existing groups.

Create new based on seller settings ▼

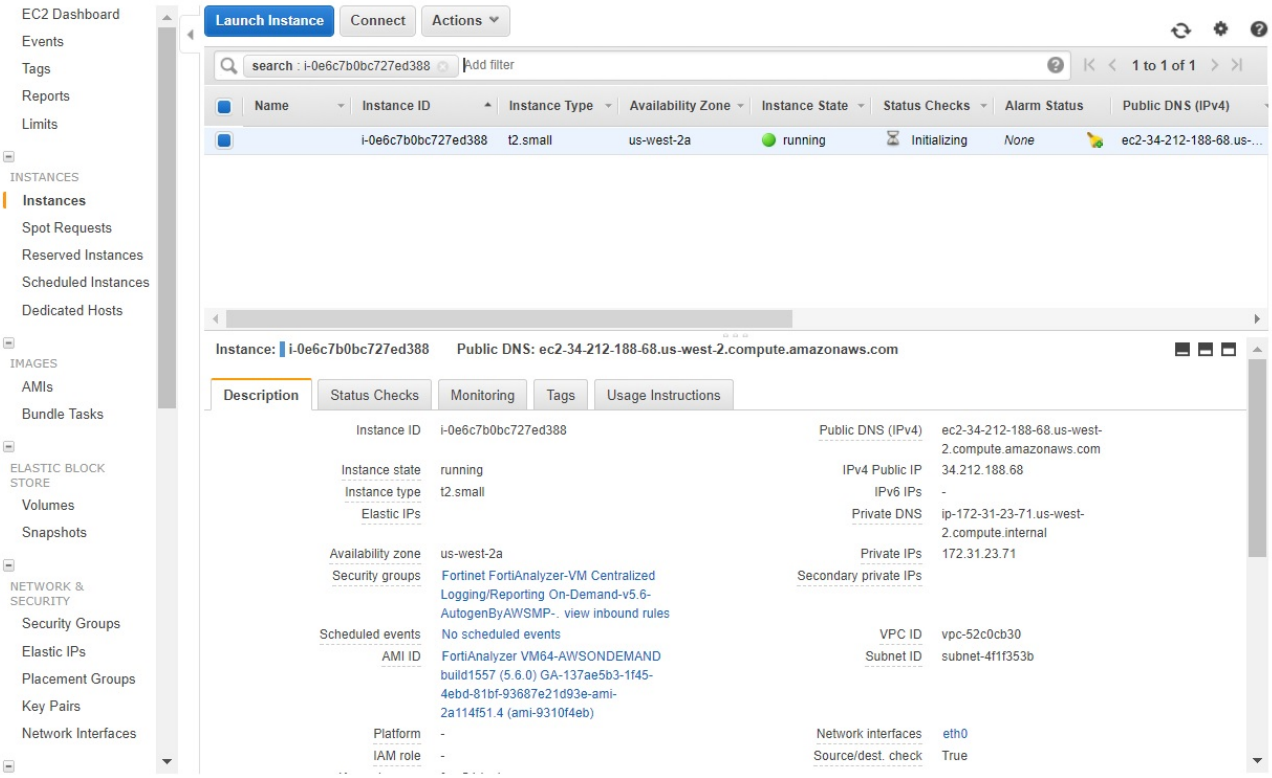
A new security group will be generated by AWS Marketplace. It is based on recommended settings for Fortinet FortiAnalyzer-VM Centralized Logging/Reporting On-Demand version v5.6 provided by Fortinet Inc..

Connection Method	Protocol	Port Range	Source (IP or Group)	
SSH	tcp	22 - 22	Anywhere ▼	0.0.0.0/0
HTTPS	tcp	443 - 443	Anywhere ▼	0.0.0.0/0
	tcp	514 - 514	Anywhere ▼	0.0.0.0/0
	udp	514 - 514	Anywhere ▼	0.0.0.0/0

Rules with source of 0.0.0.0/0 allows all IP addresses to access your instance. We recommend limiting access to only known IP addresses.

4. Provide the *Key Pair*, then click *Accept Terms & Launch with 1-Click* to deploy the instance. The next page displays a thank you message, and you also receive an email from AWS Marketplace about the subscription. Close the page and go to the EC2 console.

5. The public DNS address is used to connect to and configure the FortiAnalyzer-VM via the GUI.



Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
	i-0e6c7b0bc727ed388	t2.small	us-west-2a	running	Initializing	None	ec2-34-212-188-68.us-...

Instance: i-0e6c7b0bc727ed388 Public DNS: ec2-34-212-188-68.us-west-2.compute.amazonaws.com

Instance ID	i-0e6c7b0bc727ed388	Public DNS (IPv4)	ec2-34-212-188-68.us-west-2.compute.amazonaws.com
Instance state	running	IPv4 Public IP	34.212.188.68
Instance type	t2.small	IPv6 IPs	-
Elastic IPs		Private DNS	ip-172-31-23-71.us-west-2.compute.internal
Availability zone	us-west-2a	Private IPs	172.31.23.71
Security groups	Fortinet FortiAnalyzer-VM Centralized Logging/Reporting On-Demand-v5.6-AutogenByAWSMP-. view inbound rules	Secondary private IPs	
Scheduled events	No scheduled events	VPC ID	vpc-52c0cb30
AMI ID	FortiAnalyzer VM64-AWSONDEMAND build1557 (5.6.0) GA-137ae5b3-1f45-4ebd-81bf-93687e21d93e-ami-2a114f51.4 (ami-9310f4eb)	Subnet ID	subnet-4f1f353b
Platform	-	Network interfaces	eth0
IAM role	-	Source/dest. check	True

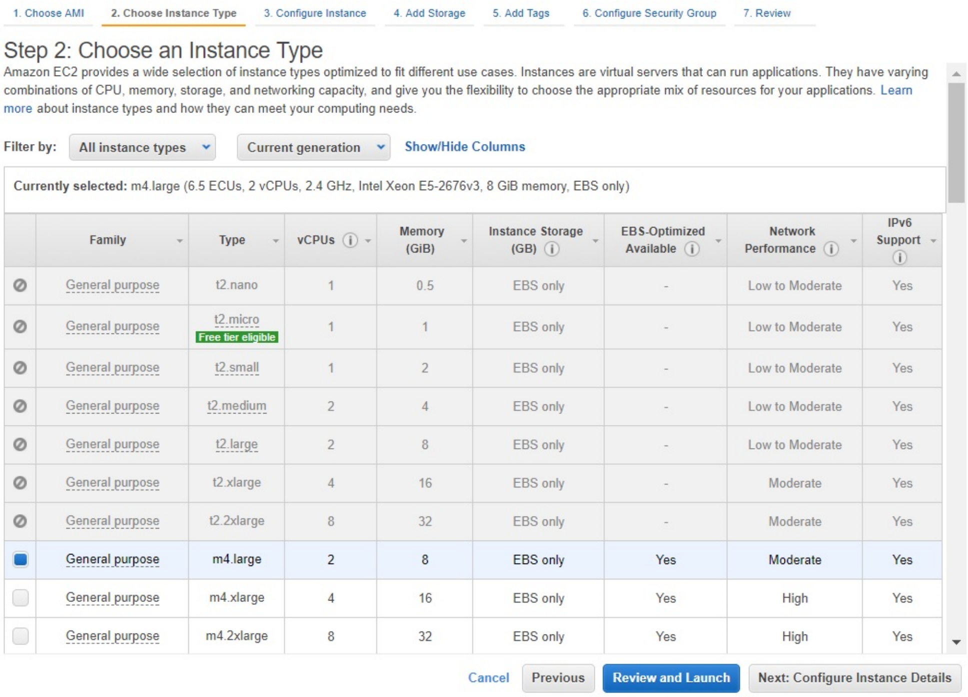
To connect to the FortiAnalyzer-VM management GUI, open a web browser and use the public DNS IPv4 address as the URL: *https://<public DNS IPv4 address>*. Log in with the default username admin and the instance ID as the password to configure your FortiAnalyzer-VM.

Deploying FortiAnalyzer-VM using manual launch

FortiAnalyzer-VM requires a minimum disk size of 500GB.

To deploy FortiAnalyzer-VM using manual launch:

1. Go to the AWS Marketplace's page for FortiAnalyzer-VM. Select *Continue*, then *Manual Launch*. Click the *Launch with EC2 Console* button beside your desired region.
2. Select a supported instance type. Ensure the instance type fits the size of your deployment and potential future growth. Click *Next: Configure Instance Details*.



Step 2: Choose an Instance Type

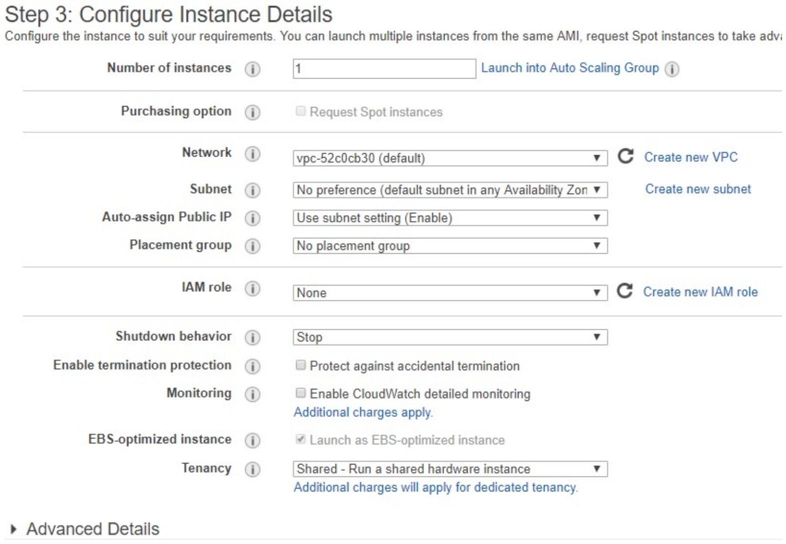
Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources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

Filter by: All instance types | Current generation | Show/Hide Columns

Currently selected: m4.large (6.5 ECUs, 2 vCPUs, 2.4 GHz, Intel Xeon E5-2676v3, 8 GiB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
⊘	General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
⊘	General purpose	t2.micro Free tier eligible	1	1	EBS only	-	Low to Moderate	Yes
⊘	General purpose	t2.small	1	2	EBS only	-	Low to Moderate	Yes
⊘	General purpose	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
⊘	General purpose	t2.large	2	8	EBS only	-	Low to Moderate	Yes
⊘	General purpose	t2.xlarge	4	16	EBS only	-	Moderate	Yes
⊘	General purpose	t2.2xlarge	8	32	EBS only	-	Moderate	Yes
■	General purpose	m4.large	2	8	EBS only	Yes	Moderate	Yes
□	General purpose	m4.xlarge	4	16	EBS only	Yes	High	Yes
□	General purpose	m4.2xlarge	8	32	EBS only	Yes	High	Yes

3. Configure the various attributes:
   a. Network (ensure to select a VPC connected to the Internet gateway; by default, VPCs are connected to the Internet gateway)
   b. Subnet
   c. Enable *Auto-assign Public IP*
   d. Others as needed depending on your IT infrastructure requirements

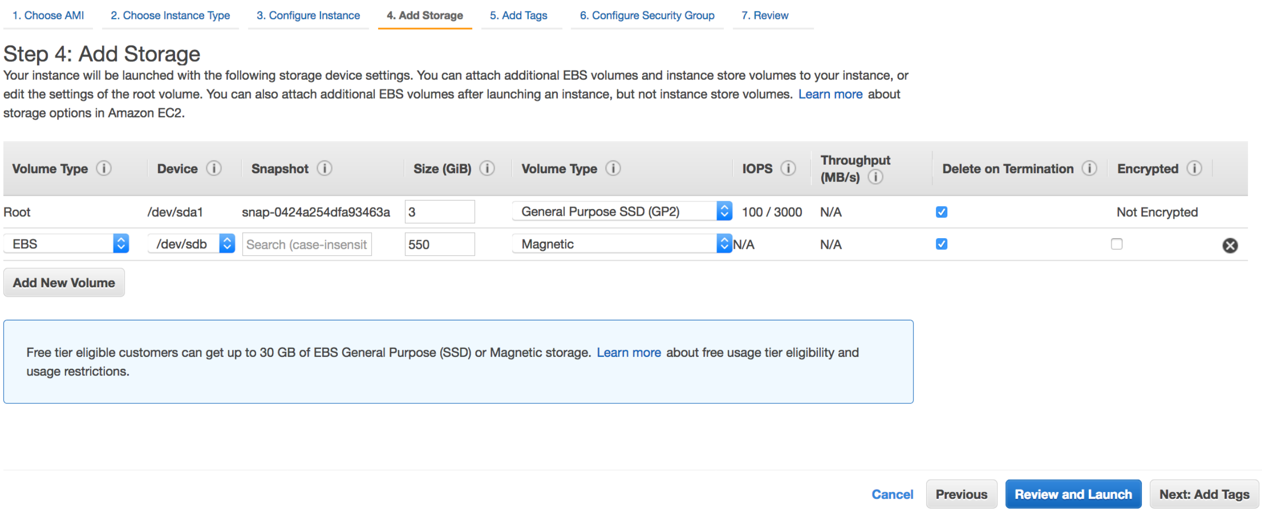


Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take adv

Number of instances	1	Launch into Auto Scaling Group
Purchasing option	□ Request Spot instances	
Network	vpc-52c0cb30 (default)	Create new VPC
Subnet	No preference (default subnet in any Availability Zon	Create new subnet
Auto-assign Public IP	Use subnet setting (Enable)	
Placement group	No placement group	
IAM role	None	Create new IAM role
Shutdown behavior	Stop	
Enable termination protection	□ Protect against accidental termination	
Monitoring	□ Enable CloudWatch detailed monitoring Additional charges apply.	
EBS-optimized instance	☑ Launch as EBS-optimized instance	
Tenancy	Shared - Run a shared hardware instance Additional charges will apply for dedicated tenancy.	

4. Continue to adding storage. You can configure the volume type as EBS and the device as /dev/sdb and the size based on your requirements.



Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. Learn more about storage options in Amazon EC2.

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encrypted	
Root	/dev/sda1	snap-0424a254dfa93463a	3	General Purpose SSD (GP2)	100 / 3000	N/A	☑	Not Encrypted	
EBS	/dev/sdb	Search (case-insensit	550	Magnetic	N/A	N/A	☑	□	⊗

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. Learn more about free usage tier eligibility and usage restrictions.

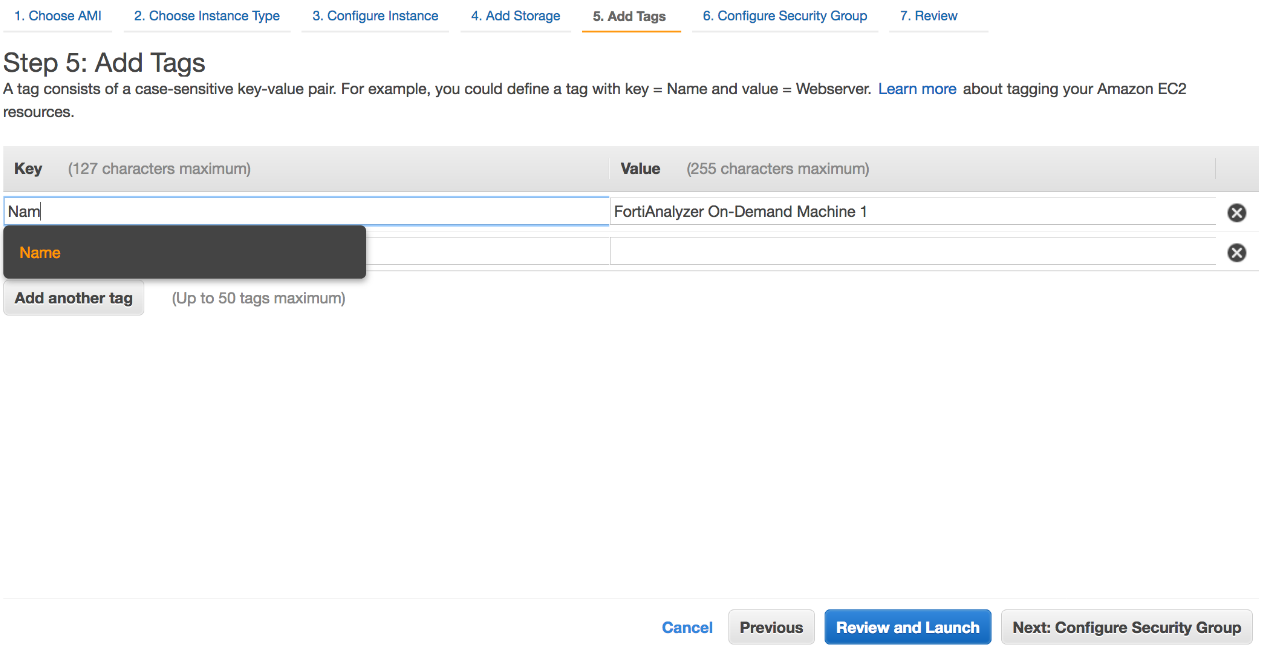
FortiAnalyzer-VM requires a minimum disk size of 500 GB.

The FortiAnalyzer system reserves a certain portion of disk space for system use and unexpected quota overflow. The remaining space is available for allocation to devices. Reports are stored in the reserved space. The following describes the reserved disk quota relative to the total available disk size (other than the root device):

- Small disk (equal to 500 GB): system reserves 20% or 50 GB of disk space, whichever is smaller.
- Medium disk (less than or equal to 1 TB): system reserves 15% or 100 GB of disk space, whichever is smaller.
- Medium to large disk (less than or equal to 5 TB): system reserves 10% or 200 GB of disk space, whichever is smaller.
- Large disk (less than 5 TB): system reserves 5% or 300 GB of disk space, whichever is smaller.

To add additional storage at this point, follow the instructions in step 3.

5. Click *Next: Tag Instance*. A tag consists of a key-value pair. It is useful to create tags to quickly identify instances in the EC2 console.

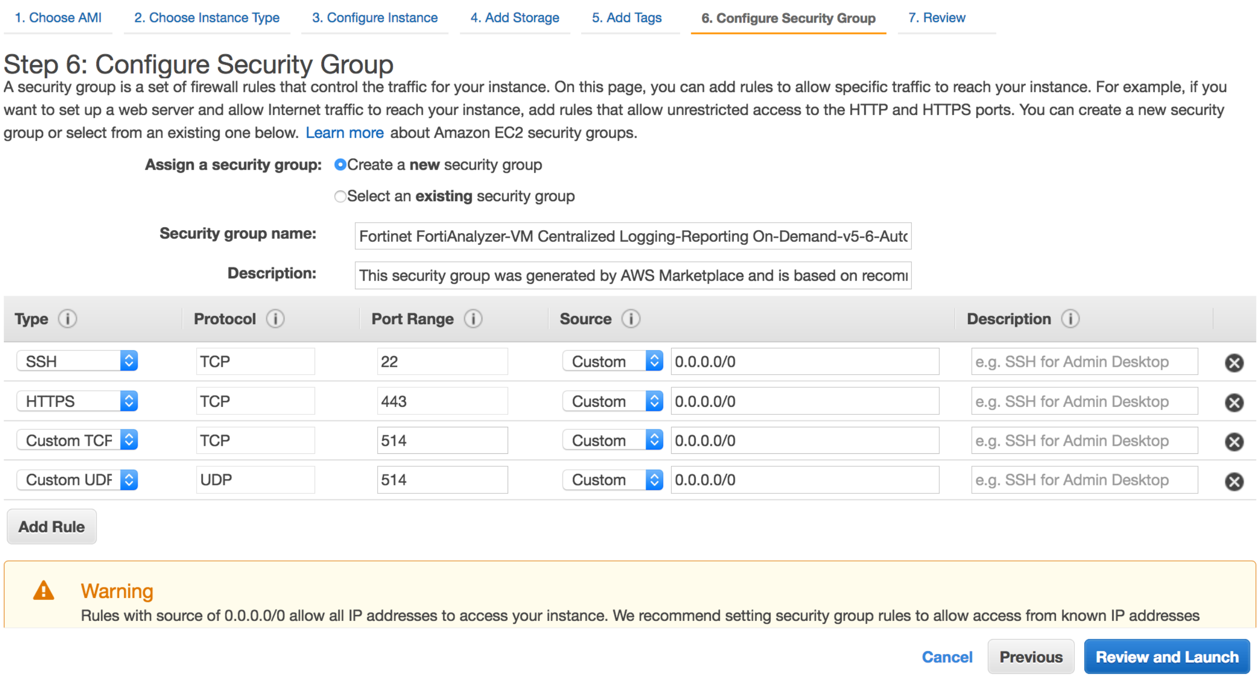


Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. Learn more about tagging your Amazon EC2 resources.

Key (127 characters maximum)	Value (255 characters maximum)	
Nam	FortiAnalyzer On-Demand Machine 1	⊗
		⊗

6. Click *Next: Configure Security Group*. The default provided security group is based on recommended settings for the FortiAnalyzer-VM.



Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. Learn more about Amazon EC2 security groups.

Assign a security group: ● Create a **new** security group

○ Select an **existing** security group

Security group name: Fortinet FortiAnalyzer-VM Centralized Logging-Reporting On-Demand-v5-6-Autc

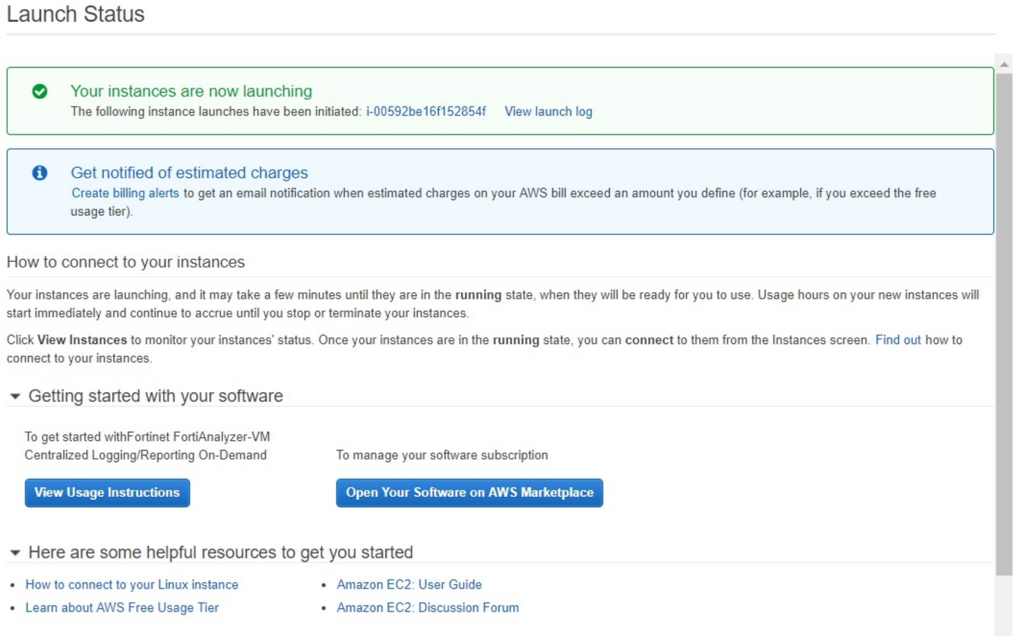
Description: This security group was generated by AWS Marketplace and is based on recomı

Type	Protocol	Port Range	Source		Description
SSH	TCP	22	Custom	0.0.0.0/0	e.g. SSH for Admin Desktop
HTTPS	TCP	443	Custom	0.0.0.0/0	e.g. SSH for Admin Desktop
Custom TCF	TCP	514	Custom	0.0.0.0/0	e.g. SSH for Admin Desktop
Custom UDF	UDP	514	Custom	0.0.0.0/0	e.g. SSH for Admin Desktop

Warning

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses

7. Click *Review and Launch*. If there is no change needed, click *Launch*.
8. You are prompted to choose a key pair. Click the checkbox, then click *Launch Instances*.



Launch Status

Your instances are now launching

The following instance launches have been initiated: i-00592be16f152854f View launch log

Get notified of estimated charges

Create billing alerts to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).

How to connect to your instances

Your instances are launching, and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.

Click **View Instances** to monitor your instances' status. Once your instances are in the **running** state, you can **connect** to them from the Instances screen. Find out how to connect to your instances.

Getting started with your software

To get started withFortinet FortiAnalyzer-VM Centralized Logging/Reporting On-Demand

To manage your software subscription

Here are some helpful resources to get you started

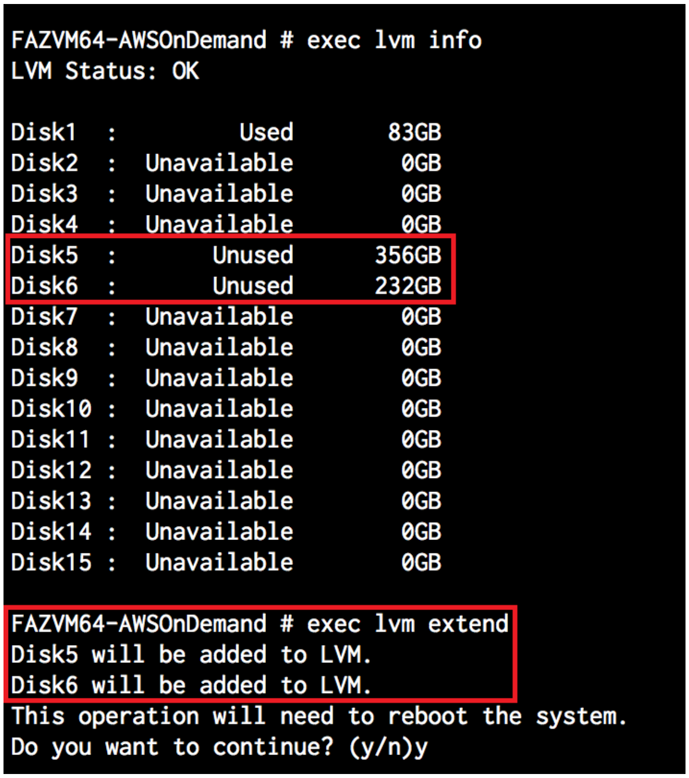
- How to connect to your Linux instance
- Learn about AWS Free Usage Tier
- Amazon EC2: User Guide
- Amazon EC2: Discussion Forum

9. The public DNS IPv4 address is used to connect to and configure the FortiAnalyzer-VM via the GUI. You can find the public DNS IPv4 address by locating the FortiAnalyzer-VM instance in the EC2 console. To connect to the FortiAnalyzer-VM management GUI, open a web browser and use the public DNS IPv4 address as the URL: *https://<public DNS IPv4 address>*. Log in with the default username *admin* and the instance ID as the password to configure your FortiAnalyzer-VM.

Adding additional storage (optional)

It is possible to add additional storage to FortiAnalyzer after launch. Create an EBS storage and attach it to the FortiAnalyzer instance on EC2 console, then access FortiAnalyzer via SSH to run the command `exec lvm extend` to add the storage.

For details, refer to Technical Note : How to extend disk space in FortiAnalyzer-VM.

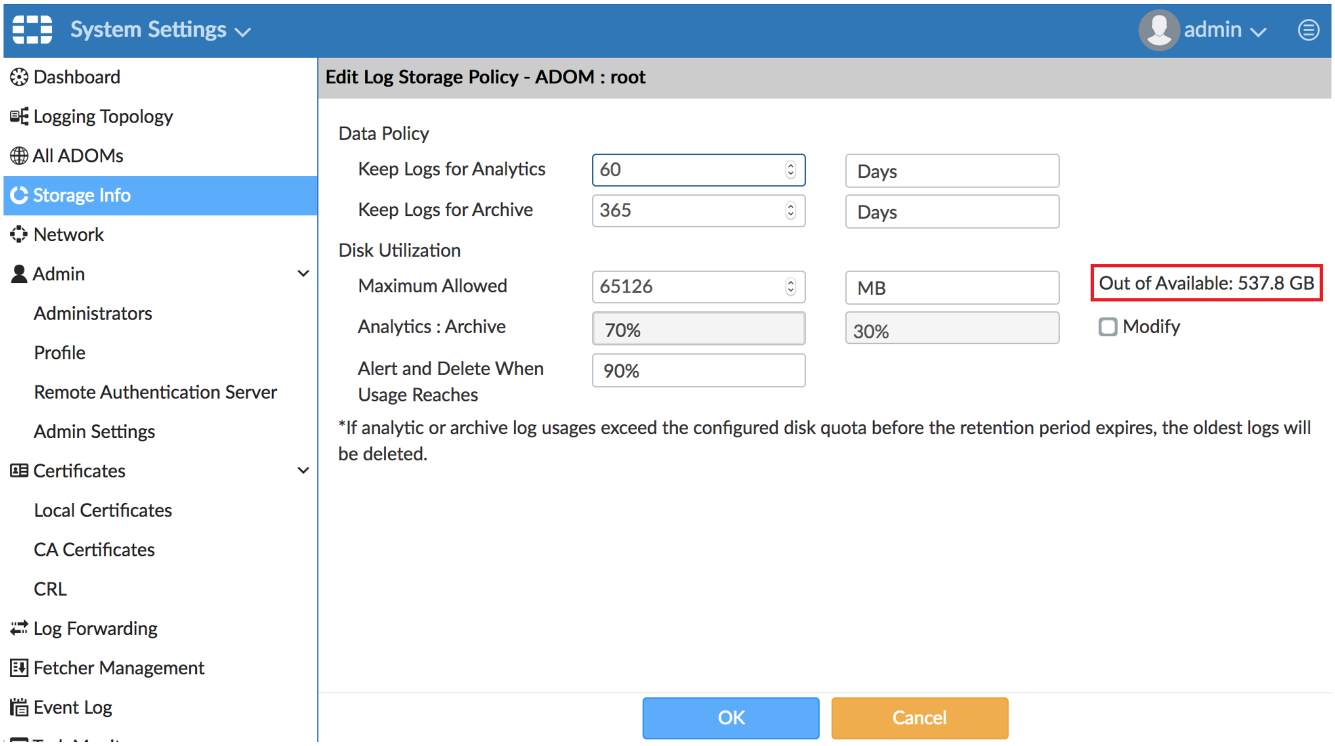


```
FAZVM64-AWSOnDemand # exec lvm info
LVM Status: OK

Disk1  :         Used       83GB
Disk2  :  Unavailable        0GB
Disk3  :  Unavailable        0GB
Disk4  :  Unavailable        0GB
Disk5  :       Unused      356GB
Disk6  :       Unused      232GB
Disk7  :  Unavailable        0GB
Disk8  :  Unavailable        0GB
Disk9  :  Unavailable        0GB
Disk10 :  Unavailable        0GB
Disk11 :  Unavailable        0GB
Disk12 :  Unavailable        0GB
Disk13 :  Unavailable        0GB
Disk14 :  Unavailable        0GB
Disk15 :  Unavailable        0GB

FAZVM64-AWSOnDemand # exec lvm extend
Disk5 will be added to LVM.
Disk6 will be added to LVM.
This operation will need to reboot the system.
Do you want to continue? (y/n)y
```

Log into the FortiAnalyzer GUI and add the volume.



Edit Log Storage Policy - ADOM : root

Data Policy

Keep Logs for Analytics	60	Days
Keep Logs for Archive	365	Days

Disk Utilization

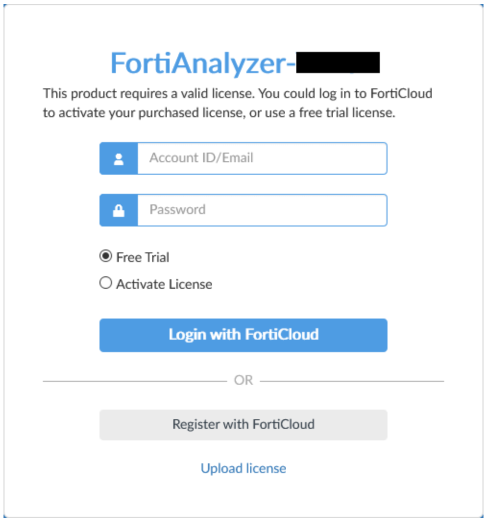
Maximum Allowed	65126	MB	Out of Available: 537.8 GB
Analytics : Archive	70%	30%	☐ Modify
Alert and Delete When Usage Reaches	90%		

*If analytic or archive log usages exceed the configured disk quota before the retention period expires, the oldest logs will be deleted.

Installing a valid license

To activate a license for FortiAnalyzer VM:

1. Connect to the FortiAnalyzer using your browser.
   The login dialog box is displayed.



FortiAnalyzer-[redacted]

This product requires a valid license. You could log in to FortiCloud to activate your purchased license, or use a free trial license.

2. Take one of the following actions:

Action	Description
Free Trial	If a valid license is not associated with the account, you can start a free trial license. **1.** Select *Free Trial*, and click *Login with FortiCloud*. **2.** Use your FortiCloud account credentials to log in, or create a new account. FortiAnalyzer connects to FortiCloud to get the trial license. The system will restart to apply the trial license. **3.** Read and accept the license agreement. For more information, see the 7.0 VM Trial License Guide.
Activate License	If you have a license file, you can activate it . **1.** Select *Activate License*, and click *Login with FortiCloud*. **2.** Use your FortiCloud account credentials to log in. FortiAnalyzer connects to FortiCloud, and the license agreement is displayed. **3.** Read and accept the license agreement.
Upload License	**1.** Click *Browse* to upload the license file, or drag it onto the field. **2.** Click *Upload*. After the license file is uploaded, the system will restart to verify it. This may take a few moments. To download the license file, go to the Fortinet Technical Support site (https://support.fortinet.com/), and use your FortiCloud credentials to log in. Go to *Asset Managmeent* > *Products* > *Product List*, then click the product serial number.

3. Once registration is complete, log into the FortiAnalyzer-VM with the username *admin* and the supplied temporary password.

Configuring your FortiAnalyzer-VM

Click the help icon in the GUI banner to access the FortiAnalyzer online help and basic setup video. Refer to these and the *FortiAnalyzer Administration Guide* for more detailed configuration.

HA for FortiAnalyzer on AWS

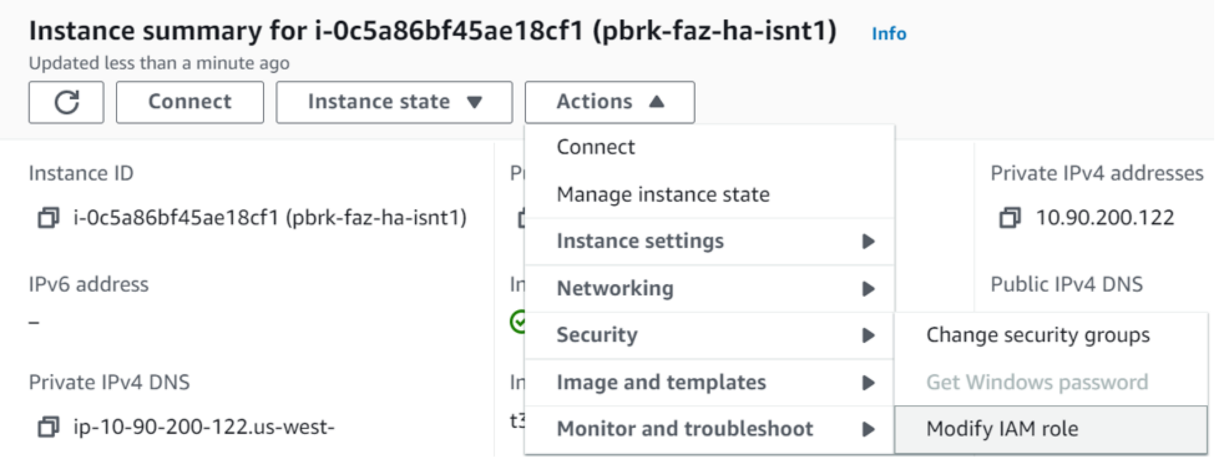
The following topics provide an overview of how to deploy FortiAnalyzer in high availability (HA) mode on AWS:

1. Deploying FortiAnalyzer HA instances on AWS on page 18
2. Configuring FortiAnalyzer HA on page 19

Deploying FortiAnalyzer HA instances on AWS

To deploy FortiAnalyzer instances on AWS:

1. In AWS, create the FortiAnalyzer instances in one VPC in the same or different subnet.
2. Allocate an Elastic IP address to be used as the virtual IP (VIP) of the FortiAnalyzer HA. Alternatively, a Secondary Internal IP can also be used as the VIP if necessary.
    - The External VIP is assigned to an instance when its mode is transitioned to Primary by the fazutil to call AWS EC2 APIs within the instance.
3. Assign an existing IAM role or create one with the permissions required to assign/re-assign IP addresses for the FortiAnalyzer instance.
    a. Assign said IAM role to both FortiAnalyzer instances by going to the FortiAnalyzer *Instance Summary* > *Actions* > *Security* > *Modify IAM Role*.
    b. Select the previously mentioned IAM role, and click *Save*.



Instance summary for i-0c5a86bf45ae18cf1 (pbrk-faz-ha-isnt1)

Updated less than a minute ago

Instance ID: i-0c5a86bf45ae18cf1 (pbrk-faz-ha-isnt1)

IPv6 address: –

Private IPv4 DNS: ip-10-90-200-122.us-west-

Private IPv4 addresses: 10.90.200.122

Public IPv4 DNS

    c. In cases where an IAM role assignment cannot be completed, you can add the AWS Access ID and Shared Access Key for an IAM user with the appropriate access using the FortiAnalyzer CLI. In the FortiAnalyzer CLI, enter the following:

```
config system ha
   set aws-access-key-id <access_key_id>
   set aws-secret-access-key <secret_key>
end
```

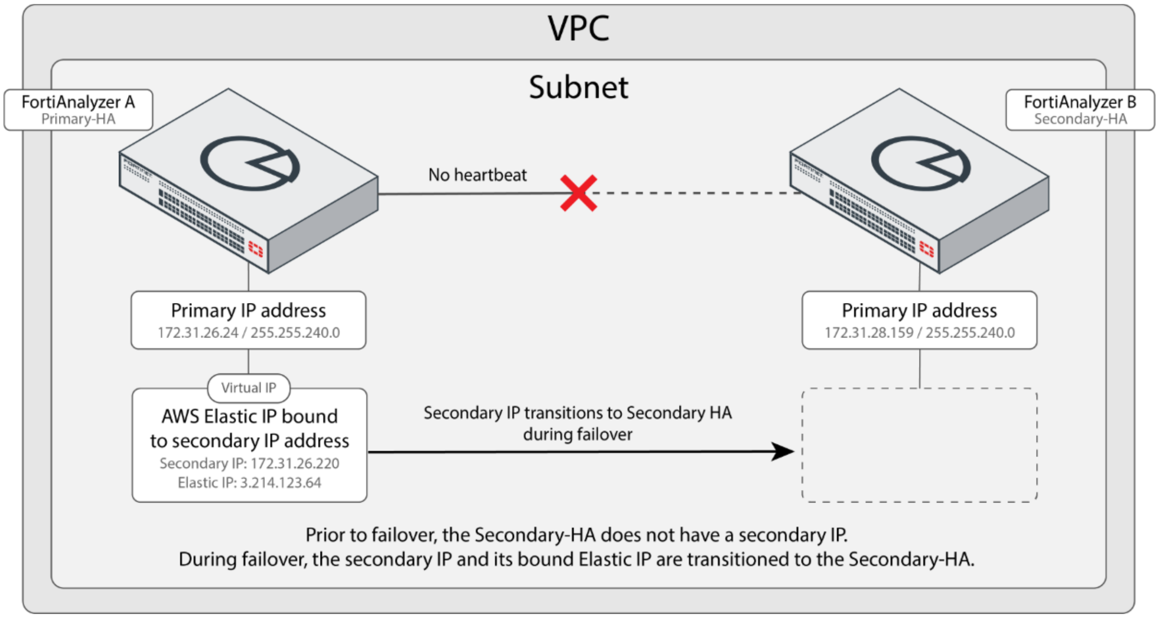
4. Create an *Inbound Rule* on the AWS *Network Security Group* assigned to the FortiAnalyzer HA interface.
   a. To allow the keepalived adverts from the Primary:
      - On the Primary instance, allow TCP traffic destined for Port 112 from the local subnet of the Secondary instance and vice versa.
        - If both instances are in the same subnet, allow Port 112 from the same local subnet.
   b. To allow initial logs sync:
      - On the Primary instance, allow inbound TCP traffic destined for port 514, originating from the local subnet of the Secondary instance and vice versa.
   c. To allow for configuration sync:
      - On the Primary instance, allow inbound TCP traffic destined for port 5199, originating from the local subnet of the Secondary instance and vice versa.

Transition of secondary IP address during failover topography

In the example below, FortiAnalyzer-A is the *Primary-HA* and FortiAnalyzer-B is the *Secondary-HA*.

During failover, FortiAnalyzer-B becomes the new Primary unit. The secondary IP is transitioned from FortiAnalyzer-A to FortiAnalyzer-B, and can be accessed from the internet using the same Elastic IP. Neither the secondary IP or Elastic IP addresses change during transition.

Prior to failover, the Secondary-HA (FortiAnalyzer-B) is not configured with a secondary IP address.


VPC
Subnet
FortiAnalyzer A
Primary-HA
FortiAnalyzer B
Secondary-HA
No heartbeat
Primary IP address
172.31.26.24 / 255.255.240.0
Primary IP address
172.31.28.159 / 255.255.240.0
Virtual IP
AWS Elastic IP bound to secondary IP address
Secondary IP: 172.31.26.220
Elastic IP: 3.214.123.64
Secondary IP transitions to Secondary HA during failover
Prior to failover, the Secondary-HA does not have a secondary IP.
During failover, the secondary IP and its bound Elastic IP are transitioned to the Secondary-HA.

Configuring FortiAnalyzer HA

To configure FortiAnalyzer HA:

1. On FortiAnalyzer, configure HA at *System Settings* > *HA*.
   See the FortiAnalyzer Administration Guide for more information on configuring HA.
   Use the primary private IP as the *Peer IP* and the Elastic IP as the *VIP*.

2. Import the Amazon Root CA to FortiAnalyzer. In order for the fazutil to be able to call EC2 API successfully, you must manually import the Amazon Cloud CA Certificates to each FortiAnalyzer instance.
   For more information on Amazon Trust Services, see https://www.amazontrust.com/repository/.
   a. Go to *System Settings* > *Certificates* > *CA Certificates*.
   b. Click *Import*.
   c. Browse to the file location and select it, or drag-and-drop it into the pop-up window.
   d. Click *OK*.

Change log

Date	Change Description
2021-04-21	Initial release.
2021-07-13	Updated Instance type support on page 4.
2021-07-20	Updated About FortiAnalyzer for AWS on page 4 and Deploying -VM using 1-Click Launch on page 9.
2021-07-22	Updated supported instance types in Instance type support on page 4.
2021-08-17	Updated Installing a valid license on page 16.
2021-10-14	Updated Deploying FortiAnalyzer HA instances on AWS on page 18.
2021-11-30	Updated Configuring FortiAnalyzer HA on page 19.
2023-03-09	Updated Order types on page 6.
2023-05-18	Updated Deploying FortiAnalyzer-VM using manual launch on page 11.
2023-07-17	Updated Creating a support account on page 6.

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