



Alibaba Cloud Deployment Guide

FortiMail 7.6.0



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FortiMail 7.6.0 Alibaba Cloud Deployment Guide

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Change Log

Date	Change Description
2024-10-18	Initial release of FortiMail 7.6.0 Alibaba Cloud Deployment Guide.

Introduction

This document describes how to deploy FortiMail-VM on the Alibaba Cloud platform. For information about how to configure FortiMail, see the [FortiMail Administration Guide](#).

Region Support

FortiMail-VM is available for purchase in all the regions/datacenters that the Alibaba Cloud global marketplace covers.

Available regions are:

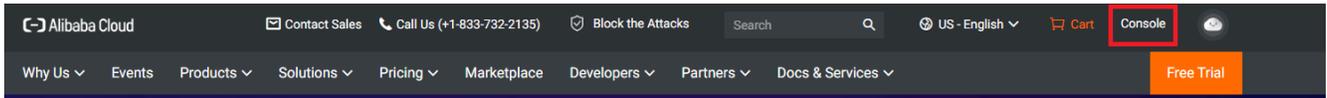
- Hong Kong
- Asia Pacific SE 1 (Singapore)
- US East 1 (Virginia)
- Asia Pacific NE 1 (Tokyo)
- US West 1 (Silicon Valley)
- EU Central 1 (Frankfurt)
- Middle East 1 (Dubai)
- Asia Pacific SE 2 (Sydney)
- Asia Pacific SE 3 (Kuala Lumpur)
- Asia Pacific SOU 1 (Mumbai)
- Asia Pacific SE 5 (Jakarta)
- North China 1
- North China 2
- China North 3 (Zhangjiakou)
- China North 5 (Huhehaote)
- East China 1
- East China 2
- South China 1

Other

- Saudi Arabia via the Saudi Cloud Computing Company. See [Alibaba Cloud SCCC Operating Saudi Region](#).

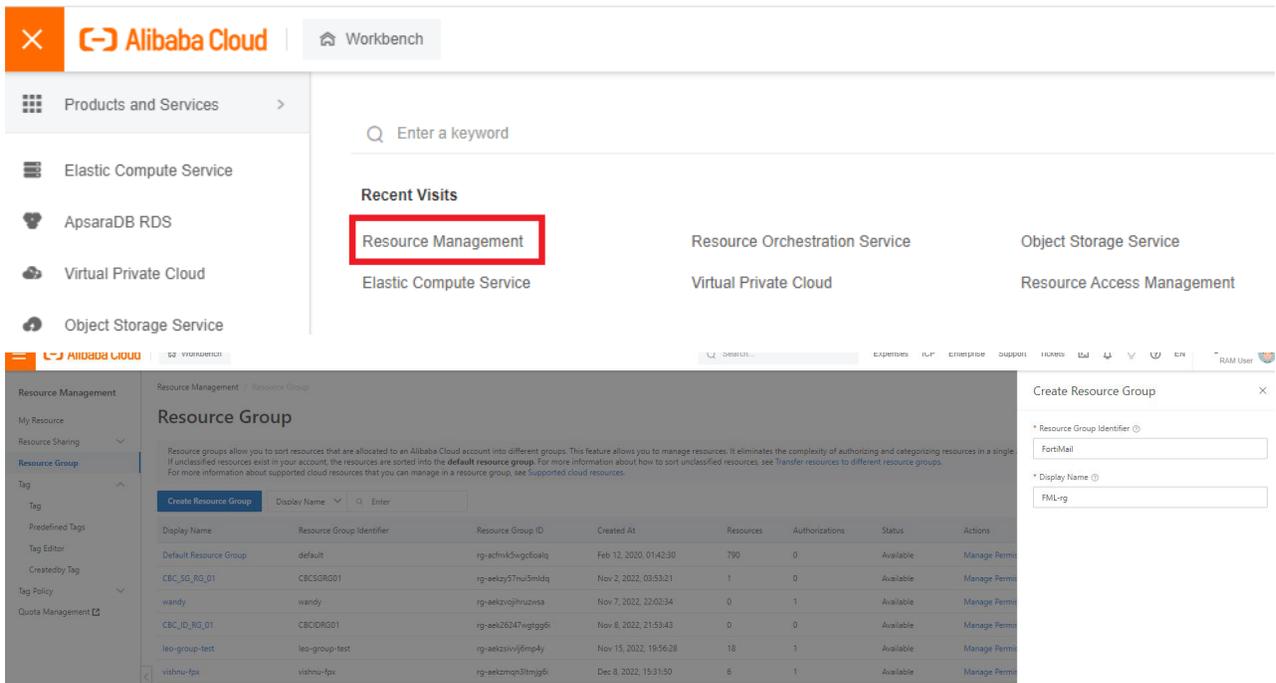
Creating a VPC

To deploy FortiMail, you first need to create a resource group and a virtual private cloud (VPC) on Alibaba Cloud.



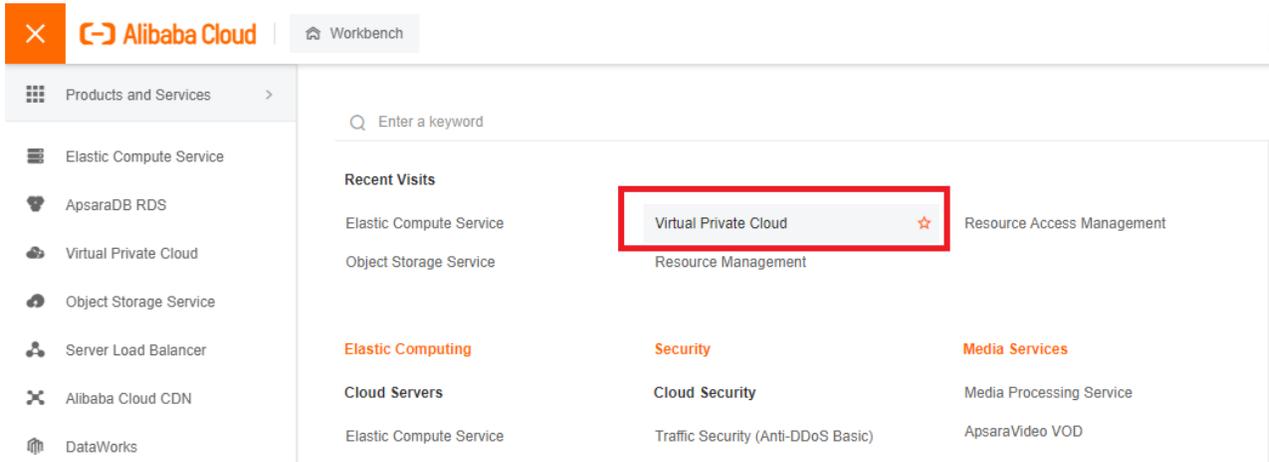
To create a resource group:

1. Log on to Alibaba Cloud.
2. Go to *Products and Services* > *Resource Management* > *Resource Group*.
3. Click *Create Resource Group*.
4. Enter the *Resource Group Identifier* and *Display Name*.

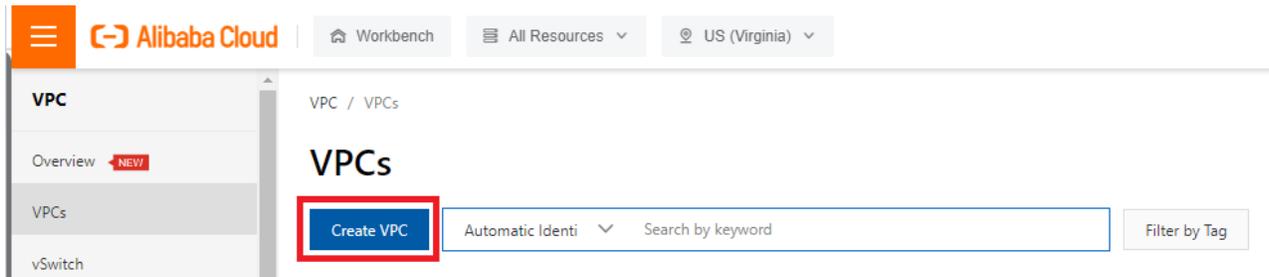


To create a VPC:

1. Log on to Alibaba Cloud web portal and go to *Products and Services > Virtual Private Cloud*.



2. Click Create VPC.



3. Configure the following settings:

VPC	
Name	Enter a name for the VPC.
IPv4 CIDR Block	Specify the IPv4 CIDR Block for this VPC.
Resource Group	Select the resource group for the VPC.
VSwitch	
Name	Enter a name for the VSwitch.
Zone	Select the zone of the VSwitch. Later, it is recommended to deploy FortiWeb-VM in the same zone.
IPv4 CIDR Block	Specify the IPv4 CIDR Block for this VSwitch. It should be a subnet of the VPC.

← Create VPC

VPC

Region

US (Virginia)

* Name

FortiMail-VPC

12/128

* IPv4 CIDR Block

We recommend that you use one of the private RFC CIDR blocks as the VPC CIDR block: 10.0.0.0/8, 172.16.0.0/12, and 192.168.0.0/16. [Suggestions on CIDR Block Configuration](#)

10.0.0.0/16

You cannot change the CIDR block after the VPC is created.

IPv6 CIDR Block

Do Not Assign

Description

0/256

Resource Group

FML

Advanced Configuration

Enable IPv4 Gateway



VSwitch

Name

Subnet1

7/128

Zone

Virginia Zone A

IPv4 CIDR Block [Suggestions on CIDR Block Configuration](#)

10.0.0.0 / 24

Make sure that at least three IP addresses are available.

+ Add

OK

Cancel

Creating a Security Group

A security group is a set of firewall rules that control the traffic for your VM instances. When you create a VPC, a default security group protects instances within it. It's recommended to add inbound rules so that the traffic will be allowed to flow on the specified ports.

To create a security group:

1. In the Alibaba Cloud web portal, select *Elastic Compute Service*.
2. Select *Network & Security > Security Groups*, then click *Create Security Group*.
3. Configure the *Basic Information*:

Security Group Name	Enter a name for the Security Group.
Network	Select the VPC you have created.
Security Group Type	Select Basic Security Group or Advanced Security Group as desired.
Resource Group	Select the resource group for the security group.

4. Configure Access Rule. Manually add rules to allow ports according to your own needs, in addition to the default ports 80, 443, and 22.

It is recommended to add the following inbound and outbound rules as shown below in order for FortiMail-VM to connect and run properly.

5. Set the protocol type and port range as shown in the table, and set the source as 0.0.0.0/0 or ::/0 to allow access to the specified ports from all IPv4 or IPv6 addresses.

Creating a Security Group

Access Rule [Import Security Group Rule](#) [Export](#)

Inbound Outbound

Action	Priority	Protocol Type	Port Range	Authorization Object	Description	Creation Time	Actions
<input type="checkbox"/> Allow	1	Custom TCP	Dest 25/25	Source 0.0.0.0/0		Jan 24, 2023, 13:42:52	Modify Copy Delete
<input type="checkbox"/> Allow	1	Custom TCP	Dest 80/80	Source 0.0.0.0/0		Jan 24, 2023, 12:36:35	Modify Copy Delete
<input type="checkbox"/> Allow	1	Custom TCP	Dest 443/443	Source 0.0.0.0/0		Jan 24, 2023, 12:36:35	Modify Copy Delete
<input type="checkbox"/> Allow	1	Custom TCP	Dest 22/22	Source 0.0.0.0/0		Jan 24, 2023, 12:36:35	Modify Copy Delete
<input type="checkbox"/> Allow	1	Custom TCP	Dest 3389/3389	Source 0.0.0.0/0		Jan 24, 2023, 12:36:35	Modify Copy Delete
<input type="checkbox"/> Allow	1	All ICMP(Iv4)	Dest -1/-1	Source 0.0.0.0/0		Jan 24, 2023, 12:36:35	Modify Copy Delete

[Delete](#)

Access Rule [Import Security Group Rule](#) [Export](#)

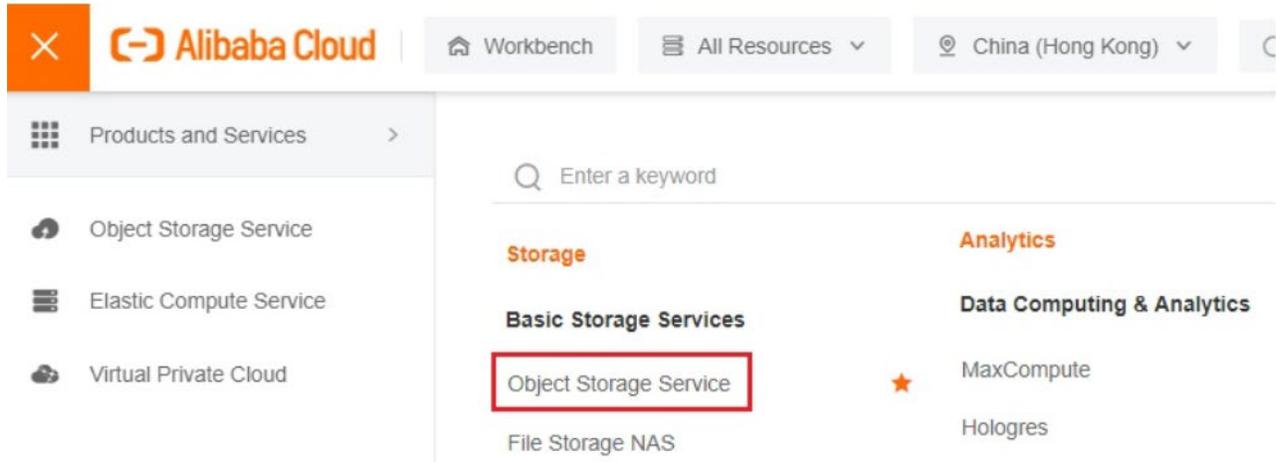
Inbound **Outbound**

Action	Priority	Protocol Type	Port Range	Authorization Object	Description	Creation Time	Actions
<input type="checkbox"/> Allow	1	Custom TCP	Dest 443/443	Dest 0.0.0.0/0		Jan 24, 2023, 13:34:44	Modify Copy Delete

[Delete](#)

Uploading the Image File to Object Storage Service

1. Select *Object Storage Service*.



2. Select *Buckets* and click *Create Bucket*.
 - Enter a name for the bucket.
 - Select the region where this bucket will be located.

- Configure the *Storage Class*, *Access Control List*, and *Encryption Method* as shown below.

Create Bucket
×

! Note: **Storage Class, Region, and Zone-redundant Storage** cannot be changed after the bucket is created.

*** Bucket Name** 16/63 ✓

*** Region** ▼

Alibaba Cloud services in the same region can communicate with each other over an internal network. The region cannot be changed after the purchase. Exercise caution when you select a region.

Endpoint oss-us-east-1.aliyuncs.com

Resource Group ▼

Storage Class

Standard

IA

Archive

Cold Archive

Standard: high-performance, reliable, and highly available storage class. We recommend that you use this storage class for data that is frequently accessed.
[How to Choose a Suitable Storage Class](#)

OSS HDFS New

Not Activated

I have read [Usage Notes of OSS-HDFS](#).

[Authorize](#)

For more information about the OSS-HDFS service, see [OSS HDFS](#) **OSS-HDFS cannot be disabled after it is enabled.**

Versioning Hot

Not Activated

After you enable versioning for a bucket, objects that are overwritten or deleted in the bucket are stored as previous versions. If you do not enable versioning for a bucket, objects that are overwritten or deleted in the bucket cannot be recovered. [Learn more](#) **Versioning is not enabled for the bucket. Data cannot be recovered after being deleted or overwritten.**

After you enable versioning for a bucket, you are charged storage fees for the current version and all previous versions of objects in the bucket. For more information, see [Learn more](#)

Access Control List (ACL)

Private

Public Read

Public Read/Write

Private: Only the owner or authorized users of this bucket can read and write files in the bucket.

Encryption Method None OSS-Managed KMS

OK

Cancel

Uploading the Image File to Object Storage Service

The screenshot shows the AWS S3 console interface for a bucket named 'fortimail-bucket / US (Virginia)'. The 'Files' tab is selected, and the 'Upload' button is highlighted with a red box. The 'Upload To' section is set to 'Current', and the 'File ACL' is set to 'Inherited from Bucket'. A yellow warning box states: 'Note: If you upload an object that has the same name as an existing object in the bucket, the existing object is overwritten. You cannot upload an object that is greater than 5 GB in size. If you want to upload an object that is greater than 5 GB in size, use ossutil, OSS SDKs, or the OSS API to perform multipart uploads.' Below this, the 'Select Files' button is highlighted with a red box. A table shows the upload progress for the file 'fortimail-ali-cloud.qcow2' with a size of 118.69 MB and a status of 'Ready for Upload'. The 'Upload' button at the bottom is also highlighted with a red box.

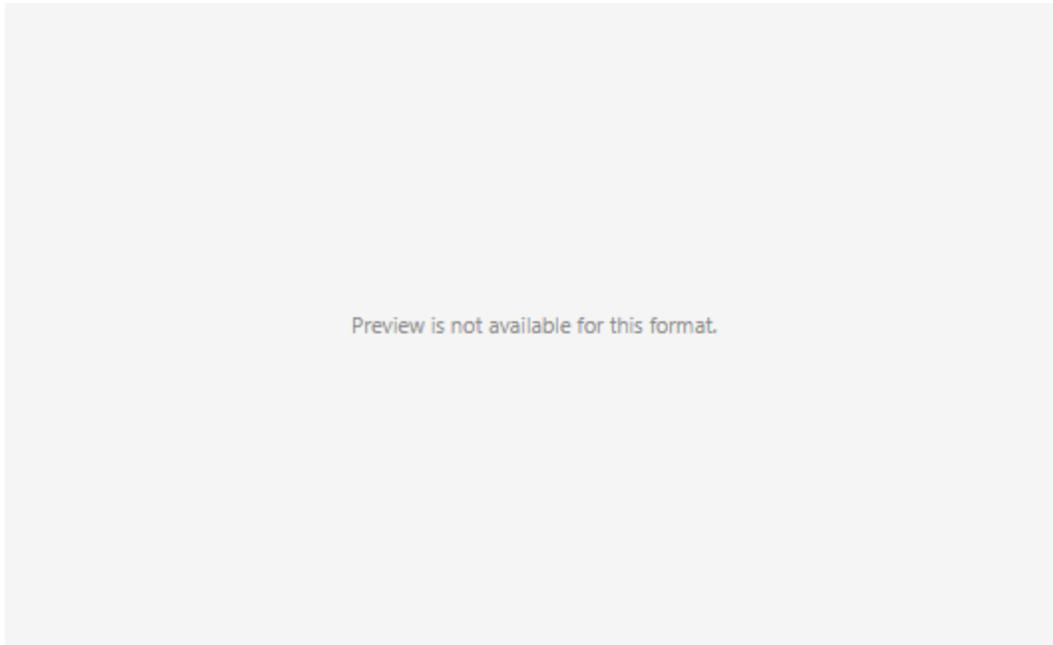
3. Click **OK**. The bucket will appear in the bucket list in the navigation menu.
4. Select the bucket you just created, then click the *Files* Tab. Click the *Upload* button to upload the image file.
5. Select *Current* for the Upload to directory, inherited from Bucket as the File ACL, then *Select Files* to upload the (qcow2) image file.

The screenshot shows the AWS S3 console interface for the bucket 'fortimail-bucket / US (Virginia)'. The 'Upload' button is highlighted with a red box. Below it, a table displays the upload progress for the file 'fortimail-ali-cloud.qcow2'. The table has columns for 'Name', 'Size', 'Storage Class', 'Updated At', and 'Actions'. The file 'fortimail-ali-cloud.qcow2' is listed with a size of 118.688MB, a storage class of 'Standard', and an updated at time of 'Jan 26, 2023, 13:14:35'. The 'View Details' button is highlighted with a red box. Below the table, the 'Download' button is highlighted with a red box.

6. The file will be displayed in the table on the *Upload* page if it is uploaded successfully. Click *View Details*.

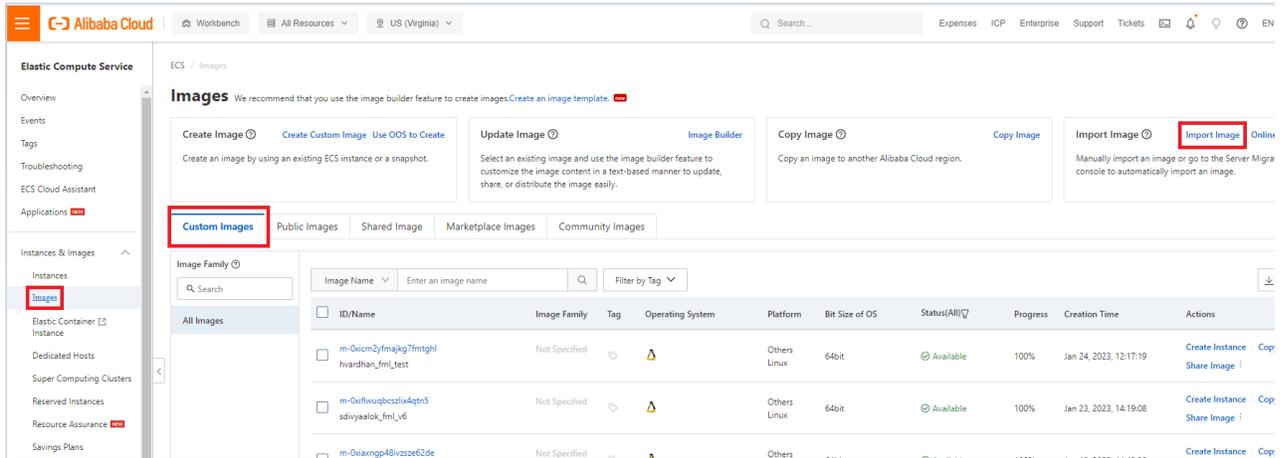
View Details

[?](#) Image Processing ×



File Name	fortimail-alicloud.qcow2 Copy
ETag	0C9B671FA9FFBFBAAAC8D2A4B98D825A0
Validity Period (Seconds)	<input type="text" value="3600"/> ?
HTTPS	<input checked="" type="checkbox"/>
URL ?	<div style="border: 1px solid #ccc; padding: 5px; background-color: #f9f9f9;"> https://fortimail-bucket.oss-us-east-1.aliyuncs.com/fortimail-alicloud.qcow2?Expires=1674761055&OSSAccessKeyId=TMP.3KfqQWtiMXm4KdSNeK7eo2hon2irGya9oaqvzy8hw5XH7I3wNpAUpjvxqZYqB5zttHs9jpRF3Y9NcoBUHf1mmo3mnCmrMt&Signature=4D1iv0YQJ57s3Hj64OAe8HE73Vl%3D </div> <p>Download Copy File URL</p>
Storage Class	application/octet-stream Set HTTP Header
File ACL	Inherited from Bucket Set ACL
Storage Class	Standard
Server-side Encryption	None

7. Click *Copy File URL*. You will use this URL later when creating a custom image.



Creating Custom Images

1. Select *Elastic Compute Service*.
2. Select *Instances & Images > Images > Custom Images*, then click the *Import Image* button.

Import Image ? X

Region: US (Virginia)

* OSS Object Address ?:
[Learn how to obtain OSS file addresses.](#)

* Image Name:

* Operating System/Platform:

* Architecture:

System Disk Size (GiB): ?

Image Format:

License Type:

Description:

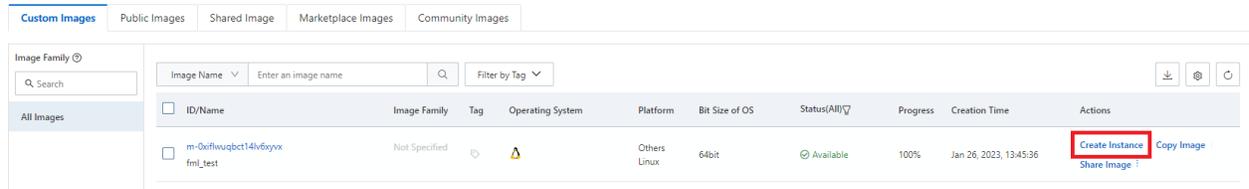
Add Data Disk Image

Resource Group: ? ↻

3. Configure the image settings.
 - *OSS Object Address*: Enter the File URL you have copied in the last step when uploading image file to Object Storage Service.
 - *Image Name*: Enter a name for the image.

For other settings, please configure them as shown below.

4. Click *OK*.
5. You will see the image listed on the *Custom Images* tab if it is created successfully.
6. Click *Create Instance* to create a FortiMail instance.



Creating the FortiMail-VM instance

1. Select the *Custom Launch* tab.
2. Set *Basic Configurations*.

Billing Method

Choose the desired billing method. If you plan to use FortiWeb for a long time, **Subscription** is the most economical choice.

Region

Select the region and zone where the VSwitch is located.

Instance Type

Select the instance type with at least 2 vCPU and 8 GB memory.

The screenshot shows the 'Basic Configurations' step in the Alibaba Cloud console. The 'Billing Method' is set to 'Pay-as-you-go'. The 'Region' is 'US (Virginia)' and the 'Zone' is 'Zone A (17)'. The 'Instance Type' is set to 'ecs.g5.large'. A table of instance types is displayed below, with 'ecs.g5.large' selected.

Family	Instance Type	vCPUs	Memory	Clock Speed	Internal Network Bandwidth	Packet Forwarding Rate	Storage IOPS Base/Peak	Storage I/O Bandwidth Baseline/Burst Value (Gbit/s)	IPv6-supported	Instance Pricing	Physical Processor
General Purpose Type g6	ecs.g6.large	2 vCPUs	8 GiB	2.5 GHz/3.2 GHz	Up to 3 Gbps	300,000 PPS	10,500/-	1/-	Yes	\$ 0.093 USD Per Hour	Intel Xeon/Cascade Lake) Platinum 8269CY
General Purpose Type g5	ecs.g5.large	2 vCPUs	8 GiB	2.5 GHz/2.7 GHz	1 Gbps	300,000 PPS	-	-	Yes	\$ 0.096 USD Per Hour	Intel Xeon(SkyLake) Platinum 8163 / Intel Xeon(Cascade Lake) Platinum 8269CY
Enhanced General Purpose Type g6e	ecs.g6e.large	2 vCPUs	8 GiB	2.5 GHz/3.2 GHz	Up to 10 Gbps	900,000 PPS	21,000/-	1/-	Yes	\$ 0.1023 USD Per Hour	Intel Xeon(Cascade Lake) Platinum 8269CY
General Purpose Type g6	ecs.g6.xlarge	4 vCPUs	16 GiB	2.5 GHz/3.2 GHz	Up to 5 Gbps	500,000 PPS	21,000/-	1.5/-	Yes	\$ 0.186 USD Per Hour	Intel Xeon(Cascade Lake) Platinum 8269CY
General Purpose Type g5	ecs.g5.xlarge	4 vCPUs	16 GiB	2.5 GHz/2.7 GHz	1.5 Gbps	500,000 PPS	-	-	Yes	\$ 0.192 USD Per Hour	Intel Xeon(SkyLake) Platinum 8163 / Intel Xeon(Cascade Lake) Platinum 8269CY
Enhanced General Purpose Type g6e	ecs.g6e.xlarge	4 vCPUs	16 GiB	2.5 GHz/3.2 GHz	Up to 10 Gbps	1,000,000 PPS	42,000/-	1.5/-	Yes	\$ 0.2046 USD Per Hour	Intel Xeon(Cascade Lake) Platinum 8269CY

Selected Instance Type: ecs.g5.large (2 vCPU 8 GiB, General Purpose Type g5)

Quantity: 1

Creating the FortiMail-VM instance

The screenshot shows the configuration page for an ECS instance. The **Image** section has tabs for Public Image, Custom Image (selected), Shared Image, Marketplace Image, and Community Image. A dropdown menu shows 'fml_test'. Below it, a note states: 'ECS instances created in this region do not allow the switch of OS between Linux and Windows.'

The **Storage** section includes a **System Disk** configuration with 'Standard SSD' selected, '55 GIB' size, and '3450 IOPS'. There is a 'Release with Instance' checkbox. Below this, the **Data Disk** section shows '0 disks' selected and '16 more' available, with an 'Add Disk' button. A link for 'NAS File System' is also present.

The **Snapshot** section has a 'Backup Period' dropdown set to 'Select Automatic Snapshot Policy' and a 'Data Source' dropdown set to 'Select a data source'. A yellow warning box at the bottom states: 'You can use automatic snapshot policies to periodically back up disks to prevent risks such as virus attacks and accidental data deletion. Snapshot pricing (pay-as-you-go billing and hourly payment collection) >'

3. Configure *Networking*.

Network Type	Select the VPC and the VSwitch you want to connect to the public IP address.
Public IP Address	Enable <i>Assign Public IP Address</i> . You will access FortiWeb's GUI and CLI through this IP address.
Bandwidth Billing	Select <i>Pay-By-Traffic</i> or <i>Pay-By-Bandwidth</i> as desired.
Security Group	Select the Security Group you have created.
Elastic Network Interface	Select the VSwitch for FortiWeb interfaces to connect to. Click <i>Add ENI</i> to add more interfaces on FortiWeb.

The screenshot shows the **Networking** section of the ECS instance configuration. It includes a progress bar at the top with steps: Basic Configurations, Networking (selected), System Configurations (Optional), Grouping (Optional), and Preview.

The **Network Type** section has 'VPC' selected. It shows a VPC ID and a VSwitch ID. A note says: 'To create a new VPC, go to the VPC console.' Below this, there is a checkbox for 'Specify Private IP Address'.

The **Public IP Address** section has 'Assign Public IP Address' checked. A note says: 'The system will automatically allocate an IP address. In addition, you can use a more flexible EIP solution. Click here to learn more about how to attach an EIP >'

The **Bandwidth Billing** section has 'Pay-By-Traffic' selected. A note says: 'Bandwidth is billed based on the amount of data used in GB by hour. Ensure that your account has sufficient balance.'

The **Peak Bandwidth** section shows a slider from 1M to 100M. A note says: 'Alibaba Cloud provides up to 5 Gbit/s protection against DDoS attacks for free. Learn More | Reinforce Protection. The data transfer plan is a great deal for reducing the traffic cost generated by your ECS/EIP/SLB instances. Buy a data transfer plan >'

The **Security Group** section has 'Reselect Security Group' selected. A note says: 'A security group functions similarly to firewalls and is used to set network access controls for one or more ECS instances. You can go to the Security Groups page in the ECS console to create a security group. Learn More'. Below this, a security group is listed: 'Security Group fml_test_sec_grp / sg-0k4unwfh29f0h8yn (contains 3 instances, and 1997 more instances can be added)'. A yellow warning box at the bottom states: 'Ensure that your security group has port 22 (Linux) or 3389 (Windows) allowed in the security group rules. Otherwise, you will not be able to connect to the ECS instance. You can add security group rules to your security group in the ECS console.'

The **Elastic Network Interface** section has 'Default ENI' selected. It shows a VSwitch ID and an interface ID. There are checkboxes for 'Auto-assign IP Addresses' and 'Release with Instance'. Below this, there is an 'Add ENI' button. A note says: 'You can add up to 1 ENI. You can use ENIs to deploy high availability clusters, implement fine-grained network management, and perform failovers at low cost. Learn More >'

The **IPv6** section shows 'IPv6 is not available. (Click here to view details) >'

4. Configure *System Configurations*.

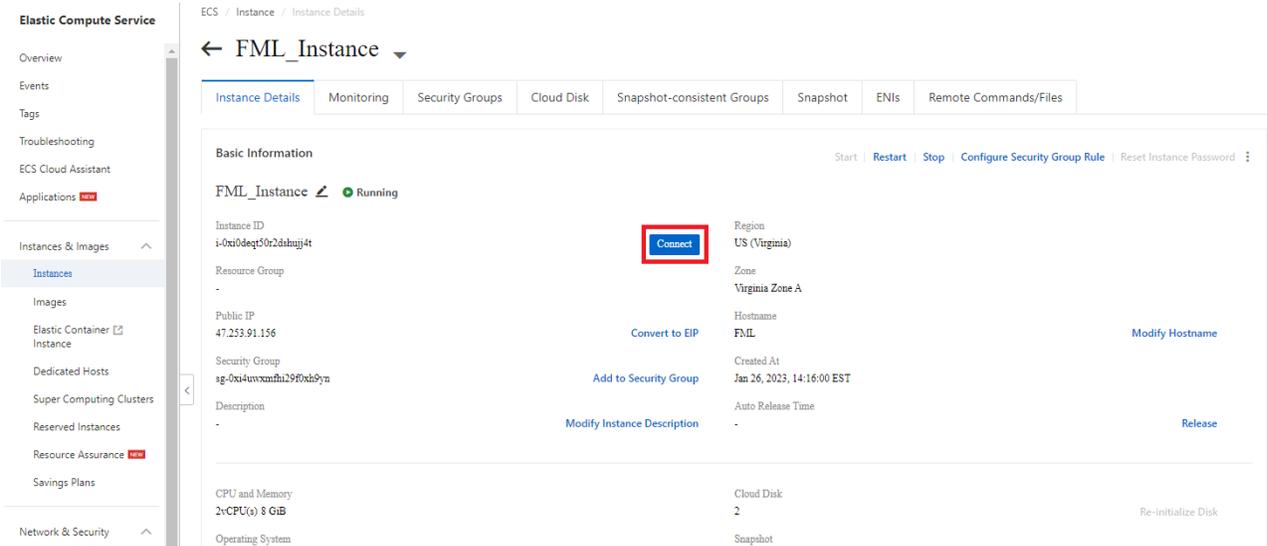
Select either **Key Pair** or **Set Later** for Logon Credentials, and enter an Instance Name. The default username is **admin** and the password is Instance ID.

The screenshot shows the 'System Configurations' step in the AWS console. The progress bar at the top indicates the following steps: 1. Basic Configurations, 2. Networking, 3. System Configurations (Optional), 4. Grouping (Optional), and 5. Preview. The 'Logon Credentials' section has 'Key Pair' selected, with 'FML_deploy_test_QA_kp' chosen from a dropdown. The 'Instance Name' is 'FML_instance'. The 'Host' is 'FML'. There are checkboxes for 'Sequential Suffix' and 'Release Protection', both of which are unchecked. A progress bar at the top shows steps: 1. Basic Configurations, 2. Networking, 3. System Configurations (Optional), 4. Grouping (Optional), 5. Preview.

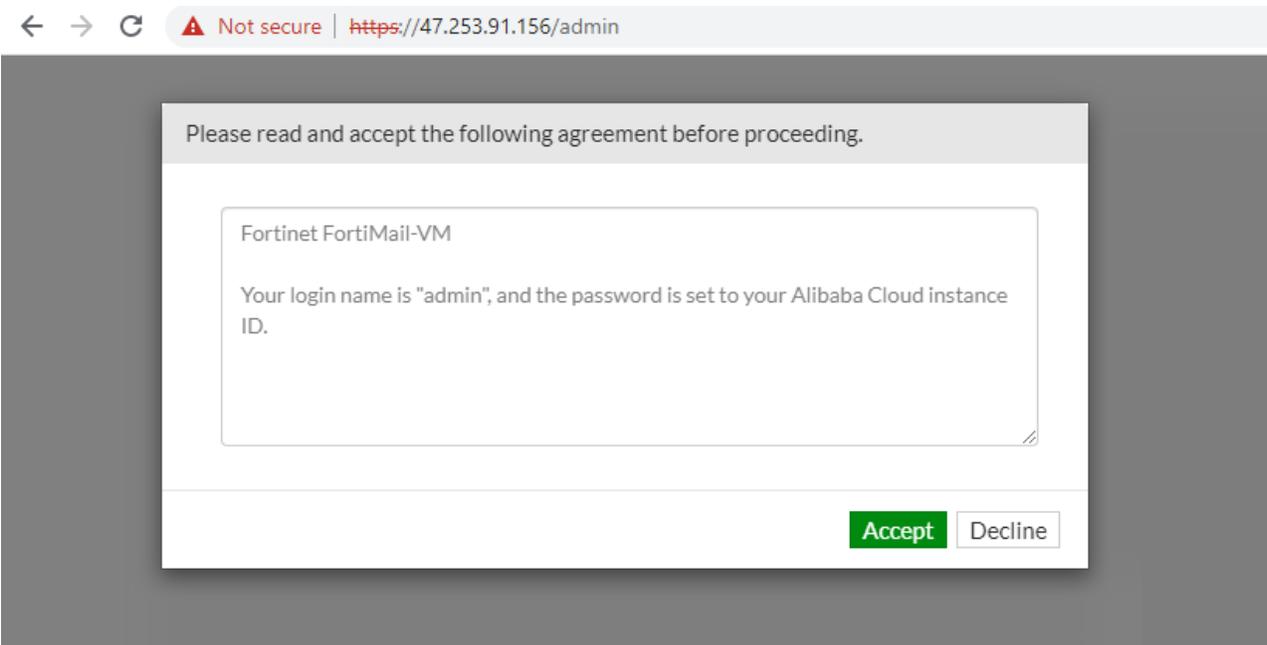
5. Configure *Grouping*. Select Default Resource Group or create a new resource group.
6. Review the instance information. Check ECS Terms of Service and Product Terms of Service Agreement. Click Create Instance.
It may take 1-5 minutes to create the instance.
7. Check the status of the instance. If it's running, you can go ahead to the next step.

Connect to FortiMail

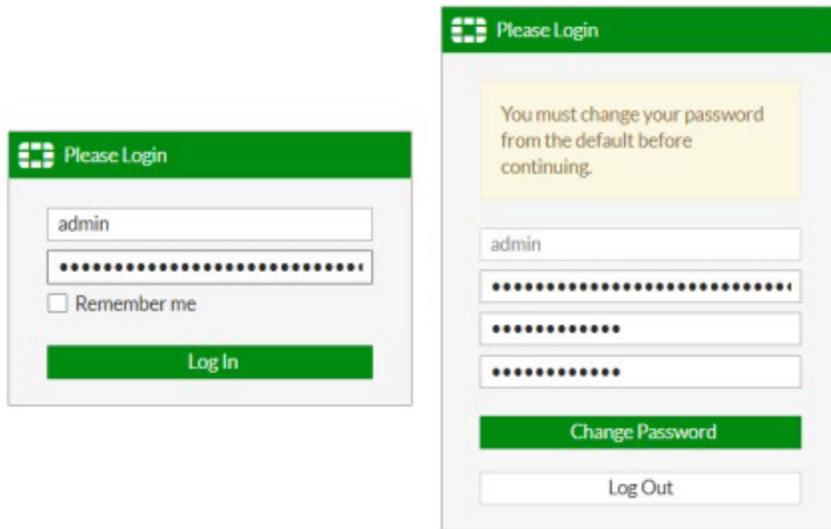
1. Click on Connect. A VNC console will display.



2. Get the public IP address of the instance as shown below. Use this address to access the FortiMail unit's web UI in a web browser or the CLI using an SSH connection.



3. At the first time login, you will be forced to change your password.



4. The last step is to upload a valid FML VM license, and then you should be able to see the FortiMail GUI console. For details about how to configure FortiMail, see the [FortiMail Administration Guide](#).

