FortiADC - Alibaba Cloud Deployment Guide

Version 7.0.0

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FortiADC 7.0.0 Alibaba Cloud Deployment Guide
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Change Log

Date	Change Description
April 21, 2020	Initial release.
March 29, 2022	Second release with Marketplace support.

Introduction

Alibaba Cloud Elastic Compute Service (ECS) provides fast memory and the latest Intel CPUs to help you power your cloud applications and achieve faster results with low latency.

This guide describes how to create an ECS instance of FortiADC-VM on Alibaba Cloud Infrastructure, including image upload to Cloud, instance creation, and console access.

Deploying the FortiADC-VM in Alibaba Cloud

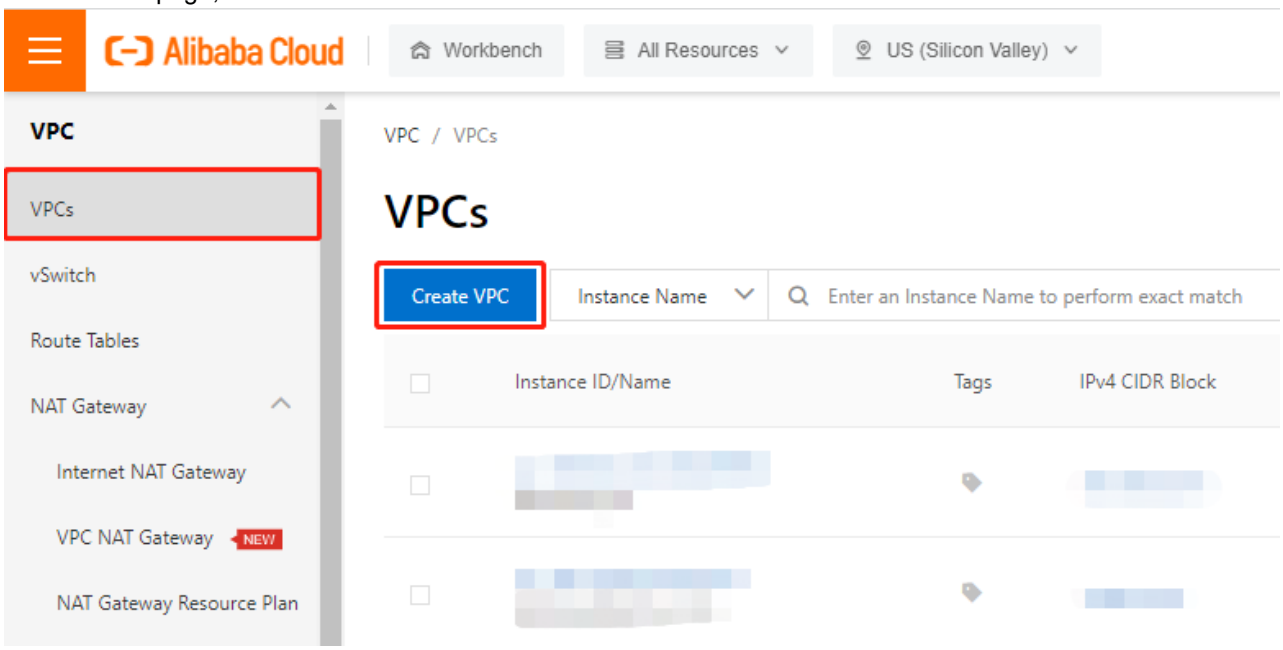
Follow the workflow below to deploy the FortiADC-VM instance on Alibaba Cloud.

1. Creating a VPC (Virtual Private Cloud) on page 6
2. Creating the FortiADC-VM instance on page 9
3. Configuring the Security Group Rules on page 12
4. Accessing the FortiADC GUI and CLI on page 14

Creating a VPC (Virtual Private Cloud)

Create a virtual private cloud (VPC) to deploy your Alibaba Cloud resources. In the following steps you will be specifying the CIDR block and vSwitch required to deploy the FortiADC-VM.

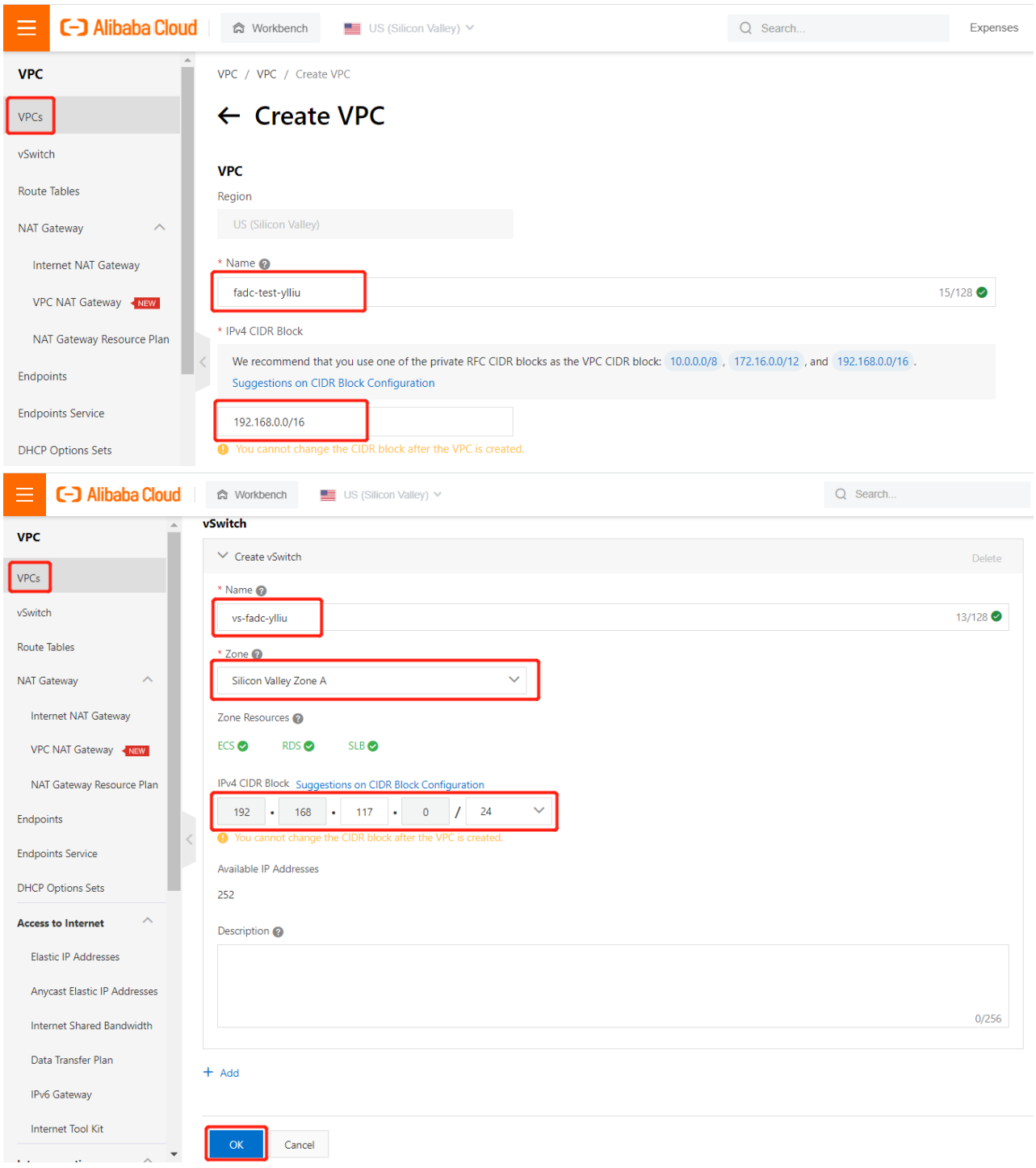
1. Log in to your Alibaba Cloud Account and log on to the VPC console.
2. In the top navigation bar, select the region where you want to deploy the VPC.
   Note: The VPC and the cloud resources that you want to deploy in the VPC must belong to the same region.
3. On the **VPCs** page, click **Create VPC**.



4. On the **Create VPC** page, set the following parameters and click **OK**.

Parameter	Description
VPC	
Region	Displays the region where you want to create the VPC.
Name	Enter a name for the VPC.

Parameter	Description
	The name must be 2 to 128 characters in length and can contain digits, underscores (_), and hyphens (-). It must start with a letter.
IPv4 CIDR Block	Enter an IPv4 CIDR block for the VPC. You can specify one of the following CIDR blocks or their subsets as the primary IPv4 CIDR block of the VPC: 192.168.0.0/16, 172.16.0.0/12 and 10.0.0.0/8. These CIDR blocks are standard private CIDR blocks as defined by Request for Comments (RFC) documents. The subnet mask must be 8 to 28 bits in length. For example, enter 192.168.0.0/24. **Note**: After you create a VPC, you cannot change its primary IPv4 CIDR block.
vSwitch	
Name	Enter a name for the vSwitch. The name must be 2 to 128 characters in length and can contain digits, underscores (_), and hyphens (-). The name must start with a letter.
Zone	Select a zone for the vSwitch. In the same VPC, vSwitches in different zones can communicate with each other.
Zone Resources	Displays the cloud resources that can be created in the specified zone.
IPv4 CIDR Block	Specify the IPv4 CIDR block of the vSwitch. When you specify an IPv4 CIDR block for the vSwitch, take note of the following limits: • The CIDR block of a vSwitch must be a subset of the CIDR block of the VPC to which the vSwitch belongs. For example, if the CIDR block of a VPC is 192.168.0.0/16, the CIDR block of a vSwitch in the VPC must be a subset of 192.168.0.0/16. In this example, the CIDR block of the vSwitch can range from 192.168.0.0/17 to 192.168.0.0/29. • The first IP address and last three IP addresses of a vSwitch CIDR block are reserved. For example, if a vSwitch CIDR block is 192.168.1.0/24, the IP addresses 192.168.1.0, 192.168.1.253, 192.168.1.254, and 192.168.1.255 are reserved. • If a vSwitch is required to communicate with vSwitches in other VPCs or with data centers, make sure that the CIDR block of the vSwitch does not overlap with the destination CIDR blocks. **Note**: After you create a vSwitch, you cannot change its CIDR block.



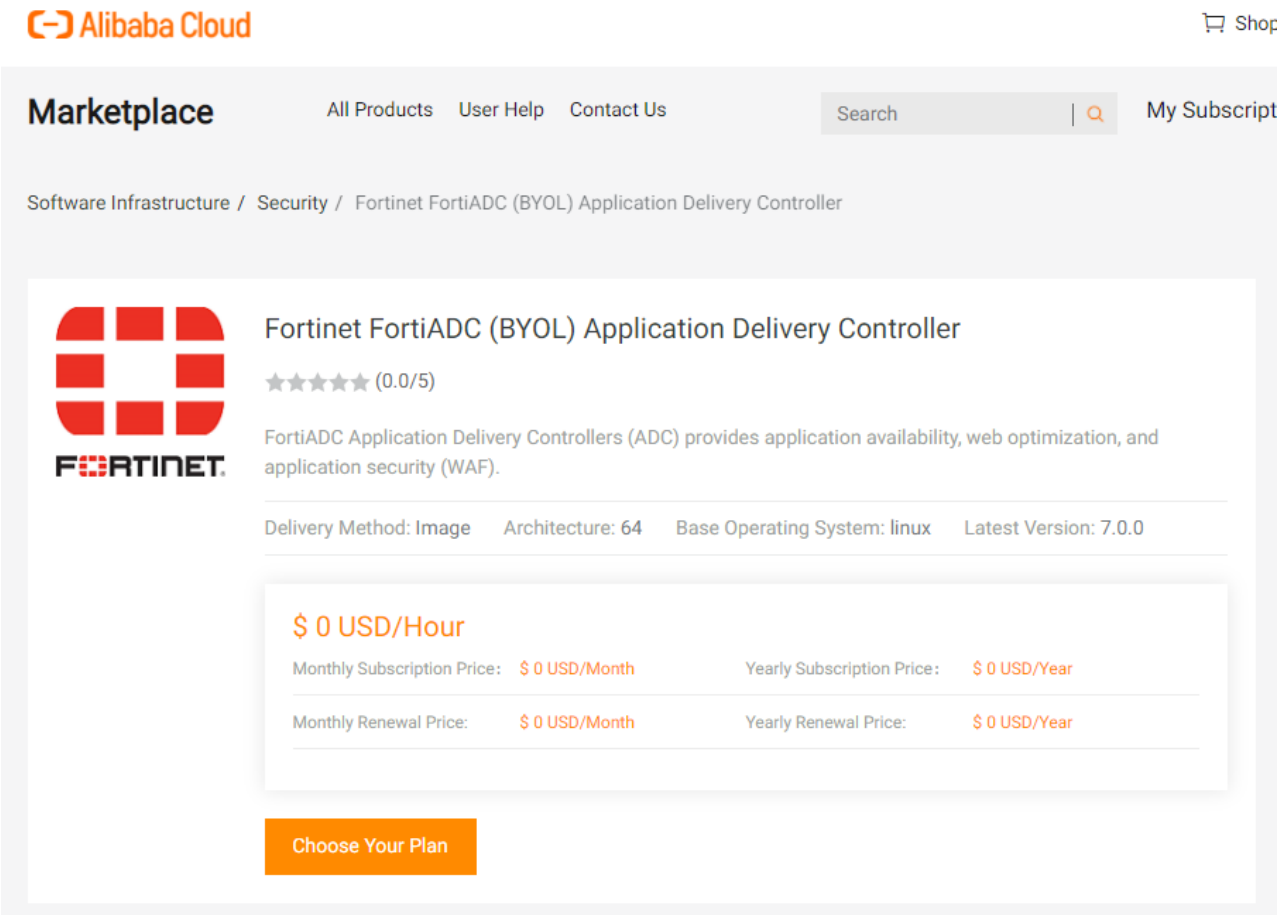
Next Step:

Creating the FortiADC-VM instance on page 9

Creating the FortiADC-VM instance

Create the FortiADC-VM instance from the Marketplace to automatically deploy the latest FortiADC version. To use earlier FortiADC versions, you can manually downgrade to the specified version in the FortiADC GUI after deploying the VM.

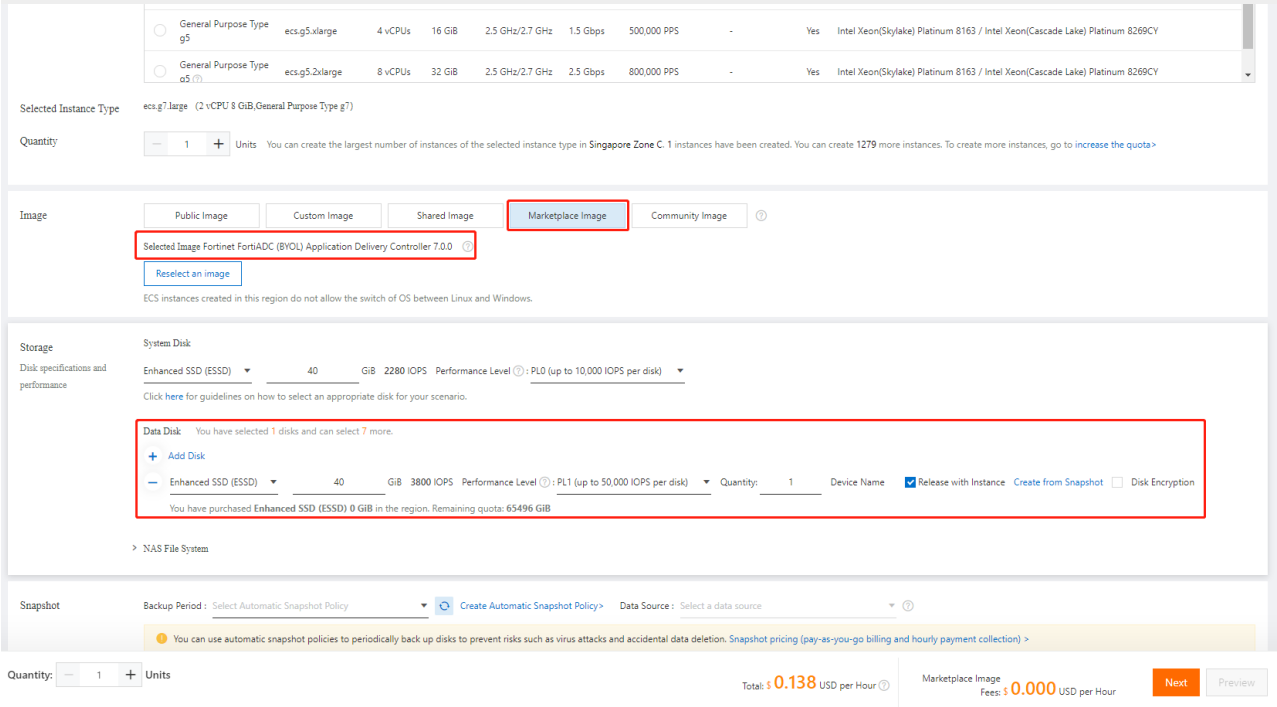
1. Go to **Alibaba Cloud > Marketplace**, and search for **FortiADC**.
   The search will return the **Fortinet FortiADC (BYOL) Application Delivery Controller**.



2. Click **Choose Your Plan**.
   This creates a FortiADC instance using a default image of the latest version.
3. Navigate to **Elastic Compute Service > Instances**. Click **Create Instance**.
4. Go to the **Custom Launch** tab.
5. Complete the following **Basic Configuration** settings.

Setting	Description
Billing method	Select a billing method: • Subscription — Pay for resources before you use them. • Pay-As-You-Go — Use resources first and pay for them afterward. The billing cycles of pay-as-you-go instances are accurate to the second. You can purchase and release instances on demand.

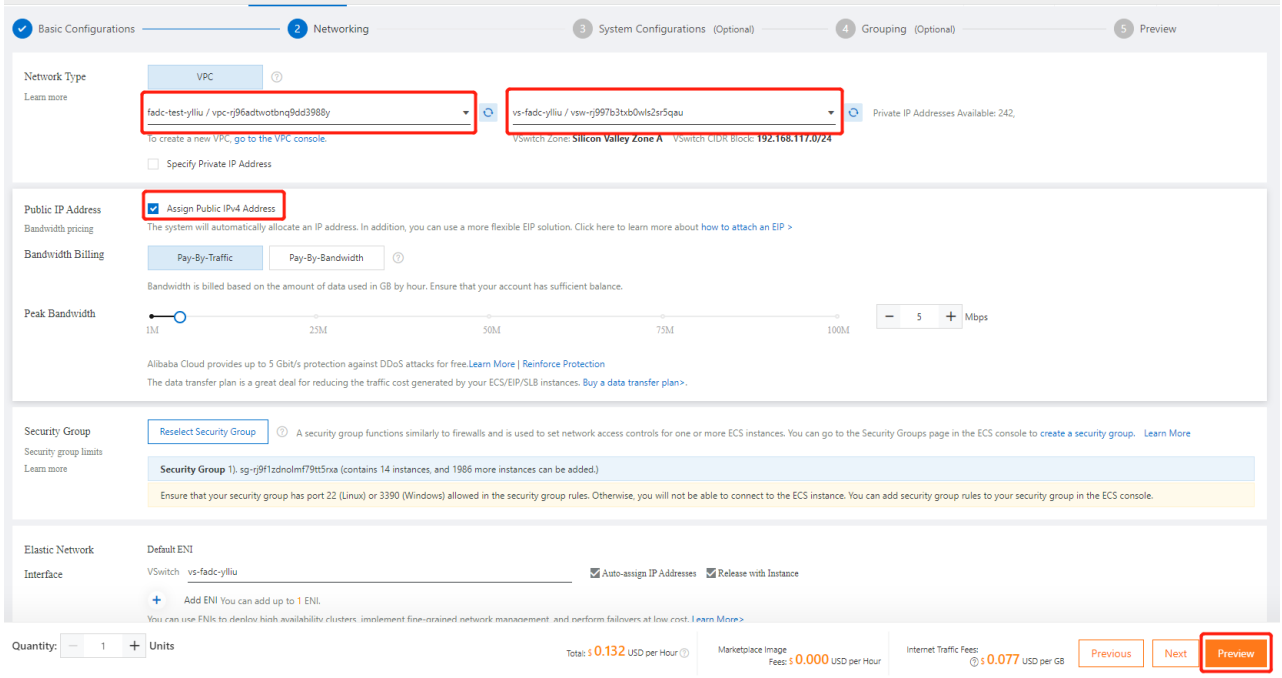
Setting	Description
	• Preemptive Instance — Use resources first and pay for them afterward. You place a bid for available instance resources to create preemptible instances at a discount compared with pay-as-you-go instance pricing. Preemptible instances may be automatically released due to fluctuations in market price or insufficient resources of instance types.
Region and zone	Select a region that is close to your geographical location to reduce latency. After an instance is created, the region and the zone of the instance cannot be changed.
Instance type	Select the instance type. We suggest to select an instance type that has a minimum of 4 GB of memory.
Image	Select the **Marketplace Image**.
Storage	Add a **Data Disk** for the FortiADC log Disk. We suggest to select a disk with a minimum of 30 GB.



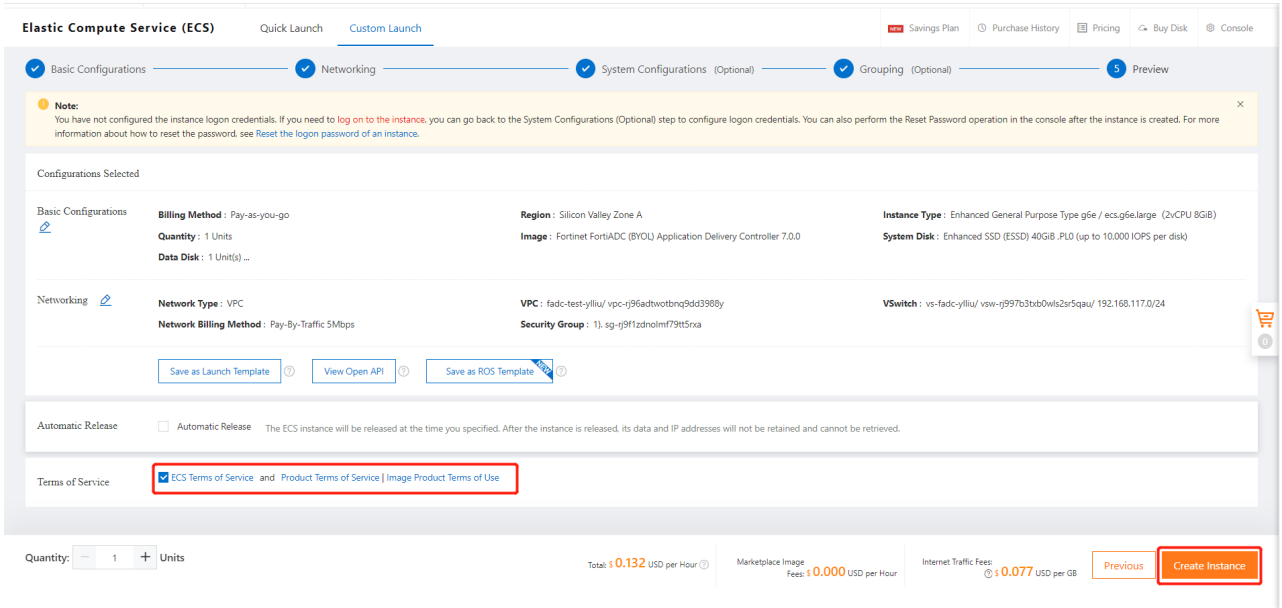
6. Click **Next** to move forward to **Networking** and configure the following settings:

Setting	Description
Network Type	Select the VPC and vSwitch that was previously configured in Creating the FortiADC-VM instance on page 9.
Public IP Address	Select the Assign Public IPv4 Address if you want to have the internet access the FortiADC.
Security Group	Select HTTP and HTTPS.

Setting	Description
	Take note of the Security Group ID/Name. It will be used in later steps.



7. Click **Preview**. Agree to the **ECS Terms of Service** then click **Create Instance**.



The newly created instance will appear on the **Instances** page (it may take between 1 to 5 minutes for the instance to generate). The instance is ready when the status changes from Stopped to Running.

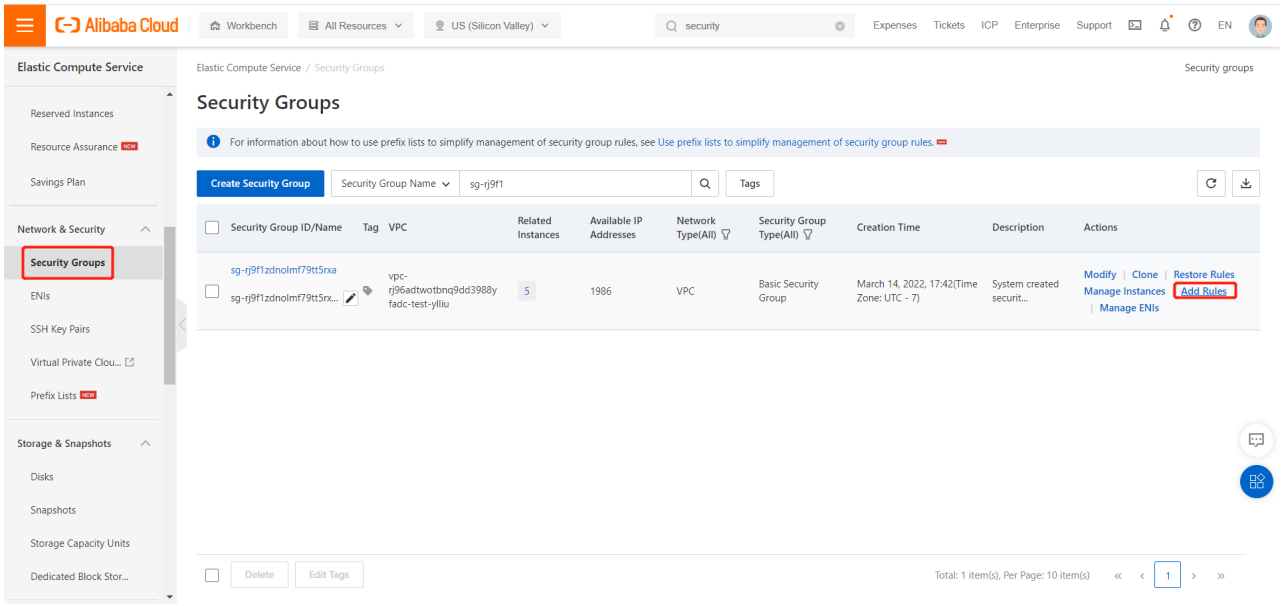
Next Step:

Configuring the Security Group Rules on page 12

Configuring the Security Group Rules

Configure custom security group rules for your FortiADC-VM instance.

1. Navigate to **Elastic Compute Service > Security Groups**.
2. On the **Security Groups** page, search for your security group using the **Security Group ID/Name** in previous steps (for details, see Creating the FortiADC-VM instance on page 9).
3. For the selected security group, under the **Actions** column, click **Add Rules** to configure custom security group rules.



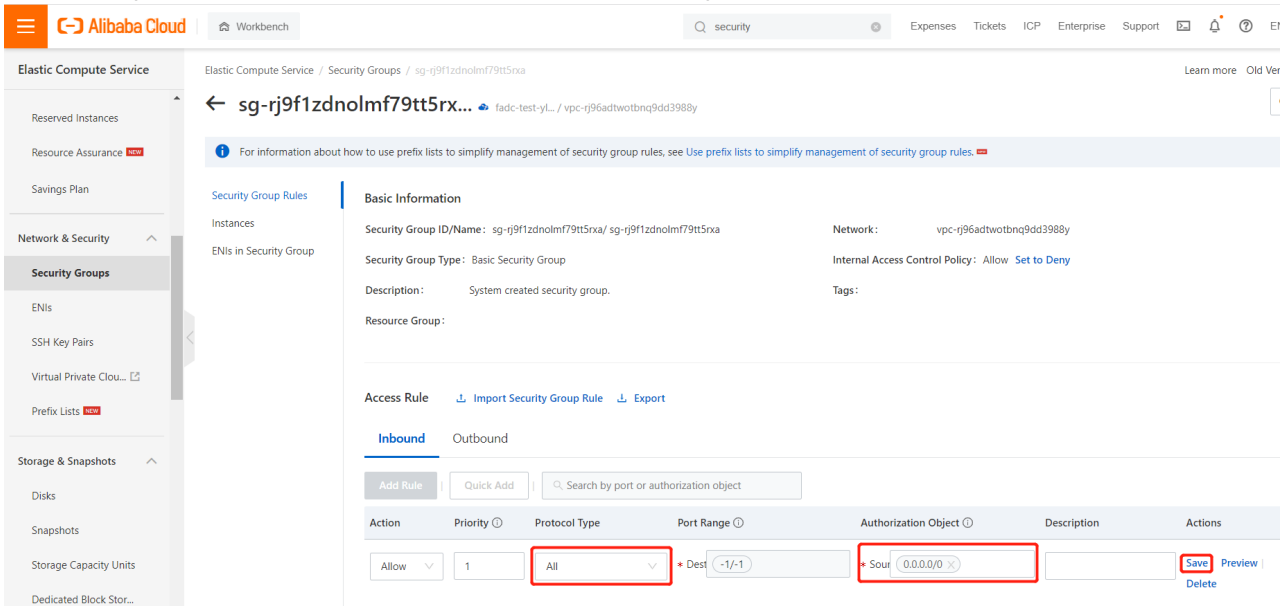
4. Configure the following Access Rules settings:

Parameter	Description
Action	Select the access action: • Allow — allows access requests on a specific port. • Forbid — drops packets without returning messages. If two security group rules differ only in their actions, the **Forbid** rule is used but the **Allow** rule is ignored.
Priority	A smaller value indicates a higher priority. Valid values: 1 to 100.
Protocol Type	Select the protocol type of the security group rule: • All • Custom TCP • Customized UDP • All ICMP (IPv4) • All ICMP (IPv6) • All GRE
Port Range	You can specify a custom port range when Protocol Type is set to Custom TCP or Customized UDP. Enter one or more port ranges. Separate multiple

Parameter	Description
	port ranges with commas (,). For example, `22/23,443/443`.

Authorization Object	You can specify an authorization object of the following types:
	• IP addresses — You can enter individual IP addresses. For example, `192.168.0.100` or `2408:4321:180:1701:94c7:bc38:3bfa:`.
	• CIDR blocks — You can enter a CIDR block. For example: `192.168.0.0/24` or `2408:4321:180:1701:94c7:bc38:3bfa:***/128`.
	• Security groups — This authorization type is valid only for the internal network. You can specify a security group within the current account or a different account as the authorization object to allow mutual access between instances in that security group and instances in the current security group over the internal network.
	  • Grant permissions to a security group within the current account: Enter the ID of the security group to which you want to grant permissions within the current account. If the current security group is of the VPC type, the security group to which you want to grant permissions must reside within the same VPC as the current security group.
	  • Grant permissions to a security group within a different account: Enter the ID of the different Alibaba Cloud account and the ID of the security group to which you want to grant permissions in the `ID of the Alibaba Cloud account/ID of the security group` format. You can choose **Account Management > Basic Information** to view your account ID.
	• Prefix lists — A prefix list is a set of network prefixes (CIDR blocks). The prefix list feature is supported only on security groups of the VPC type. After you reference a prefix list in a security group rule, the rule applies to all CIDR blocks in the prefix list.
	Note:
	• You can enter up to 10 authorization objects at a time. Separate multiple objects with commas (,).
	• If you enter `0.0.0.0/0` or `::/0` as an authorization object, all IP addresses are allowed or denied based on the Action parameter. Evaluate the network risks before you specify `0.0.0.0/0` or `::/0`.
	• For security reasons, we recommend that you select a security group for Authorization Object when you add a public inbound rule to a security group of the classic network type. If you want to grant permissions to IP addresses, you must enter individual IP addresses instead of CIDR blocks.

5. Under the **Actions** column, click **Save**.
   In the example below, the inbound access rule is set to allow all ports for all IP addresses.



Next Step:

Accessing the FortiADC GUI and CLI on page 14

Accessing the FortiADC GUI and CLI

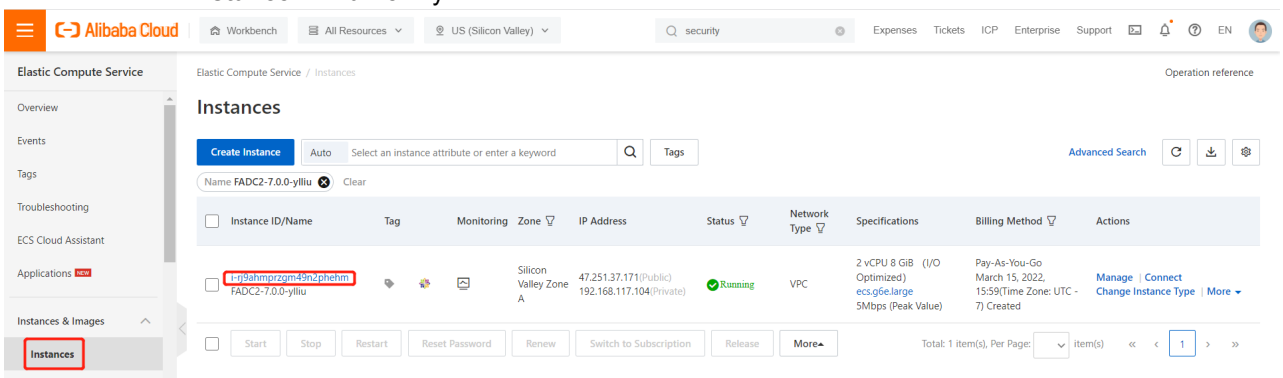
After deploying the FortiADC-VM instance in Alibaba Cloud, you will need to access FortiADC to configure the instance.

You can access the FortiADC GUI and CLI using either of the following methods:

- Remote access
- Console access

To access the FortiADC GUI and CLI remotely:

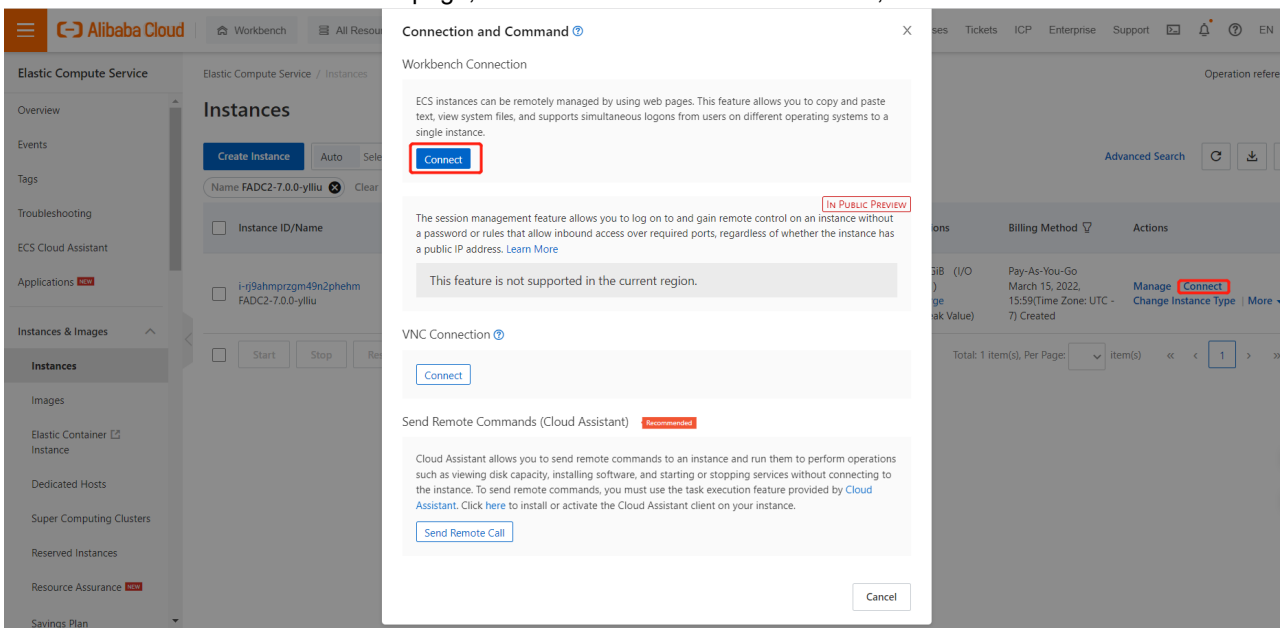
1. Navigate to **Elastic Compute Service > Instances**.
2. Take note of the **Instance ID/Name** of your instance.



3. Use the Internet IP to access the FortiADC via GUI/SSH/Telnet. The default login ID is admin and the password is the Instance ID/Name of your instance. After you login for the first time, you may change the password as needed.

To access the FortiADC GUI and CLI through the console:

1. Navigate to **Elastic Compute Service > Instances**.
2. For your instance, under the **Actions** column, click **Connect**.
3. On the **Connection and Command** page, under the **Workbench Connection**, click **Connect**.



4. In the **Instance Login** dialog:
   a. Enter the **Username** (the default login ID is admin), and select **Password-based**.
   b. Enter the **Password** (which is the Instance ID/Name by default).
   c. Click **OK**.

Important notes

1. Because Alibaba Cloud does not allow you to configure secondary IP on any interface, features with multiple IP-Addresses on one port may not work on Alibaba Cloud FortiADC-VM, such as the following:
   - NAT related features
   - L4 Full NAT
   - IP floating
2. FortiADC does not support High Availability deployment modes (HA-AP, HA-AA, and HA-VRRP) in Alibaba Cloud. HA-VRRP may be supported on other cloud infrastructure (such as AWS, Azure, or GCP).
3. For L4 VS DNAT, ensure the FortiADC is the gateway of the RS. If the RS is deployed in the Alibaba Cloud as well, please ensure there is no external IP address configured on the RS. Otherwise, the RS will not send back the data to the FortiADC for external traffic, regardless of the routing rules you configure on the RS. Because Alibaba Cloud always takes the routing rules to public networks as its first priority, all the traffic to Public IP destinations will be sent back via its default public route settings, instead of the gateway you configured.
4. Currently, the VNC console login is not working. As a workaround, use the Workbench Connection for console login.