



Computing Cloud Service - Elastic Cloud Server



Foreword

- This chapter gives a general overview of Elastic Cloud Server (ECS), a service on HUAWEI CLOUD.



Objectives

- After completing this course, you will be able to:
 - Understand the concepts, functions, and application scenarios of ECS.
 - Create and manage ECSs.
 - Learn ECS FAQs.



Contents

- 1. Overview**
2. ECS Purchasing
3. ECS Management
4. Related Services

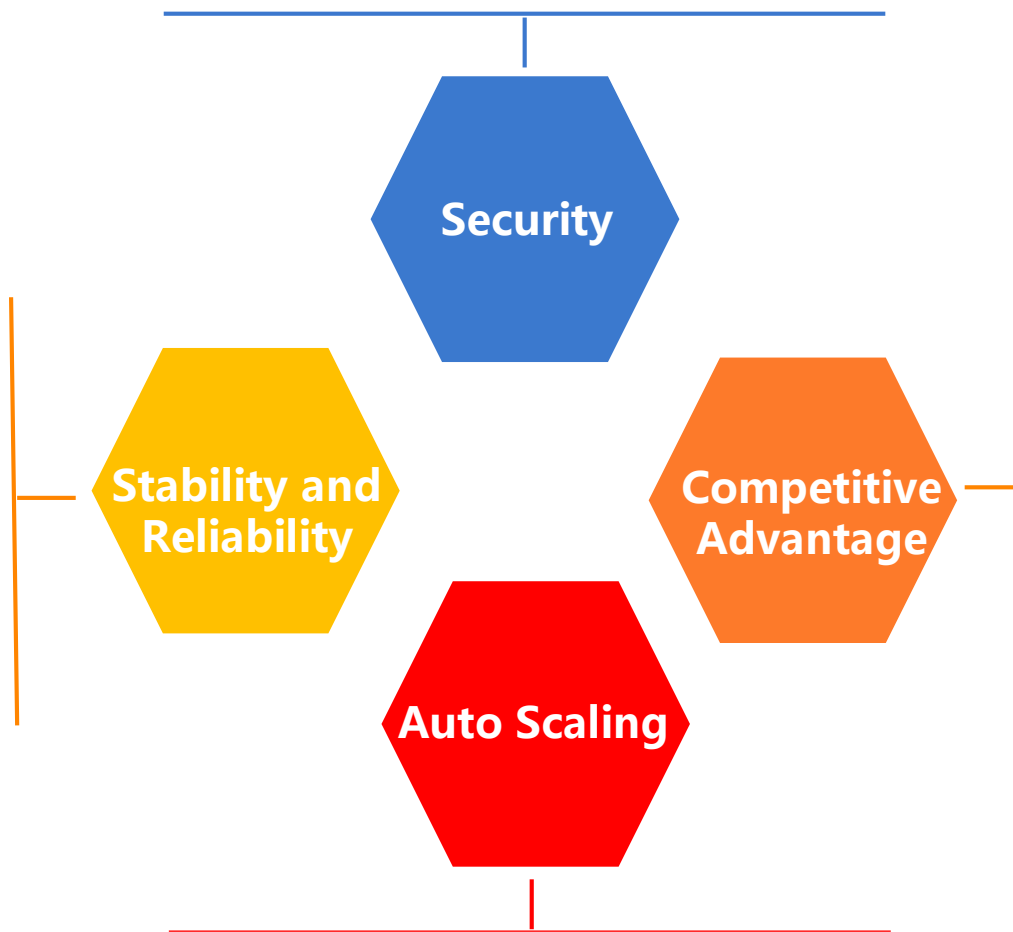


What Is ECS?

- Elastic Cloud Server (ECS) a cloud server that provides scalable, on-demand computing resources for secure, flexible, and efficient applications.



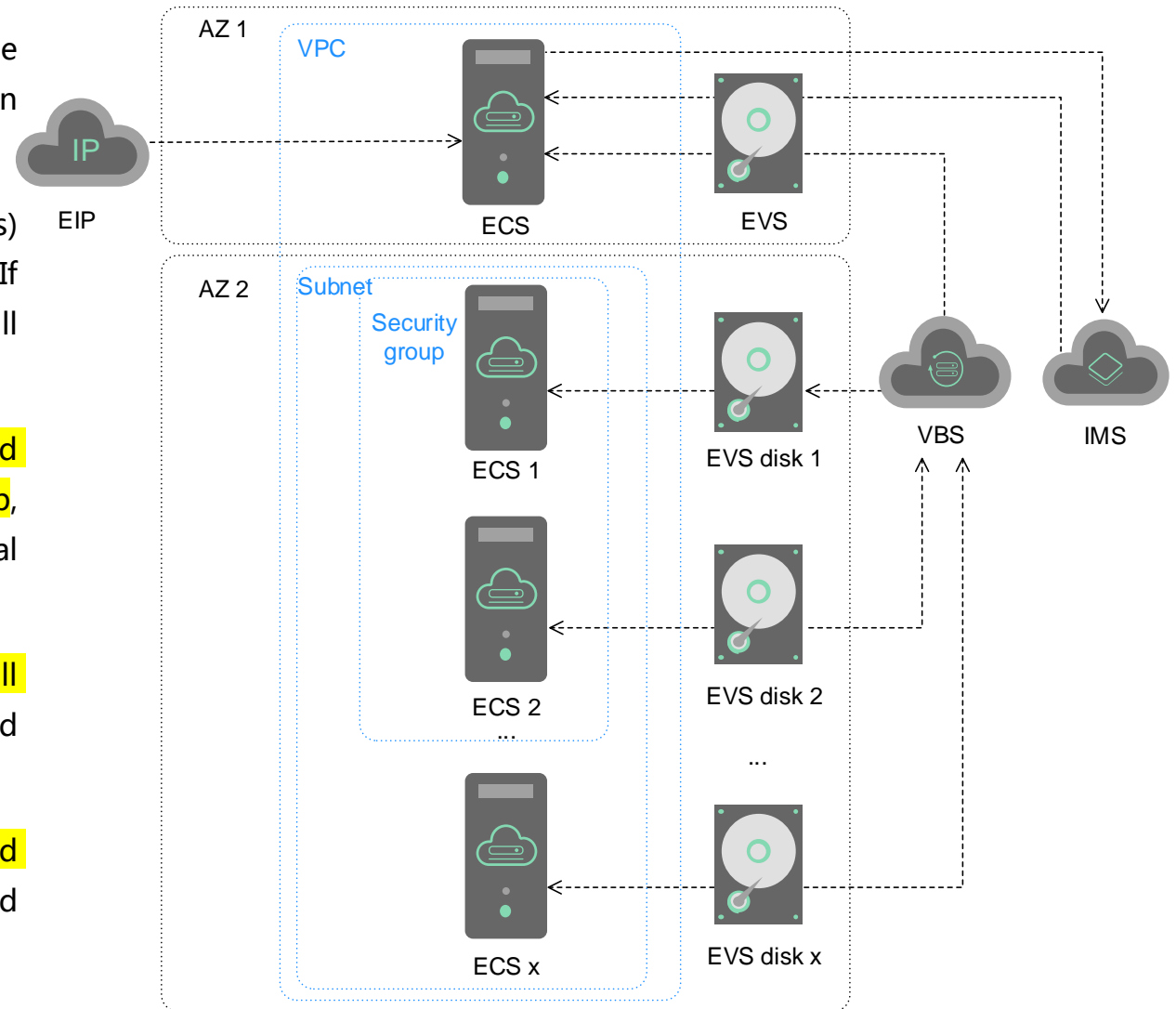
Advantages





Architecture

- ECS works with other products and services to provide computing, storage, network, and image installation functions.
- ECSs are deployed in multiple availability zones (AZs) connected with each other through an internal network. If an AZ becomes faulty, other AZs in the same region will not be affected.
- With the Virtual Private Cloud (VPC) service, you can build a dedicated network, set the subnet and security group, and allow the VPC to communicate with the external network through an EIP (bandwidth support required).
- With the Image Management Service (IMS), you can install images on ECSs, or create ECSs using private images and deploy services quickly.
- The Elastic Volume Service (EVS) provides storage and Volume Backup Service (VBS) provides data backup and recovery functions.





Features

- Security protection: **Worry-free** comprehensive **security protection**
- Reliable data: Scalable, **reliable high throughput virtual block storage based** on distributed architecture
- Flexible, easy-to-use: **Multi-choice management** via the management console, remote access, and APIs with full rights
- Rich specifications: **Multiple ECS types**, specifications, and images
- Stable **network** access: **Fast, stable,** and secure dedicated network transmission channels
- **Multi-level monitoring**: Open platform for real-time resource monitoring, alarming, and notification



Application Scenarios

Scenario	Application	Recommended Configuration
Internet	<ul style="list-style-type: none">• Official websites• Website R&D and testing• Small-scale databases	<ul style="list-style-type: none">• Specifications: s3.large.2• Disk: Common I/O EVS disk, 100 GB
E-Commerce	<ul style="list-style-type: none">• Precision advertising• E-Commerce• Mobile apps	<ul style="list-style-type: none">• Specifications: m3.2xlarge.8• Disk: Ultra-high I/O EVS disk, 100 GB
Graphics rendering	<ul style="list-style-type: none">• HD video• Graphics rendering• Remote desktops• Engineering drawing	<ul style="list-style-type: none">• Specifications: g1.2xlarge• Disk: High I/O EVS disk, 100 GB
Data analysis	<ul style="list-style-type: none">• MapReduce• Hadoop	<ul style="list-style-type: none">• Specifications: d2.4xlarge.8• Disk: Local disks, 8 x 1.6 TB
High-performance computing	<ul style="list-style-type: none">• Scientific computing• Genetic engineering• Games and animation• Biopharmaceuticals and storage	<ul style="list-style-type: none">• Specifications: h3.4xlarge.4• Disk: Ultra-high I/O EVS disk, 100 GB



Success Stories

- vmall.com: the first All-in-Cloud e-commerce platform in China based on the one-stop e-commerce solution provided by HUAWEI CLOUD.
- Yonyou Telecom: HUAWEI CLOUD removes their need to maintain backend resources and enables them to focus on product development for meeting user requirements to the maximum extent.
- China Pacific Property Insurance Co., Ltd.: uses HUAWEI CLOUD services for data acquisition and analysis, which has significantly reduced their investments.
- Shanghai International Port Group: The launch of the Ganghangzongheng (shipping) platform has resolved issues in user data query and therefore are warmly welcomed in the shipping industry.



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ECS Types

- HUAWEI CLOUD provides various ECS types for different application scenarios.
 - General computing
 - General computing-plus
 - General-entry
 - Memory-optimized
 - Large-memory
 - Disk-intensive
 - Ultra-high I/O
 - High-performance computing
 - Ultra-high performance computing
 - GPU-accelerated
 - FPGA-accelerated



ECS Flavor Naming Rules

ECS flavors are named using the format "AB.C.D".

The format is defined as follows:

- **A** specifies the ECS type. For example, **s** indicates a general-computing ECS, **c** a computing ECS, and **m** a memory-optimized ECS.
- **B** specifies the type ID. For example, the **1** in **s1** indicates a general-computing first-generation ECS, and the **2** in **s2** indicates a general-computing second-generation ECS.
- **C** can be any of the following options: medium, large, or xlarge.
- **D** specifies the ratio of vCPU to memory expressed in a digit. For example, value **4** indicates that the ratio of vCPU to memory is 4.

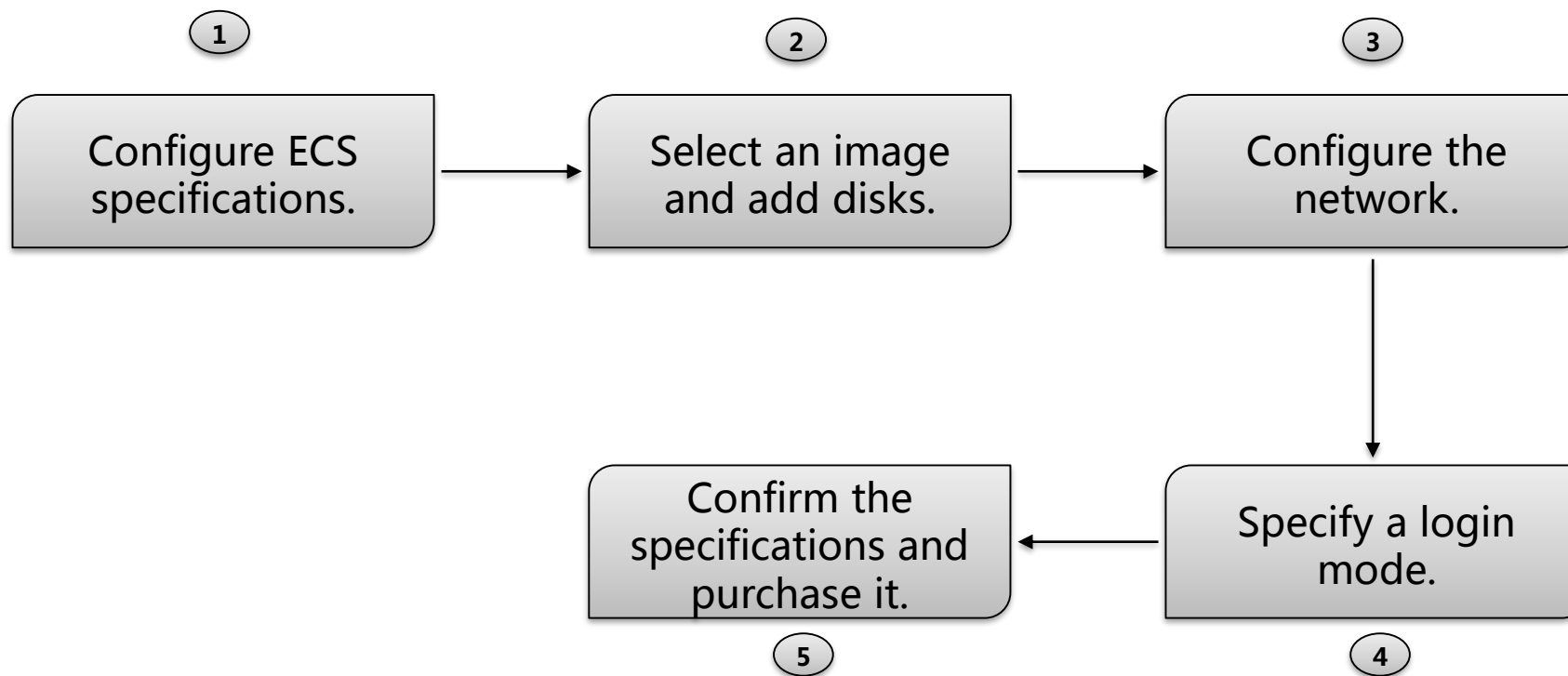


Network Bandwidth

- ECS intranet bandwidths and PPS capabilities are limited based on flavors.
 - Assured bandwidth: indicates the assured ECS bandwidth.
 - Maximum bandwidth: indicates the maximum ECS bandwidth.
 - Maximum PPS: indicates maximum ECS capabilities in transmitting and receiving packets.



ECS Purchasing Process



Step 1: Configure ECS Specifications

- Select a billing mode.

Billing Mode

Yearly/Monthly Pay-per-use

Use Pay-per-use for all labs

- Configure specifications.

Type

vCPUs All Memory All Enter a specification name. 🔍

General computing General computing-plus Memory-optimized High-performance computing

Ultra-high I/O

[Learn more about ECS types.](#)

Flavor name	vCPUs/Memory	Assured/Maximum Bandwidth ?	PPS ?
<input checked="" type="radio"/> s3.small.1	1 vCPUs 1 GB	0.1/0.5 Gbit/s	50,000 pps
<input type="radio"/> s3.medium.2	1 vCPUs 2 GB	0.1/0.5 Gbit/s	50,000 pps
<input type="radio"/> s3.medium.4	1 vCPUs 4 GB	0.1/0.5 Gbit/s	50,000 pps
<input type="radio"/> s3.large.2	2 vCPUs 4 GB	0.2/0.8 Gbit/s	100,000 pps
<input type="radio"/> s3.large.4	2 vCPUs 8 GB	0.2/0.8 Gbit/s	100,000 pps
<input type="radio"/> s3.xlarge.2	4 vCPUs 8 GB	0.4/1.5 Gbit/s	150,000 pps
<input type="radio"/> s3.xlarge.4	4 vCPUs 16 GB	0.4/1.5 Gbit/s	150,000 pps
<input type="radio"/> s3.2xlarge.2	8 vCPUs 16 GB	0.8/3 Gbit/s	200,000 pps
<input type="radio"/> s3.2xlarge.4	8 vCPUs 32 GB	0.8/3 Gbit/s	200,000 pps

Current specifications General computing | s3.small.1 | 1 vCPUs | 1 GB

Step 2: Select an Image and Add Disks

- Select an image.

Image

Public image

Private image

Shared image

Marketplace image

-Select-

-Select-

- Add disks.

Disk

EVS

A non-shareable data disk purchased together with an ECS in yearly/monthly billing mode cannot be attached to another ECS.

System Disk

High I/O

-

40

+

GB | IOPS Limit 1,440, IOPS Burst Limit 5,000

Data Disk

High I/O

-

100

+

GB | IOPS Limit 1,800, IOPS Burst Limit 5,000

Delete

☐ SCSI

☐ Share

☐ Encryption

+ Add Data Disk

You can attach 22 more disks.

Step 3: Configure the Network

VPC ?

default_vpc

↺

NIC

default-subnet

Welcome to HUAWEI CLOUD. We have already created a VPC for you. To create a custom VPC, go to the [VPC](#) service.

Security Group ?

default_securitygroup ×

▼

Select the protocol to be enabled

☐ Port 80

☐ Port 443

☐ ICMP

☒ Port 22 or 3389 ?

EIP ?

To enable Internet access from your ECSs, create a plan for the EIPs you require. [View EIP](#)

Automatically assign

Use existing

Not required

Type

Static BGP

Bandwidth Type

Exclusive Bandwidth

Shared Bandwidth

Charged By ?

Bandwidth

Traffic

Bandwidth

5 Mbit/s

1

100

200

300

500

1,000

2,000

5

Mbit/s

Step 4: Specify a Login Mode

- **Key pair:** A key pair is used for ECS login authentication. You can select an existing key pair, or click **Create Key Pair** and create a desired one.
- **Password:** A username and its initial password are used for ECS login authentication. The initial password of user **root** is used for authentication in Linux, while that of user **Administrator** is used for authentication in Windows.

Login Mode

Key pair

Password


The ECS password can be reset only after a plug-in is installed on the ECS. [Learn how to install the plug-in.](#)

To log in to, reinstall, or change the OS of an ECS, you must have the private key. Keep this key safe.

Key Pair ?

KeyPair-8bd3

▼

 [Create Key Pair](#)

☒ I acknowledge that I have the private key file KeyPair-8bd3.pem and that I will not be able to log in to my ECS without this file.

After a Linux ECS is created, use this key pair for logging in. After a Windows ECS is created, view the list of ECSs and click Get Password for the newly created ECS. Then use this key pair to obtain the ECS login password. to obtain the Windows ECS login password.

Step 5: Confirm the Specifications and Purchase It

Buy ECS ?

☒ Configure

2

Submit

3

Pay

Order Details

Product Name	Configuration	Billing Mode	Usage Duration	Quantity	Price
ECS	Region	Hong Kong			
	AZ	AZ1			
	Type	General computing s2.medium.2 1 vCPUs 2 GB			
	Image	CentOS 7.5 64bit			
	System Disk	High I/O, 40 GB			
	VPC	vpc-3114	Yearly/Monthly	1 month	1
	Security Group	default			
	NIC	subnet-3115(172.16.10.0/24)			
	EIP	Type: Dynamic BGP			
		Charged By: Bandwidth Bandwidth: 5 Mbit/s			
	Key Pair	KeyPair-8bd3			
	ECS Name	ecs-439c			

ECS Price **\$45.08 USD**

The estimated price is for reference only and may vary from the final price in your bill. [Price Details](#)

☐ I have read and agree to the [Huawei Image Disclaimer](#)

Previous

Submit



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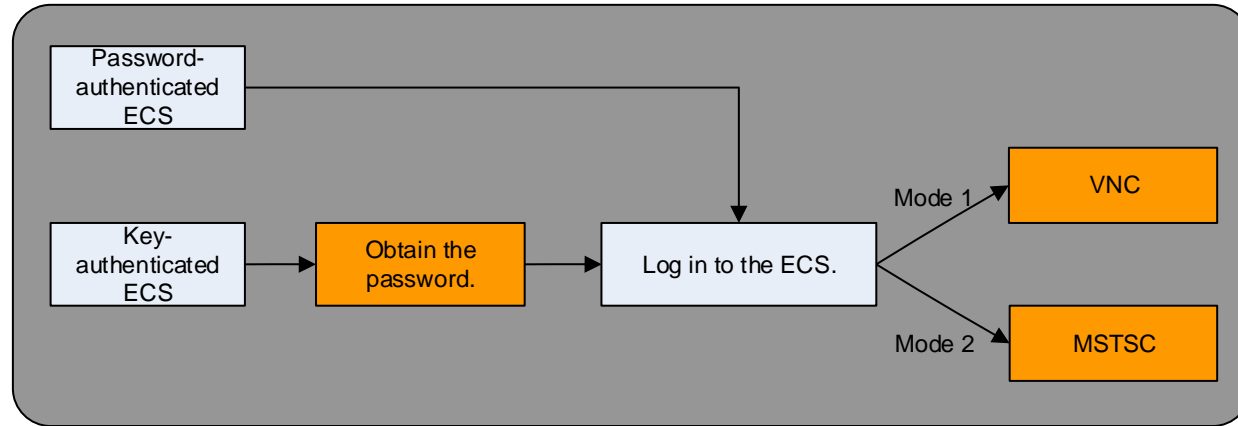
Managing ECSs

- Logging In to an ECS
- Managing the Lifecycle of an ECS
- Modifying ECS Specifications
- Reinstalling/Changing an ECS OS
- Resetting the Password for Logging In to an ECS
- Backup Up ECS Data

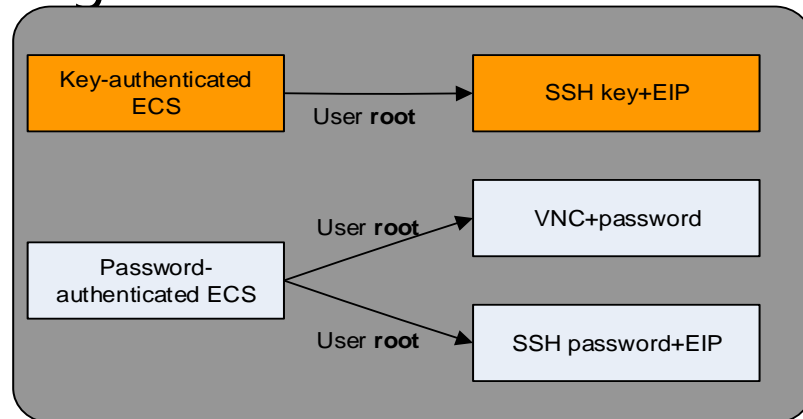


Logging In to an ECS

- Log in to a Windows ECS.



- Log in to a Linux ECS.

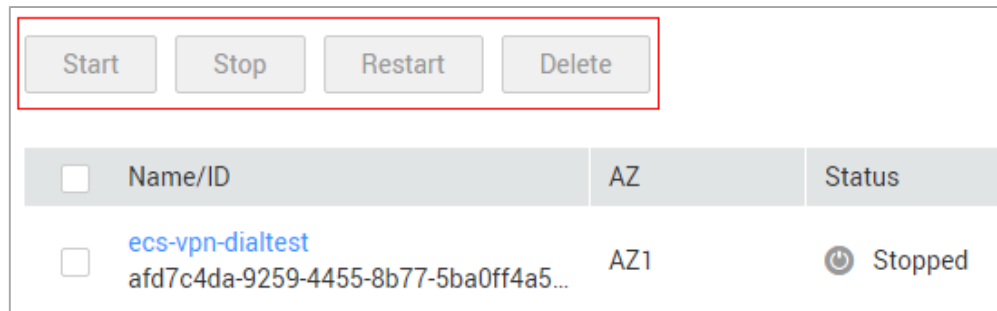




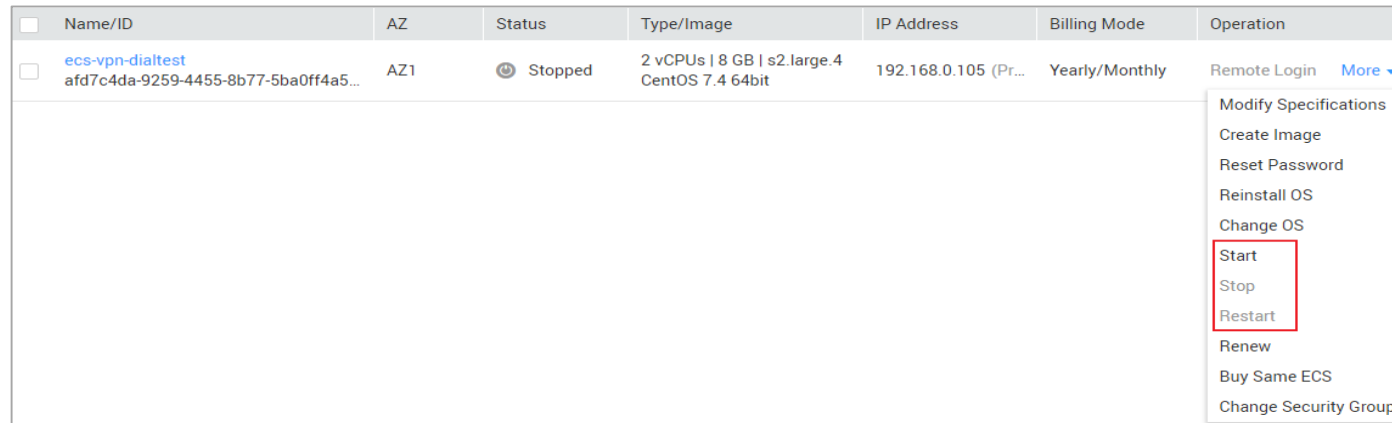
Managing the Lifecycle of an ECS

- A **lifecycle** indicates the ECS statuses recorded from the time when the ECS is created through the time when the ECS is deleted or released. ECS lifecycle management includes **starting, stopping, restarting, and deleting** ECSs.

- Method 1



- Method 2





Modifying ECS Specifications


- If the ECS specifications do not meet service requirements, you can modify the ECS specifications, including vCPUs and memory.
- If you want to use an ECS for a long time, you can change its billing mode from pay-per-use to yearly/monthly to reduce cost.

Start	Stop	Restart	More ▾	All statuses ▾	Name ▾	Q	
<input type="checkbox"/>	Name/ID	AZ	Status	Type/Image	IP Ad...	Billing Mode	Operation
<input type="checkbox"/>	ecs-jstest 0e725a94-8099-4828-9420-7981345...	AZ2	Stopped	1 vCPUs 1 GB s2.small.1 CentOS 7.2 64bit	49.4.8... 172.1...	Pay-per-use	Remote Login More ▾
<input type="checkbox"/>	ecs-lvmtest a7f24b48-54e2-450d-9928-84a8c93...	AZ2	Stopped	1 vCPUs 4 GB s2.medium.4 CentOS 7.3 64bit	114.1... 172.1...	Pay-per-use	Modify Specifications Create Image Reset Password Reinstall OS Change OS Create Backup Start Stop Restart Delete
<input type="checkbox"/>	ecs-for-test ad42e8ff-df54-4c6b-9a99-8f5f74d00...	AZ2	Running	1 vCPUs 4 GB sn3.medium.4 drs-src-mysql56	114.1... 172.1...	Pay-per-use	Change Billing Mode Buy Same ECS Change Security Group Modify Bandwidth



Reinstalling/Changing an ECS OS

- **Reinstall:** If the OS of an ECS fails to start or requires optimization, reinstall the OS.
- **Change:** If the OS running on an ECS cannot meet service requirements, change the ECS OS.

<input type="checkbox"/>	Name/ID	AZ	Status	Type/Image	IP Address	Billing Mode	Operation
<input type="checkbox"/>	ecs-vpn-dialtest afd7c4da-9259-4455-8b77-5ba0ff4a5...	AZ1	 Stopped	2 vCPUs 8 GB s2.large.4 CentOS 7.4 64bit	192.168.0.105 (...)	Yearly/Monthly	Remote Login More ▾
							Modify Specifications Create Image Reset Password Reinstall OS Change OS Start Stop Restart Renew Buy Same ECS Change Security Group



Resetting the Password for Logging In to an ECS

- Reset the password for logging in to an ECS if the password is lost or has expired.
- Prerequisites: You have installed password reset plug-ins before your ECS password is lost or expires.
- Note: The one-click password reset plug-ins have been installed by default on an ECS created using a public image.

Name/ID	AZ	Status	Type/Image	IP Address	Billing Mode	Operation
<input type="checkbox"/> ecs-vpn-dialtest afd7c4da-9259-4455-8b77-5ba0ff4a5...	AZ1	Stopped	2 vCPUs 8 GB s2.large.4 CentOS 7.4 64bit	192.168.0.105 (...)	Yearly/Monthly	Remote Login More

Reset Password

The new password takes effect after the ECS is restarted.

ECS Name

ecs-vpn-dialtest

Username

root

★ New Password

This field cannot be left blank.

★ Confirm Password

OK

Cancel

Modify Specifications

Create Image

Reset Password

Reinstall OS

Change OS

Start



Backup Up ECS Data

Create full-ECS backups and use EVS disk data consistency to restore ECS service data. This maximally ensures user data security and correctness.

<input type="checkbox"/>	Name/ID	AZ	Status	Type/Image	IP Ad...	Billing Mode	Operation
<input type="checkbox"/>	ecstest 8ab9d280-de17-464f-b590-d3122dd...	AZ1	Running	1 vCPUs 1 GB s2.small.1 SUSE Enterprise 12 SP3 64bit fo...	114.1... 172.1...	Yearly/Monthly 29 days remaini...	Remote Login More ▾
<input type="checkbox"/>	ecs-jstest 0e725a94-8099-4828-9420-7981345...	AZ2	Stopped	1 vCPUs 1 GB s2.small.1 CentOS 7.2 64bit	49.4.8... 172.1...	Pay-per-use	Modify Specifications
<input type="checkbox"/>	ecs-lvmtest a7f24b48-54e2-450d-9928-84a8c93...	AZ2	Stopped	1 vCPUs 4 GB s2.medium.4 CentOS 7.3 64bit	114.1... 172.1...	Pay-per-use	Create Image
<input type="checkbox"/>	ecs-for-test ad42e8ff-df54-4c6b-9a99-8f5f74d00...	AZ2	Running	1 vCPUs 4 GB sn3.medium.4 drs-src-mysql56	114.1... 172.1...	Pay-per-use	Reset Password
							Reinstall OS
							Change OS
							Create Backup
							Start

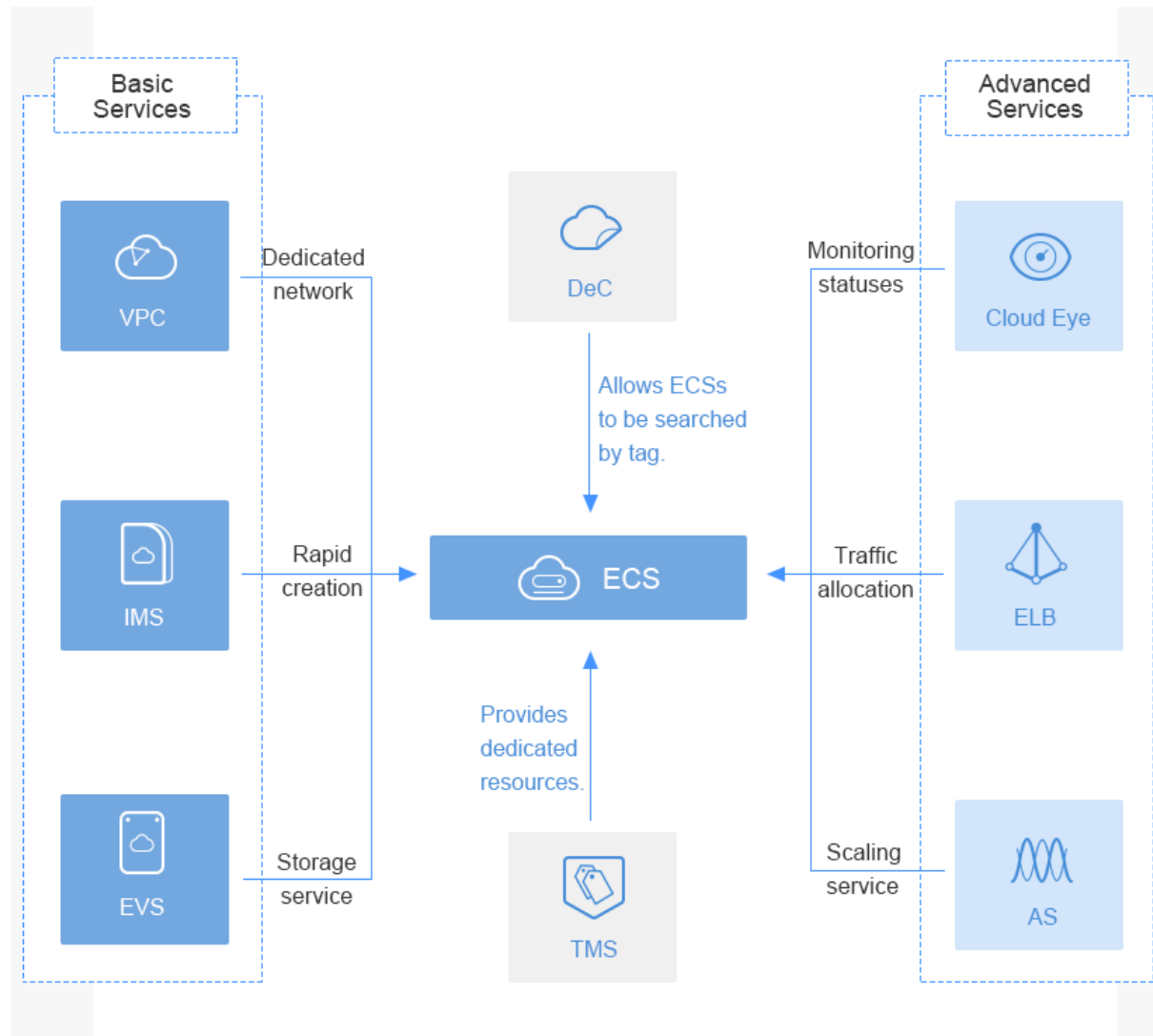


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Backup Up ECS Data





Quiz

1. Is an ECS a physical server? ()
 - A. Yes
 - B. No
2. What is used by an ECS to store data? ()
 - A. Auto Scaling
 - B. Elastic Volume Service
 - C. Cloud Container Engine
 - D. Cloud Eye



Quiz

1. Is an ECS a physical server? ()
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 - A. Auto Scaling
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 - C. Cloud Container Engine
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Summary

- HUAWEI CLOUD ECS
- ECS concepts, functions, and application scenarios
- ECS purchasing and management



Recommendations

- Huawei Learning website
 - <http://support.huawei.com/learning/en/newindex.html>
- ECS documentation at Help Center
 - <https://support-intl.huaweicloud.com/ecs/index.html>

The background of the image shows silhouettes of several groups of business professionals in a modern office environment. They are standing on a highly reflective floor, and their reflections are clearly visible. The entire scene is overlaid with a semi-transparent blue filter. In the center, the text "Thank You" is written in a large, white, sans-serif font, with the website address "www.huawei.com" in a smaller, white, sans-serif font directly below it.

Thank You

www.huawei.com