



고려대학교
KOREA UNIVERSITY

클라우드 컴퓨팅 실습 1

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Table of Contents

1. 클라우드 컴퓨팅 기초
2. Tencent Cloud 사용 실습
3. 클라우드 서비스 사용 관련 공지

Section 1

클라우드 컴퓨팅 기초

클라우드 컴퓨팅 기초

What is Cloud Computing?

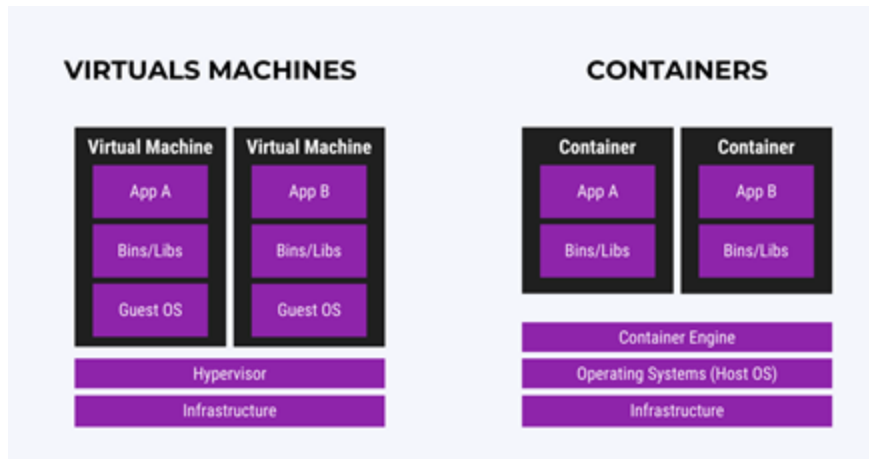
→ 원격지의 컴퓨팅 리소스(CPU, memory, disk, network)를 대여하여 사용하는 것

특징

- Pay-as-you-go
→ 사용한 만큼 지불, 초기 투자 비용 없음
- Scalable
→ 필요한 만큼 리소스를 증가/감소시킬 수 있음, auto-scaling
- Responsibility
→ 서비스 제공자가 관리 책임

Virtualization and Cloud Computing

- 가상화 기술(VM, Container)을 사용하여 클라우드 컴퓨팅 서비스 구축에 활용
 - VM: 하이퍼바이저 위에 독립된 Guest OS를 사용하여 높은 격리 수준 보장
 - Container: 컨테이너 엔진을 사용하고 Host OS 커널을 공유하여 경량화 및 빠른 배포 가능

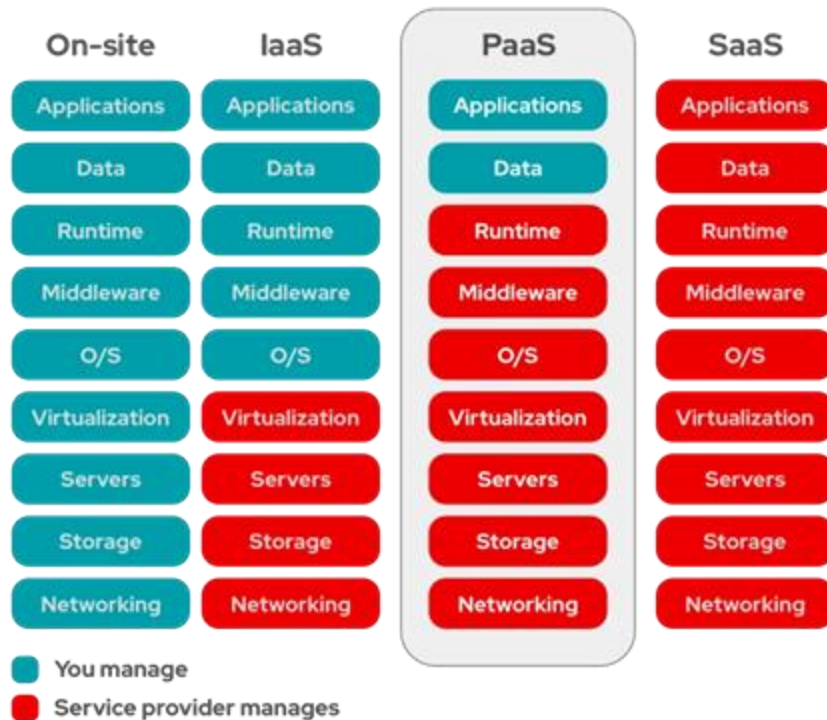


클라우드 컴퓨팅 기초

X as a Service (XaaS)

→ 서비스 제공자의 관리 범위

- Infrastructure-as-a-Service (IaaS)
- Platform-as-a-Service (PaaS)
- Software-as-a-Service (SaaS)



Service Level Agreement (SLA)

→ 제공하는 서비스에 대해 무엇을 보장하는지 명시

- 무엇을 보장할까?
- 성능 수준?
- 보상?

Service Level Agreement (SLA)

The screenshot shows the Tencent Cloud documentation page for the General Service Level Agreement (SLA). The page is titled "General Service Level Agreement" and is part of the "Terms and Policies" section. It includes a sidebar with a navigation menu and a main content area with the agreement text.

Navigation Menu:

- Terms and Policies
- Legal
 - Terms of Service
 - Privacy Policy
 - Data Processing and Security Agreement
 - Customer Security Assessment Policy and Subscribers
 - Accounting Fee Policy
 - Copyright Policy
 - Notification Policy
 - Service Specific Terms
 - General Service Level Agreement**
 - Service Level Agreements
 - Computing
 - Customer and Subscribers
 - Storage
 - Database
 - Networking
 - Cloud and Communication
 - Media Services
 - Security
 - Big Data
 - Cloud Migration
 - AI and Machine Learning
 - Blockchain Applications
 - Office Applications
 - Identity Authentication
 - Developer Services
 - SLA Single Point of Contact

Main Content:

General Service Level Agreement

Last updated: 2023-03-01 15:14:44

1. INTRODUCTION

1.1 This General Service Level Agreement, including the relevant *Service specific Service Level Agreements*, (collectively "SLA") is incorporated into, and forms part of, the Tencent Cloud *Terms of Service* or the Tencent Cloud Master Services Agreement, as applicable, entered into between Tencent and you ("Agreement"). This SLA applies separately to each Account using the Services.

1.2 Capitalized terms used but not defined in the SLA will have the meaning given to them in the Agreement.

1.3 Tencent may amend the SLA in accordance with the Agreement.

1.4 If there are any discrepancies between this General Service Level Agreement and the relevant *Service specific Service Level Agreement(s)*, the relevant *Service specific Service Level Agreement(s)* shall apply.

1.5 In this General Service Level Agreement:

- (a) "Billing Cycle" means a monthly billing cycle for the Fees during the Term;
- (b) "Compensation" means the compensation as set out in the relevant *Service specific Service Level Agreement*; and
- (c) "Service Levels" means the service standard or service availability set out in the relevant *Service specific Service Level Agreement*.

2. SERVICE LEVELS AND SERVICE CREDITS

Unless otherwise stated in a relevant *Service specific Service Level Agreement*:

2.1 Tencent will use reasonable efforts to make Service available in accordance with the *Service specific Service Level Agreement*. If Tencent Cloud does not meet a Service Level during the relevant calendar month (or "Incident"), then (subject to the terms and conditions of the Agreement and the relevant *Service specific Service Level Agreement*) you are eligible to receive Compensation.

2.2 All Service Levels will be calculated on a per account, per-complete calendar month basis. Service Levels will not be calculated, and no Compensation will be due, for any non-complete calendar month(s) i.e. if you do not purchase a particular Service for a complete calendar month, no Compensation is applicable in relation to that Service for that non-complete calendar month(s).

2.3 Compensation is calculated as a percentage of the total Fees paid by you to Tencent in respect of the relevant Service provided under the Agreement during the relevant calendar month in which the Service Level was calculated.

2.4 Any Compensation provided is pro-rata.

(a) will only be applied against future payments of Fees due from your account to Tencent for the relevant Service that is subject of the relevant Incident;

(b) unless otherwise expressly set out in the Agreement, will be your sole and exclusive remedy for;

(c) Tencent's failure to meet the applicable Service Level, and

Service Level Agreement (SLA)

Service Level Agreements	▲	• Security	▼
		• Big Data	▼
• Computing	▼	• Face Recognition	▼
• Container and Middleware	▼	• AI and Machine Learning	▼
• Storage	▼	• Enterprise Applications	▼
• Database	▼	• Office Collaboration	▼
• Networking	▼	• Industry Applications	▼
• CDN and Communication	▼	• Developer Services	▼
• Media Services	▼		

- Tencent Cloud

PromotionsProductsSolutionsPricingPartner NetworkMarketplaceExplore More »

Search 🔍English 🌐Contact Us📄ConsoleDocumentation👤

Documentation

Terms and PoliciesLegalService Level AgreementsComputingCVM Service Level Agreement

CVM Service Level Agreement
Last updated: 2020-11-01 11:08:23

Download PDF

1 Terms and Definitions
2 Service Availability
3 Service Compensation
4 Release of Liability
5 Miscellaneous

In order to use the "Tencent Cloud Virtual Machine (CVM)" service [the "Service"], you should read and comply with this Cloud Virtual Machine Service Level Agreement [this "Agreement," or the "SLA"] and the [Tencent Cloud Service Agreement](#). This Agreement contains, among others, the terms and definitions of the Service, level indicators of the Service availability and services rate, compensation plan and release of liabilities. Unless otherwise stipulated, this Agreement does not apply to instances and functions of CVM closed beta testing. Please carefully read and fully understand each and every provision herein, and the provisions restricting or releasing certain liabilities, or otherwise related to your material rights and interests, are in full force and effect unless or otherwise brought to your special attention.

Please do not purchase the Service unless and until you have fully read, and completely understood and accepted all the terms herein". By clicking "agree"/"yes", or by purchasing or using the Service, or by otherwise accepting this Agreement, whether express or implied, you are deemed to have read, and agreed to be bound by this Agreement. This Agreement shall then have legal effect on both you and Tencent Cloud, constituting a binding legal document on both parties.

1. Terms and Definitions

1.1 Cloud Virtual Machine (CVM)

CVM means computing capabilities that can be scaled up in the cloud provided to you by Tencent Cloud, which saves you from resource projection and upfront investments required in using traditional servers. For details, please refer to the Service you purchased, and the contents of the Service provided by Tencent Cloud.

1.2 Single Instance

Single Instance means one ("1") CVM instance, i.e., for one CVM.

1.3 Total Time of a Single Instance in a Service Month

Total Time of a Single Instance in a Service Month = the total number of days of the Service Month for such single instance × 24 (hours) × 60 (minutes).

1.4 Instance Unavailability

When a CVM instance with incoming and outgoing connection rules properly configured fails to communicate with an IP address, neither incoming nor outgoing via TCP or UDP protocol, and such failure lasts for more than one (1) minute, it will be deemed that the CVM instance is unavailable within each one (1) minute.

1.5 Single Instance Service Downtime Calculated in Minutes

Single Instance Service Downtime Calculated as Minute = the time Instance Unavailability is fixed + the time Instance Unavailability starts. The Single Instance /Single Service Downtimes is calculated in minutes. If the operational failure is fixed within one (1) minute, i.e., the Instance Miniserviceable lasts for less than one (1) minute, such downtime will not be counted. A period that is longer than one (1) minute but shorter than two (2) minutes will be counted as

Service Level Agreement (SLA)

2.2 Service Availability

(1) The Single Instance Service Availability of the Service provided by Tencent Cloud will be **no less than 99.975%**. You are entitled to the compensation as set forth in Section 3 below if the Service Availability fails to meet the aforementioned standard, other than in any circumstance as provided for in the release of liabilities provisions below. Assuming that a Service Month has thirty (30) days, the total available time of a Single Instance in such month shall be $30 \text{ (days)} \times 24 \text{ (hours)} \times 60 \text{ (minutes)} \times 99.975\% = 43189.2 \text{ minutes}$; that is, the Service Downtime of the instance in such month will be $43200 - 43189.2 = 10.8 \text{ minutes}$.

(2) The Service Availability Across Availability Zones in A Single Region of the Service provided by Tencent Cloud will be **no less than 99.995%**. You are entitled to the compensation as set forth in Section 3 below if the Service Availability fails to meet the aforementioned standard, other than in any circumstance as provided for in the release of liabilities provisions below. Assuming that a Service Month has thirty (30) days, the total available time of a Single Instance in such month shall be $30 \text{ (days)} \times 24 \text{ (hours)} \times 60 \text{ (minutes)} \times 99.995\% = 43197.84 \text{ minutes}$; that is, the Service Downtime Across Availability Zones in A Single Region in such month will be $43200 - 43197.84 = 2.16 \text{ minutes}$.

Section 2

실습

Login 설명

Tencent Cloud | Log in Intl-English

Log in with email

Email

Password

Log in

or

Log in as CAM user

Log in with Google

[Sign up](#) | [Forgot password](#)

Elasticsearch Service Limited-time free trial

Preferred Solutions for Log and Search Scenarios. First month free. New customers' discounts start at 55% off. \$440 voucher is up for grabs!

[Free Trial](#)

Login 설명

< [Login with root account](#)

CAM user login

200023827969

Sub-user name

Enter your login password

Log in

Forgot password? Contact root account to reset. For details, see [Resetting Login Passwords for Sub-Users](#).

← Root ID: 200023827969

← Sub-user name: 본인 학번

← Default PW: cc_2025-2

Login 설명

Reset password

You may be asked to reset your password due to password expiration or other reasons.

Default PW: cc_2025-2

New Password

Confirm Password

Confirm

[← Login with root account](#)

MediaLink Webinars

Join our webinar series, exploring topics from global chat connectivity, real-time communication, immersive gaming experiences, AI-powered media processing, to captivating live streaming!

[Learn more](#)




Login 설명

Complete Your Email Address

Ensure you receive important notifications

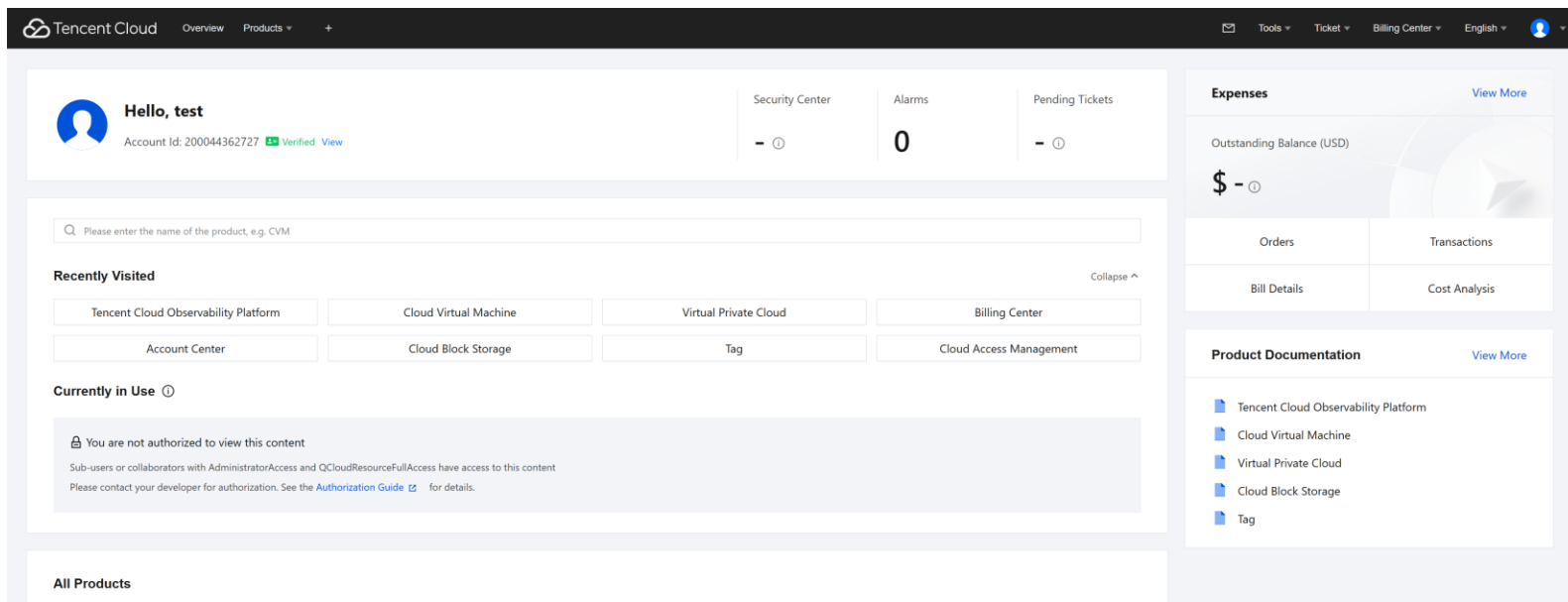
[Send code](#)

[Confirm](#)

[Next time](#) 

Tencent Cloud VM 생성

- 로그인 후 콘솔 창으로 이동 (우상단 “Console” 버튼)



Tencent Cloud VM 생성

- CVM Instance List(상단 "Products"에서 Cloud Virtual Machine 찾기)

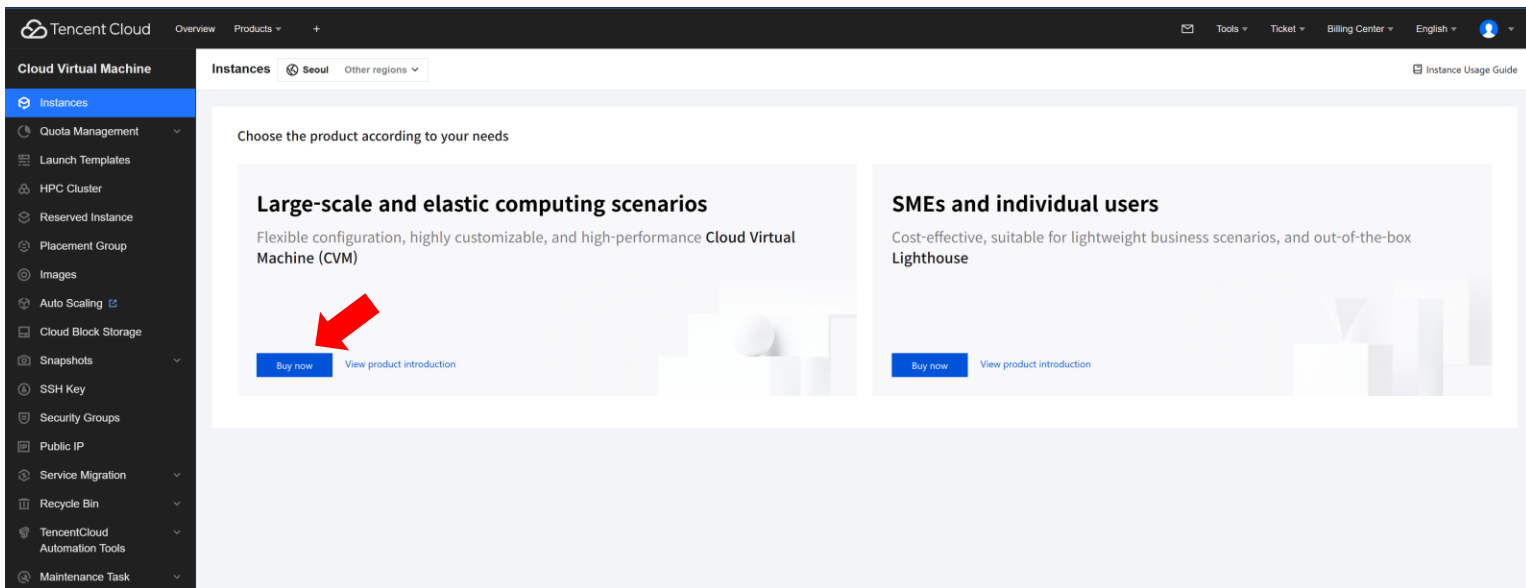
The screenshot shows the Tencent Cloud console interface. The top navigation bar includes 'Overview', 'Products', and a search icon. The left sidebar lists various services, with 'Cloud Virtual Machine' selected. The main content area is titled 'Instances' and shows a list of instances. The table below contains the following data:

ID/Name	Status	Mo...	Availab...	Instanc...	Operat...	Instance configuration	Network	Primary IPv4	Instance billing mode	Network billi...	Tag (key:value)	Operation
ins-bu8rd1et cc25_2025000000	Running		Seoul Zone 2	Standard 5S		2-core 2GB 5Mbps System disk:Balanced SSD	2025-2-CC	Public: 101.33.68.56 Private: 10.0.2.13	Pay-as-you-go Created at 2025-09-30 15:5...	Bill by traffic	2	Log in More

Total items: 1

Tencent Cloud VM 생성

- CVM Instance 생성(상단 “Products”에서 Cloud Virtual Machine 찾기)



Tencent Cloud VM 생성

Cloud Virtual Machine (CVM)

[Product Documentation](#) [Prices](#) [Console](#)

Custom configuration

1 Select basic configurations 2 Configure network and host 3 Confirm configuration

Purchase Recommendation

We recommend you to purchase the latest generation of cost-effective and high-performance CVM SA9 from Tencent Cloud.

Basic configurations

Billing mode

Monthly subscription
Applicable to businesses with long-term and stable demands

22% off in regions outside the Chinese mainland

Pay-as-you-go
Applicable to scenarios where the demands are fluctuated significantly

Up to 97% off in all regions

Spot instances
Up to 97% fees can be saved compared with pay-as-you-go, but the instances may be automatically released.

Region

China **Asia Pacific and Middle East** Europe and America

Seoul

Tokyo

Singapore

Bangkok

Jakarta New

Saudi Arabia New

Tencent Cloud products in different regions cannot communicate via a private network. **The region cannot be changed after the creation.** Please select the region closest to your customers to reduce access latency.

Availability zone

Random

Recommended Availability Zone

Seoul Zone 1 Recommend

Seoul Zone 2

Cloud products in different availability zones within the same region can communicate over the private network. A random selection has been made for you to **Seoul Zone 2**.

Tencent Cloud VM 생성

- Instance configurations

Instance configurations

Instance Filter

All CPU cores All MEMs Fuzzy search specification name, such as S5.SM/ Reset

Architecture All Architectures X86 computing Heterogeneous Computing Bare Metal Instance

Instance family All Instance Families Standard MEM-optimized Compute Be Fast

Model All models Standard SA5 Standard S8 Standard SA4 Standard S6 Standard S5 Show all

Selected model Selected model S5.MEDIUM2 (Standard S5, 2C2G) Seoul Zone 2 is automatically selected. If you need more quotas, apply in the console Pricing of random AZ

Start Model Comparison Hide sold-out products

Instance	Specifications	vCPU	MEM	CPU Clock Spee...	Processor	Private net...	Packets in/o	Reference fee
Standard S5 Adequate Inventory	S5.MEDIUM2	2Core	2GiB	2.5GHz/3.1GHz	Intel Xeon Cascade Lake 8255C...	1.5Gbps	300k PPS	0.03USD/hour
Standard S5 Adequate Inventory	S5.MEDIUM4	2Core	4GiB	2.5GHz/3.1GHz	Intel Xeon Cascade Lake 8255C...	1.5Gbps	300k PPS	0.06USD/hour
Standard S5 Adequate Inventory	S5.MEDIUM8	2Core	8GiB	2.5GHz/3.1GHz	Intel Xeon Cascade Lake 8255C...	1.5Gbps	300k PPS	0.12USD/hour

Tencent Cloud VM 생성

- Image


Image


Public image


Custom image


Shared image


Recommended



TencentOS



OpenCloudOS



CentOS


Windows


Ubuntu


Debian



 Ubuntu Server 24.04 LTS 64bit

▼

Instructions

- Operating system change is supported after purchase. You can [reinstall the system](#) in the console according to workload needs.
- Switching between Linux and Windows is not supported in this region.

Tencent Cloud VM 생성

- Custom Image

Image

Public image

Custom image

Shared image



Select an image



Create custom image [🔗](#)

Instructions

- The operating system can be changed after the purchase. You can go to the console to [Reinstall system](#) [🔗](#).
- Switching between Linux and Windows is not supported in this region.

Tencent Cloud VM 생성

- Custom Image

Cloud Virtual Machine

Instances

Quota Management

Launch Templates

HPC Cluster

Reserved Instance

Placement Group

Images

Auto Scaling

Cloud Block Storage

Snapshots

SSH Key

Security Groups

Public IP

Service Migration

Recycle Bin

TencentCloud Automation Tools

Maintenance Task

Images Seoul 0

Rewarded Survey on Image Update

Image Usage Guide

Custom image

Public image

Shared image

Create Custom Image

Import image

Shared image

Replicate Image

Export image

Delete image

Separate keywords with ",", and separate tags using the Enter key

ID/name	Status	Type	Hard Disk	Tag (key:value)	Image Family	Operating system	Associated snapshot	Architecture	Creation Time	Operation
<input type="checkbox"/> img-mvcd1w0r cc25_2025000000_image	Normal	Custom image	System disk 50GiB	2	-	Ubuntu Server 24.04 LTS 64bit	1 snapshot(s)	x86_64	2025-09-30 16:04:18	Create instance Shared image Cross-region replication More

Total items: 1

20 / page 1 / 1 page

Tencent Cloud VM 생성

- Storage (IOPS, bandwidth, model)

Storage

Usage	Model	Capacity	Quantity	Total performance	Release upon instance
System disk	Balanced SSD	<div><div>-</div><div>50</div><div>+</div></div> GiB	<div>1</div>	Basic performance: IOPS: 2550, bandwidth: 110 MiB/s	
Data disk	Enhanced SSD	<div><div>-</div><div>50</div><div>+</div></div> GiB	<div><div>-</div><div>1</div><div>+</div></div>	Basic performance: IOPS: 4300, bandwidth: 145 MiB/s	<input checked="" type="checkbox"/> Create a disk via snapshot Delete
<div><div>+</div> Add data disk You can add 19 more data disk(s).</div>					

Data Backup Discount ☐ [Configure backup points](#) Up to 90% off for a limited time

Automatically manage data backups to address risks such as virus infection and accidental data deletion. (The number of backup points is equal to that of backup days.)

Tencent Cloud VM 생성

- Cloud Disk

Tencent Cloud Overview Products +

Cloud Virtual Machine

- Instances
- Launch Templates
- HPC Cluster
- Reserved Instance
- Placement Group
- Images
- Auto Scaling
- Cloud Block Storage**
- Snapshots
 - Snapshot Overview
 - Snapshot List
 - Scheduled Snapshot Policy
- SSH Key
- Security Groups
- Public IP
- Service Migration
- Recycle Bin
- TencentCloud Automation Tools
- Maintenance Task

Cloud Disk Seoul(S)

Create Attach Unmount Terminate/Return Expiry/Overdue Protection Create Snapshot More Actions

Separate keywords with " ", and separate tags using the Enter key

ID/Name	Moni...	Status	AZ	Attribute	Type	Capa...	Associate Instance	Backups	Total Snapshot...	Billing Mode	Operation
disk-iuln72y9 cc25_2025000000_SYSTEM_DISK		In use	Seoul Zone 2	System Disk	Balanced SSD	50GiB	ins-bu8dixt cc25_2025000000	No backup	5.94 GiB	Pay-as-You-Go Creation Time: 2025-09-30 14:54:40	Refresh Enable Backup Create Snapshot More
disk-n3pmh3x worker3_SYSTEM_DISK		In use	Seoul Zone 1	System Disk	Balanced SSD	50GiB	ins-cv6mz5 worker3	No backup	No snapshot created.	Pay-as-You-Go Creation Time: 2025-01-15 22:28:46	Refresh Enable Backup Create Snapshot More
disk-oe2br2v worker2_SYSTEM_DISK		In use	Seoul Zone 1	System Disk	Balanced SSD	50GiB	ins-etcg7nr1 worker2	No backup	No snapshot created.	Pay-as-You-Go Creation Time: 2025-01-15 22:27:12	Refresh Enable Backup Create Snapshot More
disk-re3zh8ep worker1_SYSTEM_DISK		In use	Seoul Zone 1	System Disk	Balanced SSD	50GiB	ins-mglw0hox worker1	No backup	No snapshot created.	Pay-as-You-Go Creation Time: 2025-01-15 22:09:49	Refresh Enable Backup Create Snapshot More
disk-3m26res7 Master_SYSTEM_DISK		In use	Seoul Zone 1	System Disk	Balanced SSD	50GiB	ins-oxbd83qv Master	No backup	No snapshot created.	Pay-as-You-Go Creation Time: 2025-01-15 22:04:33	Refresh Enable Backup Create Snapshot More

Total Items: 5

20 / page 1 / 1 page

Tencent Cloud VM 생성

- Snapshot list

Tencent Cloud Overview Products +

Cloud Virtual Machine

- Instances
- Launch Templates
- HPC Cluster
- Reserved Instance
- Placement Group
- Images
- Auto Scaling
- Cloud Block Storage
- Snapshots
 - Snapshot Overview
 - Snapshot List**
 - Scheduled Snapshot Policy
- SSH Key Groups
- Security Groups
- Public IP
- Service Migration
- Recycle Bin
- TencentCloud Automation Tools
- Maintenance Task

Snapshot List Seoul(S)

Snapshot Shared Snapshots

Note: all snapshot-related operation will not be available from the moment that your account balance becomes zero. If you fail to pay the overdue payment within 30 days after that, all snapshots under the account will be deleted.

Delete Modify Tag

Separate keywords with "," and separate tags using the Enter key

ID/Name	Status	Disk Attribute	Storage Type	Associate Disk	Attach Disk to Instance	Associate Image	Created At	Retention Period	Snapshot Sharing	Operation
snap-8ngBr5d8 cc25_2025000000_1...	Normal	System Disk 50GiB	Standard snapshot	disk-k4n72y9 cc25_2025000000_SYS...	ins-bu8dxt cc25_2025000000	img-mvcd1w0r cc25_2025000000_image	2025-09-30 15:04:25	Permanent Retention	0/50	Roll Back Delete View Snapshot Chain More
snap-2elrhmyj [REDACTED]	Normal	System Disk 50GiB	Standard snapshot	disk-kv0zmqn [REDACTED]	-	img-ru4x1ugd [REDACTED]	2025-05-03 20:31:05	Permanent Retention	0/50	Roll Back Delete View Snapshot Chain More
snap-f79hfang [REDACTED]	Normal	Data Disk 150GiB	Standard snapshot	disk-5d72pjns [REDACTED]	-	-	2023-07-31 16:22:28	Permanent Retention	0/50	Roll Back Delete View Snapshot Chain More
snap-l591m7dw [REDACTED]	Normal	System Disk 50GiB	Standard snapshot	disk-c5ub7d3p [REDACTED]	-	-	2023-07-31 16:22:13	Permanent Retention	0/50	Roll Back Delete View Snapshot Chain More
snap-ez288m4 [REDACTED]	Normal	Data Disk 70GiB	Standard snapshot	disk-kz02gux [REDACTED]	-	-	2023-07-05 16:57:26	Permanent Retention	0/50	Roll Back Delete View Snapshot Chain More

Total items: 5

20 / page 1 / 1 page

Tencent Cloud VM 생성

- Network and bandwidth

Network and bandwidth

Network vpc-co002ozq | 2025-2-CC | 10.0.0.0/12 subnet-e3o505h7 | 2025-2-CC-zone2 | 10.0.2.0/24 Available IPs in the subnet: 253

You can only select a subnet in (Seoul Zone 2), where your instance is located.
If the existing VPCs/subnets do not meet your requirements, [create a VPC](#) or [a subnet](#) in the console. You can also change the VPC and subnet later.

☐ Manually assign IP

Public IP ☒ Assign Independent Public IP

Line type BGP

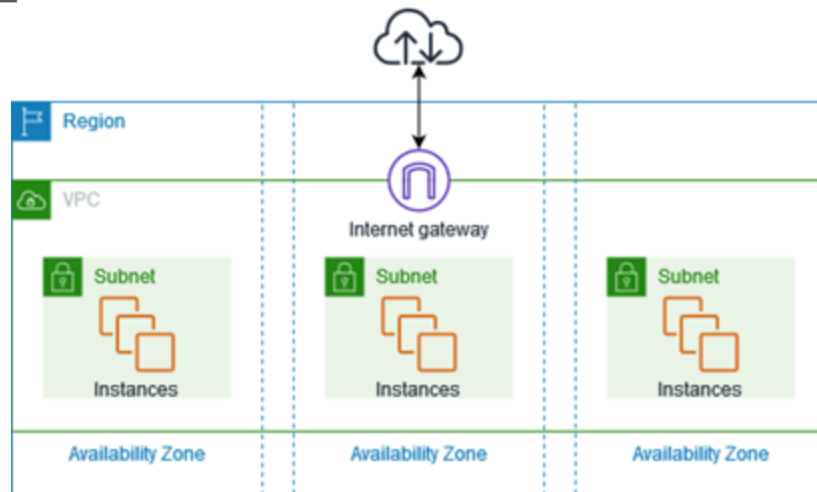
Bandwidth billing mode By hourly bandwidth Bill by traffic Bandwidth package

Note: The traffic fee is settled on an hourly basis. When the account balance is not enough, the data transfer service will be suspended two hours later. Tencent Cloud provides a 2-Gbps capacity for DDoS mitigation by default.

Bandwidth cap 1Mbps 20Mbps 40Mbps 200Mbps - 5 + Mbps

Tencent Cloud VM 생성

- What is VPC?
 - VPC는 자체 데이터 센터에서 운영하는 기존 네트워크와 유사한 가상 네트워크
 - VPC를 생성한 후 서브넷을 추가할 수 있음
 - 서브넷은 VPC의 IP 주소 범위



Tencent Cloud VM 생성

- Virtual Private Cloud (VPC)

Virtual Private Cloud Seoul 1 Back to Old version Help of Virtual Private Cloud

[The intra-region cross-AZ traffic service will be officially commercialized at 00:00:00 on October 8, 2023 \(UTC+8\). For details, see the \[Announcement\]\(#\). The following time-limited free quota is provided.](#)

- For intra-region cross-AZ traffic, a free traffic quota of 1000 TB is provided for each account in each month from the billing date to 00:00:00 on May 11, 2026. Free traffic of 0 bit has been used this month.

[Create](#)

ID/Name	IPv4 CIDR Block	Subnet	Route table	NAT gateway	VPN gateway	CVM	Direct connect gat...	Default VPC	Creation time	Tags	Operation
vpc-co002ozq 2025-2-CC	10.0.0.0/12	2	1	0	0	1	0	No	Sep 25, 2025 19:55:31 (UTC+09:00)	1	Delete More

Total items: 1 20 / page 1 / 1 page

Subnet Seoul 20 2025-2-CC(10.0.0.0/12) Help of Subnet

[Create](#)

ID/Name	Network	CIDR	Availability zone	Associated route table	CVM	Available IPs	Default subnet	Creation time	Tags	Operation
subnet-nvus4sev 2025-2-CC-zone1	vpc-co002ozq 2025-2-CC	10.0.1.0/24	Seoul Zone 1	rtb-2v7q2ob3 -	0	253	No	Sep 25, 2025 19:55:32 (UTC+09:00)		Delete More
subnet-e3o50sh7 2025-2-CC-zone2	vpc-co002ozq 2025-2-CC	10.0.2.0/24	Seoul Zone 2	rtb-2v7q2ob3 -	1	252	No	Sep 25, 2025 19:55:32 (UTC+09:00)		Delete More

Total items: 2 20 / page 1 / 1 page

Tencent Cloud VM 생성


- Security group



| Security group

Security group

New security group

Existing security group

sg-3mddl125 | 2025-2-CC-security-group 

Note When "0.0.0.0/0" is entered for source/destination, it means all IP addresses are allowed. Please enter your frequently used IP addresses.

Please make sure port 22 (Linux SSH login) and port 3389 (Windows remote login) are open in the selected security group. You can go to the CVM console to [Modify security group](#)

Tencent Cloud VM 생성

- Security group

Inbound rules		Outbound rules	
Source	Protocol port	Policy	Remark
0.0.0.0/0	ICMP	Allow	Allow ping command
::0	ICMPv6	Allow	Allow ping command
0.0.0.0/0	TCP:22	Allow	Allow Linux SSH login
::0	TCP:22	Allow	Allow Linux SSH login
0.0.0.0/0	TCP:3389	Allow	Allow Windows remote login
::0	TCP:3389	Allow	Allow Windows remote login
10.0.0.0/8	ALL	Allow	Allow access via a private network (VPC)
172.16.0.0/12	ALL	Allow	Allow access via a private network (VPC)
192.168.0.0/16	ALL	Allow	Allow access via a private network (VPC)
0.0.0.0/0	TCP:80	Allow	Allow web service ports
::0	TCP:80	Allow	Allow web service ports
0.0.0.0/0	TCP:443	Allow	Allow web service ports
::0	TCP:443	Allow	Allow web service ports
0.0.0.0/0	ALL	Reject	-

Tencent Cloud VM 생성

- Security group

Inbound rules		Outbound rules	
Target	Protocol:port	Policy	Remark
0.0.0.0/0	ALL	Allow	-
:::0	ALL	Allow	-
0.0.0.0/0	ALL	Reject	-

Tencent Cloud VM 생성

- Tags / Login methods

Other settings

Tags

lecture	cc_2025-2	Delete
cc_2025-2_student	test	Delete
+ Add		

Paste

Instance name

cc25_2025000000

cc25_{학번}

Supports batch sequential naming or pattern string-based naming. Up to 128 characters. 113 more characters are allowed.

Login methods

Set password

SSH key pair

Reset password after creation

Login name

ubuntu

Password

Enter the login password

Copy

Confirm password

Enter the login password

Copy

Note

Keep your password safe. Reset the password in the CVM console if necessary. Note that if you choose "Custom Password", the instance cannot be saved as a launch template.

Tencent Cloud VM 생성

- Confirm configuration

Cloud Virtual Machine (CVM)

[Product Documentation](#) [Prices](#) [Console](#)

Custom configuration

✓ Select basic configurations

✓ Configure network and host

3 Confirm configuration

Basic and instance configurations

[Edit](#)

CVM billing mode	Pay-as-you-go	Region	Seoul	Availability Zone	Seoul Zone 2
Instance	S5.MEDIUM2 (Standard S5, 2C2G)	Image	Public image Ubuntu img-mimythbhn Ubuntu Server 24.04 LTS 64bit 20GB	System disk	Balanced SSD 50 GiB
Data disk	Not set				

Network and security group

[Edit](#)

Network	vpc-co002ozq 2025-2-CC 10.0.0.0/12	Subnet	subnet-e3c505h7 2025-2-CC-zone2 10.0.2.0/24	Private IP	Not assigned
Public IP	Purchase	Bandwidth billing mode	Bill by traffic 5Mbps	Line type	BGP
Security group	sg-3mdd125 2025-2-CC-security-group				

Other settings Set password

[⌵](#)[Save as template](#)[Generate API Explorer best practice scripts](#)

Protocol ☐ I have read and agree to "Tencent Cloud Service Terms"

Selected S5.MEDIUM2 (Standard S5, 2C2G) Quantity


Configuration fee \$0.04 Public traffic fees \$0.12/GB

[Back](#) [Enable](#)

Tencent Cloud VM 생성

- CVM instance

← ins-bu8rdlxt (cc25_2025000000)

**cc25_2025000000** Running

The initial login name is ubuntu. If you select "Random password" when purchasing the instance, check the password in [Message Center](#). You can [reset the password](#) if you forget it.

Instance ID [ins-bu8rdlxt](#)

Availability zone [Seoul Zone 2](#)

IP [101.33.68.56 \(Public\)](#)
[10.0.2.13 \(Private\)](#)

Instance billing mode [Pay-as-you-go](#)

Bandwidth billing mode [Bill by traffic](#) [Modify billing mode](#)

Instance configuration [Standard S5 - 2C 2G](#) [Adjust model and specs](#)

Operating system [Ubuntu Server 24.04 LTS 64bit](#) [Reinstall system](#)

Creation time [2025-09-30 15:55:05](#)

Log in

Shutdown

Restart

Reset password

Terminate/Return

More actions

Collapse

Basic information

ENI

Public IP

Monitoring

Security groups

Operation logs

Run commands

Uploading a file

Instance information

Name [cc25_2025000000](#)

Instance ID [ins-bu8rdlxt](#)

UUID [12df1797-7064-43ed-bc1b-9a28024aef](#)

Instance specification [Standard S5 | 55.MEDIUM2](#)

Instance termination protection [Disabled](#)

Role [None](#)

Project [Default Project](#)

Tags [cc_2025-2_stude...](#) [lecturecc_2025-2](#)


Key [None](#)


Placement group [None](#)


Region [Seoul](#)

Availability zone [Seoul Zone 2](#)

Architecture

**ins-bu8rdlxt**
[Northeast Asia\(Seoul\)/Seoul Zone 2/subnet-e3c505h7](#)

**1 security group**

**0 ENIs**

Tencent Cloud VM 생성

- ssh connection
 - ssh ubuntu@{public_IP} -p 22

```
ubuntu@VM-2-13-ubuntu:~$ ssh ubuntu@101.33.68.56 -p 22
PS C:\WINDOWS\system32$ ssh ubuntu@101.33.68.56 -p 22
The authenticity of host '101.33.68.56 (101.33.68.56)' can't be established.
ED25519 key fingerprint is SHA256:Qms0LZwdpbYIjbjJZg41Ns18FcagZ9ULEs9giwfw.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '101.33.68.56' (ED25519) to the list of known hosts.
ubuntu@101.33.68.56's password:
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-71-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro

System information as of Tue Sep 30 06:40:53 PM CST 2025

System load:  0.0               Processes:      114
Usage of /:   10.1% of 49.10GB   Users logged in: 0
Memory usage: 14%              IPv4 address for eth0: 10.0.2.13
Swap usage:   0%

 * Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
just raised the bar for easy, resilient and secure K8s cluster deployment.

https://ubuntu.com/engage/secure-kubernetes-at-the-edge

Expanded Security Maintenance for Applications is not enabled.

240 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

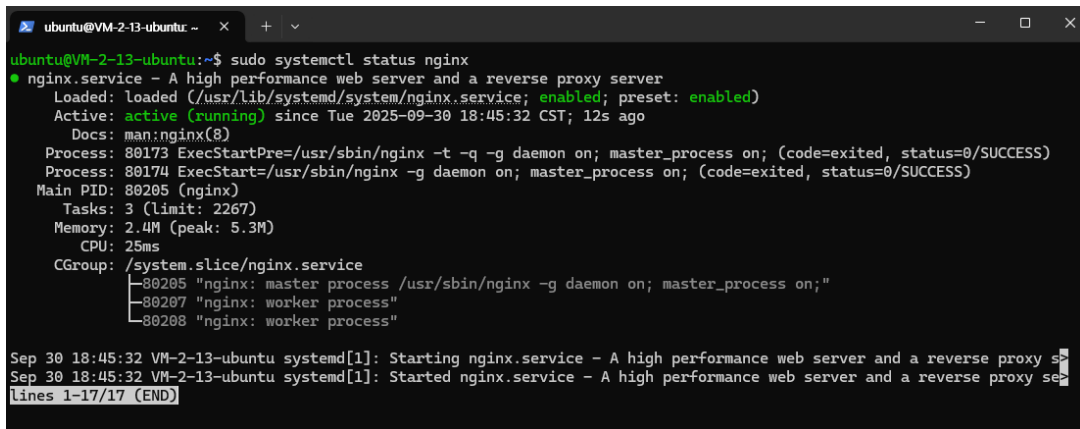
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@VM-2-13-ubuntu:~$
```

Tencent Cloud VM 생성

- Install nginx
 - sudo apt update
 - sudo apt install nginx
 - sudo systemctl status nginx



```
ubuntu@VM-2-13-ubuntu:~$ sudo systemctl status nginx
● nginx.service - A high performance web server and a reverse proxy server
   Loaded: loaded (/usr/lib/systemd/system/nginx.service; enabled; preset: enabled)
   Active: active (running) since Tue 2025-09-30 18:45:32 CST; 12s ago
     Docs: man:nginx(8)
   Process: 80173 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
   Process: 80174 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
  Main PID: 80205 (nginx)
    Tasks: 3 (limit: 2267)
   Memory: 2.4M (peak: 5.3M)
      CPU: 25ms
   CGroup: /system.slice/nginx.service
           └─80205 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"
             └─80207 "nginx: worker process"
               └─80208 "nginx: worker process"

Sep 30 18:45:32 VM-2-13-ubuntu systemd[1]: Starting nginx.service - A high performance web server and a reverse proxy se
Sep 30 18:45:32 VM-2-13-ubuntu systemd[1]: Started nginx.service - A high performance web server and a reverse proxy se
lines 1-17/17 (END)
```

Tencent Cloud VM 생성

- Access the Nginx server via http
 - `http://{public_ip}`

Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.

클라우드 서비스 사용 관련 공지

Custom Image 만드는 방법

← ins-bu8rdlxt (cc25_2025000000)



cc25_2025000000



Running

The initial login name is ubuntu. If you select "Random password" when purchasing the instance, check the password in [Message Center](#). You can [reset the password](#) if you forget it.

Instance ID ins-bu8rdlxt

Availability zone Seoul Zone 2

IP 101.33.68.56 (Public)
10.0.2.13 (Private)

Instance billing mode Pay-as-you-go

Bandwidth billing mode Bill by traffic [Modify billing mode](#)

Log in

Shutdown

Restart

Reset password

Terminate/Return

More actions

Collapse

Instance configuration Standard S5 - 2C 2G [Adjust model and specs](#)

Operating system Ubuntu Server 24.04 LTS 64bit [Reinstall system](#)

Creation time 2025-09-30 15:55:05

Reinstall system

Create custom image

Operating System Conversion

Purchase similar

Instance status >

Instance settings >

Image/Operating System >

Password/Key >

Resource adjustment >

IP/ENI >

Security groups >

OPS and Check >

클라우드 서비스 사용 관련 공지

Custom Image 만드는 방법

Create custom image

Operation Guide  

1. When a custom image is created, a related snapshot is created automatically. To delete this snapshot, you need the delete the associated image first. Retaining the image incurs a **snapshot fee**. Make sure your account balance is sufficient. For details, see [FAQ about Snapshot Commercialization](#).
2. You can create an image of this instance without shutting it down. It takes about 10 minutes or more to create an image, depending on the disk size.
3. To create a custom image for a Linux instance, please make sure that **there are no data disk configurations under /etc/fstab**. Otherwise the instances created using this image cannot be started up normally. If there're attached data disks, please comment out or delete the custom configurations of data disks in /etc/fstab

You've selected 1 instance. [Collapse](#)



ID/name	Instance type	Instance configurations
ins-bu@rdnet cc25_2025000000	Standard 55 	2-core 2GB 5Mbps System disk: Balanced SSD Network: vpc-cc002ozq

Image name *  cc25_{학번}_image

Up to 60 characters, including [a-z], [A-Z], [0-9] and [-_].

Tag (optional) 

 {학번}

[+ Add](#)  [Paste](#)

Description

0 / 256

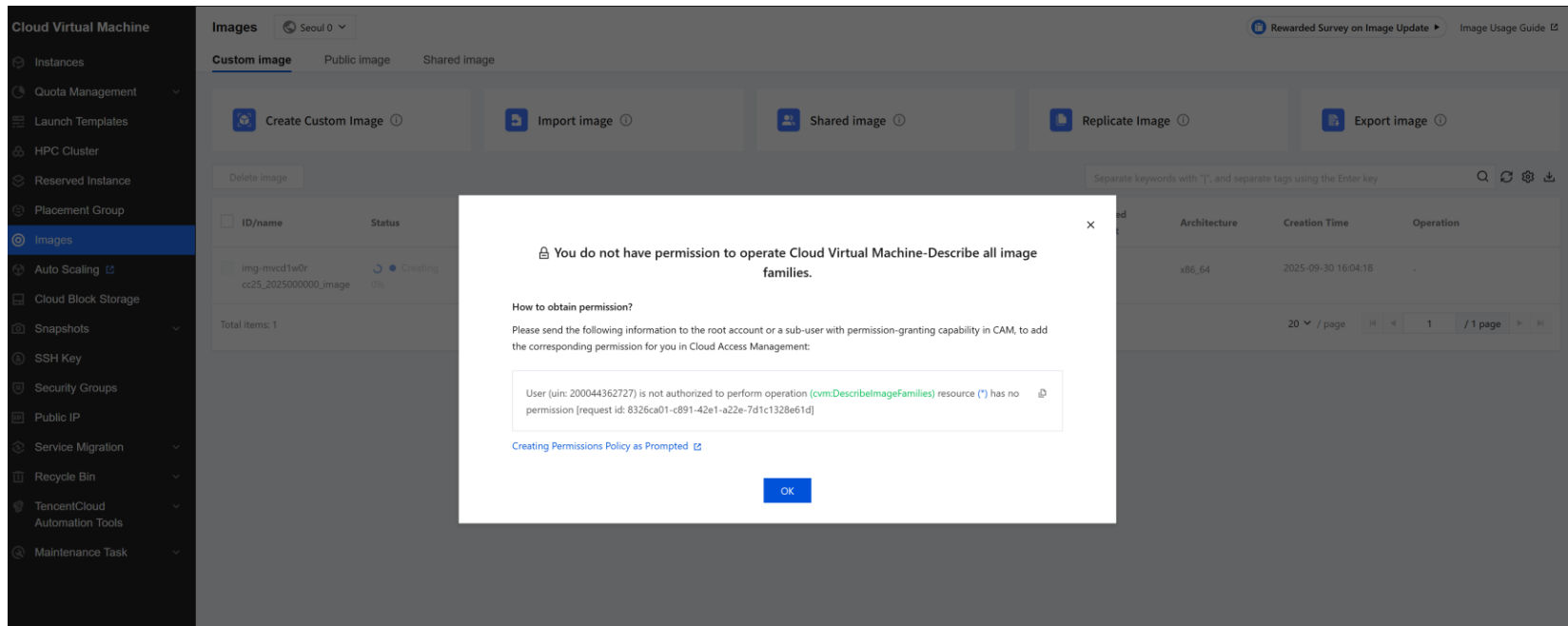
You can enter 256 more characters.

Create image

Close

클라우드 서비스 사용 관련 공지

Custom Image 만드는 방법



클라우드 서비스 사용 관련 공지

Custom Image 만드는 방법

Cloud Virtual Machine

Instances

Quota Management

Launch Templates

HPC Cluster

Reserved Instance

Placement Group

Images

Auto Scaling

Cloud Block Storage

Snapshots

SSH Key

Security Groups

Public IP

Service Migration

Recycle Bin

TencentCloud Automation Tools

Maintenance Task

ImagesSeoul 0

Rewarded Survey on Image Update

Image Usage Guide

Custom image

Public image

Shared image

Create Custom Image

Import image

Shared image

Replicate Image

Export image

Delete image

Separate keywords with ",", and separate tags using the Enter key

<input type="checkbox"/>	ID/name	Status	Type	Hard Disk	Tag (key:value)	Image Family	Operating system	Associated snapshot	Architecture	Creation Time	Operation
<input type="checkbox"/>	img-mvcd1w0rcc25_2025000000_image	Normal	Custom image	System disk 50GiB	2	-	Ubuntu Server 24.04 LTS 64bit	1 snapshot(s)	x86_64	2025-09-30 16:04:18	<div>Create instance</div> <div>Shared image</div> <div>Cross-region replication</div> <div>More</div>

Total items: 1

20 / page

1 / 1 page

클라우드 서비스 사용 관련 공지

Custom Image 만드는 방법

Image

Public image

Custom image

Shared image



Select an image



Create custom image [↗](#)

Instructions

- The operating system can be changed after the purchase. You can go to the console to [Reinstall system](#) [↗](#).
- Switching between Linux and Windows is not supported in this region.

Section 3

“클라우드 서비스 사용 관련 공지”

클라우드 서비스 사용 관련 공지

이용 가이드라인

- 생성 가능 리소스 종류
 - CVM
 - Custom image
- 인스턴스 terminate는 불가 (권한 없음)
- 인스턴스 사용하지 않을때 shutdown
- 인스턴스 S5.MEDIUM2 타입으로만 생성할 것 (품질시 메일 보내주시기 바람)
- 인스턴스 terminate/삭제 기준 (조교)
 - CVM instance 이름 형식에 준수하지 않을 경우 (형식: cc25_학번)
 - 태그 없이 인스턴스, custom image 생성하는 경우 ('lecture', 'cc_2025-2_student' tags)
 - S5.MEDIUM2 아닌 다른 타입의 인스턴스를 생성하는 경우
 - 매일 저녁 8:30-9:00에 모든 인스턴스 삭제 → custom image으로 저장하시길 (최대 1개)
 - 8:30 이전에 작업을 종료 (custom image로 저장), 9:00 이후 작업 재개 (CVM 재생성)

The End