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COS20019 – Cloud Computing Architecture - ACF Lab 3: Introduction to EC2

Task 1 – Launch your Amazon EC2 instance

Resources

You are using the following Amazon EC2 resources in the US East (N. Virginia) Region:

Instances (running)	1	Auto Scaling Groups	0	Dedicated Hosts	0
Elastic IPs	0	Instances	1	Key pairs	1
Load balancers	0	Placement groups	0	Security groups	4
Snapshots	0	Volumes	1		

Launch instance

To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.

Launch instance **Migrate a server**

Scheduled events

US East (N. Virginia)
No scheduled events

Migrate a server

Service health

Region: US East (N. Virginia) Status: **This service is operating normally**

Zones

Zone name	Zone ID
us-east-1a	use1-az4
us-east-1b	use1-az6
us-east-1c	use1-az1
us-east-1d	use1-az2
us-east-1e	use1-az3

Account attributes

Supported platforms

- x86_64

Default VPC: vpc-042c2088716841df

Settings

- EBS encryption
- Zones
- EC2 Serial Console
- Default credit specification
- Console experiments

Explore AWS

Save up to 90% on EC2 with Spot Instances
Optimize price-performance by combining EC2 purchase options in a single EC2 ASG. [Learn more](#)

10 Things You Can Do Today to Reduce AWS Costs
Explore how to effectively manage your AWS costs without compromising on performance or capacity. [Learn more](#)

Enable Best Price-Performance with AWS Graviton2
AWS Graviton2 powered EC2 instances enable up to 40% better price performance for a broad spectrum of cloud workloads. [Learn more](#)

Additional information

Activate Windows
Go to Settings to activate Windows.

aws

Services

Search

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EC2 > Instances > Launch an instance

Launch an instance Info

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags Info

Name

Web Server

Add additional tags

▼ Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Q Search our full catalog including 1000s of application and OS images

Recents

Quick Start

Amazon Linux

macOS

Ubuntu

Windows

Red Hat

S

Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Amazon Linux 2023 AMI

ami-0889a44b331db0194 (64-bit (x86)) / ami-08fc6fb8ad2e794bb (64-bit (Arm))

Virtualization: hvm ENA enabled: true Root device type: ebs

Free tier eligible

▼ Summary

Number of instances Info

1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.0.2...read more

ami-0889a44b331db0194

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million IOs, 1 GiB of snapshots, and 100 GB of bandwidth to the internet.

Cancel

Launch instance

Review commands

Activate Windows
Go to Settings to activate Windows.

step 7 - name the instance Web Server

steps 8-9: Choose the Amazon Linux 2023 AMI

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Amazon Linux 2023 AMI 2023.0.20230503.0 x86_64 HVM kernel-6.1

Architecture

64-bit (x86)

AMI ID

ami-0889a44b331db0194

Verified provider

▼ Instance type Info

step 10: keep the default
t2.micro instance type

Instance type

t2.micro

Family: t2 1 vCPU 1 GiB Memory Current generation: true
On-Demand Windows pricing: 0.0162 USD per Hour
On-Demand SUSE pricing: 0.0116 USD per Hour
On-Demand RHEL pricing: 0.0716 USD per Hour
On-Demand Linux pricing: 0.0116 USD per Hour

Free tier eligible

All generations

Compare instance types

▼ Key pair (login) Info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

step 11: choose vockey for key
pair name

Key pair name - required

vockey

Create new key pair

▼ Network settings Info

VPC - required Info

vpc-0f8139768617fb132 (Lab VPC)
10.0.0.0/16

Subnet Info

subnet-0d637f5b080f5ebee Public Subnet 2
VPC: vpc-0f8139768617fb132 Owner: 025863423171

Create new subnet

▼ Summary

Number of instances Info

1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.0.2...read more
ami-0889a44b331db0194

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Cancel

Launch instance

Review commands

Activate Windows

Go to Settings to activate Windows.

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vockey

Create new key pair

▼ Network settings

step 12: edit network settings

VPC - required

vpc-0f8139768617fb132 (Lab VPC)
10.0.0.0/16

step 13: choose the Lab VPC

Subnet

subnet-0d637f5b080f5e8ea Public Subnet 2
VPC: vpc-0f8139768617fb132 Owner: 025863423171
Availability Zone: us-east-1b IP addresses available: 251 CIDR: 10.0.2.0/24

Create new subnet

Auto-assign public IP

Enable

Firewall (security groups)

Create security group

Select existing security group

Security group name - required

Web Server security group

Description - required

Security group for my web server

Inbound security groups rules

Add security group rule

Advanced network configuration

▼ Summary

Number of instances

1

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Amazon Linux 2023 AMI 2023.0.2...read more
ami-0889a44b331db0194

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Cancel

Launch instance

Review commands

Activate Windows
Go to Settings to activate Windows.

aws

Services

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Auto-assign public IP - info

Enable

Firewall (security groups) Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

Create security group

Select existing security group

Security group name - required

Web Server security group

This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and ._-:/!#,%&()*\$*

Description - required Info

Security group for my web server

Inbound security groups rules

No security group rules are currently included in this template. Add a new rule to include it in the launch template.

Add security group rule

Advanced network configuration

Configure storage Info

Advanced

1x 8 GiB gp3 Root volume (Not encrypted)

Add new volume

0 x File systems

Edit

Advanced details Info

Summary

Number of instances Info

1

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Cancel

Launch instance

Review commands

step 15: keep the default storage setting

Activate Windows

Go to Settings to activate Windows.

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Advanced details

Info

Purchasing option

Info

☐ Request Spot Instances

Domain join directory

Info

Select

Create new directory

IAM instance profile

Info

Select

Create new IAM profile

Hostname type

Info

IP name

DNS Hostname

Info

☒ Enable IP name IPv4 (A record) DNS requests

☐ Enable resource-based IPv4 (A record) DNS requests

☐ Enable resource-based IPv6 (AAAA record) DNS requests

Instance auto-recovery

Info

Select

Shutdown behavior

Info

Stop

Stop - Hibernate behavior

Info

Select

Termination protection

Info

Enable

Stop protection

Info

Select

Summary

Number of instances

Info

1

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Amazon Linux 2023 AMI 2023.0.2...read more

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t2.micro

Firewall (security group)

New security group

Storage (volumes)

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Cancel

Launch instance

Review commands

Activate Windows

Go to Settings to activate Windows.

steps 16-17: under advanced details, enable termination protection

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Specify CPU options

The selected instance type does not support CPU options.

Metadata accessible

Info

Select

Metadata transport

Select

Metadata version

Info

Select

Metadata response hop limit

Info

Select

Allow tags in metadata

Info

Select

User data - optional

Info

Enter user data in the field.

```
#!/bin/bash
dnf install -y httpd
systemctl enable httpd
systemctl start httpd
echo '<html><h1>Hello From Your Web Server!</h1></html>' >
/var/www/html/index.html
```

step 18: add some startup code under advanced details

☐ User data has already been base64 encoded

Summary

Number of instances

Info

1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.0.2...read more

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t2.micro

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Cancel

Launch instance

Review commands

step 19: launch the instance

Activate Windows
Go to Settings to activate Windows.

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Services

Search

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New EC2 Experience

EC2 Dashboard

EC2 Global View

Events

Limits

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Scheduled Instances

Capacity Reservations

Images

AMIs

AMI Catalog

Elastic Block Store

Volumes

Snapshots

Lifecycle Manager

Network & Security

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Instances (1/2) Info

Find instance by attribute or tag (case-sensitive)

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP
<input type="checkbox"/>	Bastion Host	i-0eac8b28404430abb	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a	ec2-54-145-63-23.com...	54.145.63.23	-
<input checked="" type="checkbox"/>	Web Server	i-041b8796a9d586edc	Running	t2.micro	2/2 checks passed	No alarms	us-east-1b	ec2-34-204-87-226.co...	34.204.87.226	-

Instance: i-041b8796a9d586edc (Web Server)

Details

Security

Networking

Storage

Status checks

Monitoring

Tags

Instance summary Info

Instance ID

i-041b8796a9d586edc (Web Server)

IPv6 address

-

Hostname type

IP name: ip-10-0-2-33.ec2.internal

Answer private resource DNS name

-

Auto-assigned IP address

34.204.87.226 [Public IP]

IAM Role

-

IMDSv2

Required

Instance details Info

Platform

Amazon Linux (Inferred)

AMI ID

ami-0889a44b331db0194

Public IPv4 address

34.204.87.226 | open address

Instance state

Running

Private IP DNS name (IPv4 only)

ip-10-0-2-33.ec2.internal

Instance type

t2.micro

VPC ID

vpc-0f8139768617fb132 (Lab VPC)

Subnet ID

subnet-0d637f5b080f5ebea (Public Subnet 2)

Private IPv4 addresses

10.0.2.33

Public IPv4 DNS

ec2-34-204-87-226.compute-1.amazonaws.com | open address

Elastic IP addresses

-

AWS Compute Optimizer finding

Opt-in to AWS Compute Optimizer for recommendations. | Learn more

Auto Scaling Group name

-

Monitoring

disabled

Activate Windows

Go to Settings to activate Windows.

steps 20-21: the instance has been launched with the correct settings and passed both status checks

Task 2 – Monitor your instance

The screenshot displays the AWS Management Console interface. On the left, a navigation sidebar lists various services including EC2 Dashboard, EC2 Global View, Events, Limits, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Scheduled Instances, Capacity Reservations, Images, AMIs, AMI Catalog, Elastic Block Store, Volumes, Snapshots, Lifecycle Manager, Network & Security, Security Groups, Elastic IPs, Placement Groups, and Key Pairs.

The main content area is titled "Instances (1/2) Info". It features a search bar and a table of instances. The table has columns for Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability Zone, Public IPv4 DNS, Public IPv4 ..., Elastic IP, and Actions. Two instances are listed: "Bastion Host" (i-0eac8b28404430abb) and "Web Server" (i-041b8796a9d586edc). Both are in a "Running" state with "2/2 checks passed". A red arrow points to the "Web Server" row with the text "step 22: both status checks have passed."

Below the table, the "Instance: i-041b8796a9d586edc (Web Server)" details are shown. The "Monitoring" tab is selected, displaying a dashboard with eight metrics: CPU utilization (%), Status check failed (any) (count), Status check failed (instance) (count), Status check failed (system) (count), Network in (bytes), Network out (bytes), Network packets in (count), and Network packets out (count). A red arrow points to the "Monitoring" tab with the text "step 23: the Monitoring tab".

The dashboard also includes a "Manage detailed monitoring" button and a "Go to Settings to activate Windows" link.

aws

Services

Search

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New EC2 Experience

EC2 Dashboard

EC2 Global View

Events

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Instances

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Elastic Block Store

Volumes

Snapshots

Lifecycle Manager

Network & Security

Security Groups

Elastic IPs

Placement Groups

Kou Daire

EC2 > Instances > i-041b8796a9d586edc > Get system log

Get system log

When you experience issues with your EC2 instance, reviewing system logs can help you pinpoint the cause.

System log

Review system log for instance i-041b8796a9d586edc as of Sun May 21 2023 10:05:43 GMT+0700 (Indochina Time)

Copy log

Download

[27.344077] cloud-init[2076]: Installed:

[27.352168] cloud-init[2076]: apr-1.7.2-2.amzn2023.0.2.x86_64

[27.366738] cloud-init[2076]: apr-util-1.6.3-1.amzn2023.0.1.x86_64

[27.377780] cloud-init[2076]: apr-util-openssl-1.6.3-1.amzn2023.0.1.x86_64

[27.396211] cloud-init[2076]: generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch

[27.400643] cloud-init[2076]: httpd-2.4.56-1.amzn2023.x86_64

[27.407675] cloud-init[2076]: httpd-core-2.4.56-1.amzn2023.x86_64

[27.418999] cloud-init[2076]: httpd-filesystem-2.4.56-1.amzn2023.noarch

[27.430547] cloud-init[2076]: httpd-tools-2.4.56-1.amzn2023.x86_64

[27.456589] cloud-init[2076]: libbrotli-1.0.9-4.amzn2023.0.2.x86_64

[27.460920] cloud-init[2076]: mailcap-2.1.49-3.amzn2023.0.3.noarch

[27.464094] cloud-init[2076]: mod_http2-2.0.11-2.amzn2023.x86_64

[27.497539] cloud-init[2076]: mod_lua-2.4.56-1.amzn2023.x86_64

[27.504154] cloud-init[2076]: Complete!

[27.597322] cloud-init[2076]: Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr/lib/systemd/system/httpd.service.

[28.011690] systemd-sysv-generator[3479]: SysV service '/etc/rc.d/init.d/cfn-hup' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package t

ci-info: +-----+Authorized keys from /home/ec2-user/.ssh/authorized_keys for user ec2-user+-----+

ci-info: +-----+-----+-----+-----+-----+-----+

ci-info: | Keytype | Fingerprint (sha256) | Options | Comment |

ci-info: +-----+-----+-----+-----+-----+-----+

For boot or networking issues, use the EC2 serial console for troubleshooting. Choose the **Connect** button to start a session.

Connect

Activate Windows

Go to Settings to activate Windows.

Cancel

aws

Services

Search

[Alt+S]

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EC2 > Instances > i-041b8796a9d586edc > Get instance screenshot

Get instance screenshot [Info](#)

Instance screenshot

Download

i-041b8796a9d586edc (Web Server) on 2023-05-21 at T10:06:36.476 +07:00

```
Amazon Linux 2023
Kernel 6.1.25-37.47.amzn2023.x86_64 on an x86_64 (-)

ip-10-0-2-33 login: [ 26.207329] systemd-sysv-generator[2317]: SysV service '/etc/rc.d/init.d/cfn-hup' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 28.011690] systemd-sysv-generator[3479]: SysV service '/etc/rc.d/init.d/cfn-hup' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
```

For boot or networking issues, use the EC2 serial console for troubleshooting. Choose the **Connect** button to start a session.

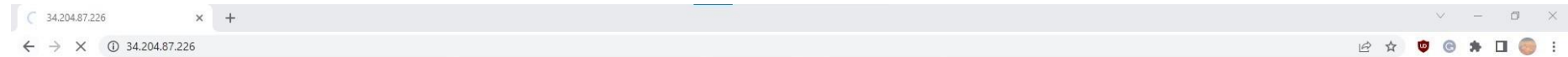
Connect

Cancel

steps 27-28: the
Get instance
screenshot screen

Activate Windows
Go to Settings to activate Windows.

Task 3: Update Your Security Group and Access the Web Server



steps 29-31: after pasting the instance's public IPv4 address into a browser window, the web server cannot be reached



This site can't be reached

34.204.87.226 took too long to respond.

Try:

- Checking the connection
- Checking the proxy and the firewall
- Running Windows Network Diagnostics

ERR_CONNECTION_TIMED_OUT

Reload

Details

Activate Windows
Go to Settings to activate Windows.

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Services

Search

[Alt+S]

N. Virginia

voclabs/user2564760=104222196@student.swin.edu.au @ 0258-6342...

Instance types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Scheduled Instances

Capacity Reservations

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Lifecycle Manager

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Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

Load Balancing

Load Balancers

Target Groups

Auto Scaling

Launch Configurations

Auto Scaling Groups

Security Groups (1/5) Info

Filter security groups

Actions

Export security groups to CSV

Create security group

	Name	Security group ID	Security group name	VPC ID	Description	Owner	Inbound rules count	Outbound rules co
<input checked="" type="checkbox"/>	-	sg-044c7e31db92f6a39	Web Server security gr...	vpc-0f8139768617fb132	Security group for my ...	025863423171	1 Permission entry	1 Permission entry
<input type="checkbox"/>	-	sg-0253c3588be583215	default	vpc-0cf2c2088716841df	default VPC security gr...	025863423171	1 Permission entry	1 Permission entry
<input type="checkbox"/>	-	sg-054785d00a27dc43a	Ec2SecurityGroup	vpc-07666f7e6a527975d	VPC Security Group	025863423171	1 Permission entry	1 Permission entry
<input type="checkbox"/>	-	sg-0ca707e184cf6c1ca	default	vpc-0f8139768617fb132	default VPC security gr...	025863423171	1 Permission entry	1 Permission entry
<input type="checkbox"/>	-	sg-087f58a07402f0eb5	default	vpc-07666f7e6a527975d	default VPC security gr...	025863423171	1 Permission entry	1 Permission entry

sg-044c7e31db92f6a39 - Web Server security group

DetailsInbound rulesOutbound rulesTags

Inbound rules (1/1)

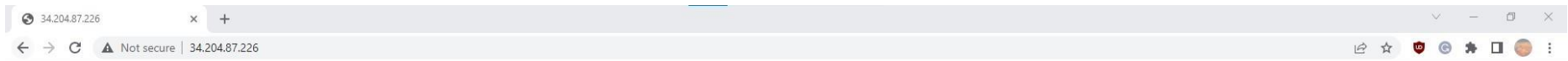
Filter security group rules

Manage tagsEdit inbound rules

	Name	Security group rule...	IP version	Type	Protocol	Port range	Source	Description
<input checked="" type="checkbox"/>	-	sgr-03c61e44e44fc9db5	IPv4	HTTP	TCP	80	0.0.0.0/0	-

steps 32-36: In the security group panel, add a new inbound rule for Web Server security group with type HTTP and source Anywhere-IPv4

Activate Windows
Go to Settings to activate Windows.



Hello From Your Web Server!

step 37: the web server is now
reachable

Activate Windows
Go to Settings to activate Windows.

Task 4: Resize Your Instance: Instance Type and EBS Volume

The screenshot shows the AWS Management Console interface. On the left is a navigation sidebar with categories like EC2 Dashboard, Instances, Images, Elastic Block Store, and Network & Security. The main content area is titled 'Instances (1/2) Info'. It contains a table of instances. The 'Web Server' instance (ID: i-041b8796a9d586edc) is highlighted with a blue selection bar and is in a 'Stopped' state. A red arrow points to this instance with the text 'steps 38-41: Stop the Web Server instance'. Below the table, the details for the selected instance are shown, including its configuration, network settings, and IAM role.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP
Bastion Host	i-0eac8b28404430abb	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a	ec2-54-145-63-23.com...	54.145.63.23	-
Web Server	i-041b8796a9d586edc	Stopped	t2.micro	-	No alarms	us-east-1b	-	-	-

Instance: i-041b8796a9d586edc (Web Server)

Details | Security | Networking | Storage | Status checks | Monitoring | Tags

Instance summary Info

Instance ID i-041b8796a9d586edc (Web Server)	Public IPv4 address -	Private IPv4 addresses 10.0.2.33
IPv6 address -	Instance state Stopped	Public IPv4 DNS -
Hostname type IP name: ip-10-0-2-33.ec2.internal	Private IP DNS name (IPv4 only) ip-10-0-2-33.ec2.internal	Elastic IP addresses -
Answer private resource DNS name -	Instance type t2.micro	AWS Compute Optimizer finding Opt-in to AWS Compute Optimizer for recommendations. Learn more
Auto-assigned IP address -	VPC ID vpc-0f8139768617fb132 (Lab VPC)	Auto Scaling Group name -
IAM Role -	Subnet ID subnet-0d637f5b080f5e8ea (Public Subnet 2)	
IMDSv2 Required		

Instance details Info

Platform Amazon Linux (Inferred)	AMI ID ami-0889a44b331db0194	Monitoring disabled
-------------------------------------	---------------------------------	------------------------

Activate Windows
Go to Settings to activate Windows.



EC2 > Instances > i-041b8796a9d586edc > Change instance type

Change instance type [Info](#)

You can change the instance type only if the current instance type and the instance type that you want are compatible.

Instance ID

i-041b8796a9d586edc (Web Server)

Current instance type

t2.micro

Instance type

t2.small

☐ EBS-optimized

EBS-optimized is not supported for this instance type

step 42: change the instance type
to t2.small

Cancel

Apply

Activate Windows
Go to Settings to activate Windows.

aws

Services

Search

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N. Virginia

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New EC2 Experience

Tell us what you think

EC2 Dashboard

EC2 Global View

Events

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Volumes (1/1) Info

Search

Volume ID = vol-004176efb9199ead1

Clear filters

	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot	Created	Availability Zone
<input checked="" type="checkbox"/>	-	vol-004176efb9199ead1	gp3	8 GiB	3000	125	snap-06c467d...	2023/05/21 09:58 GMT+7	us-east-1b

steps 43-44: select and modify the volume associated with the instance

Actions

Create volume

Modify volume

Create snapshot

Create snapshot lifecycle policy

Delete volume

Attach volume

Detach volume

Force detach volume

Manage auto-enabled I/O

Manage tags

Fault injection

Volume ID: vol-004176efb9199ead1

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Volume ID	Size	Type	Volume status
vol-004176efb9199ead1	8 GiB	gp3	Okay
AWS Compute Optimizer finding	Volume state	IOPS	Throughput
Opt-in to AWS Compute Optimizer for recommendations.	In-use	3000	125
Learn more	KMS key ID	KMS key alias	KMS key ARN
Encryption	-	-	-
Not encrypted	Snapshot	Availability Zone	Created
Fast snapshot restored	snap-06c467df960bc252f	us-east-1b	Sun May 21 2023 09:58:49 GMT+0700 (Indochina Time)
No	Attached Instances	Outposts ARN	
Multi-Attach enabled	i-041b8796a9d586edc (Web Server): /dev/xvda (attached)	-	
No			

Activate Windows

Go to Settings to activate Windows.

Modify volume [Info](#)

Modify the type, size, and performance of an EBS volume.

Volume details

Volume ID

 vol-004176efb9199ead1

Volume type [Info](#)

General Purpose SSD (gp3) ▼

Size (GiB) [Info](#)

10

Min: 1 GiB, Max: 16384 GiB. The value must be an integer.

IOPS [Info](#)

3000

Min: 3000 IOPS, Max: 16000 IOPS. The value must be an integer.

Throughput (MiB/s) [Info](#)

125

Min: 125 MiB, Max: 1000 MiB, Baseline: 125 MiB/s.

steps 45-47: change the
volume size to 10GB

Cancel

Modify

Activate Windows
Go to Settings to activate Windows.

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Instances (1/2) Info

Find instance by attribute or tag (case-sensitive)

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP
<input type="checkbox"/>	Bastion Host	i-0eac8b28404430abb	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a	ec2-54-145-63-23.com...	54.145.63.23	-
<input checked="" type="checkbox"/>	Web Server	i-041b8796a9d586edc	Running	t2.small	2/2 checks passed	No alarms	us-east-1b	ec2-34-230-1-54.comp...	34.230.1.54	-

Instance: i-041b8796a9d586edc (Web Server)

DetailsSecurityNetworkingStorageStatus checksMonitoringTags

Root device details

Root device name

/dev/xvda

Root device type

EBS

EBS optimization

disabled

Block devices

Filter block devices

Volume ID	Device name	Volume size (GiB)	Attachment status	Attachment time	Encrypted	KMS key ID	Delete on termination
vol-004176efb9199ead1	/dev/xvda	10	Attached	2023/05/21 09:58 GMT+7	No	-	Yes

Recent root volume replacement tasks

Filter tasks

Replace root volume

Task ID	Task state	Start time	Completion time	Tags
No recent replace root volume tasks				

steps 49-51: restart the instance. it is now running with new type and storage settings.

Task 5: Explore EC2 Limits

The screenshot shows the AWS Management Console interface. At the top, there's a navigation bar with the AWS logo, 'Services' menu, a search bar, and a user profile dropdown. Below this is a left-hand navigation pane with categories like 'New EC2 Experience', 'Instances', 'Images', 'Elastic Block Store', and 'Network & Security'. The 'Limits' link is highlighted in the navigation pane. The main content area displays a message: 'Limits page deactivated'. It states that the Limits page has been deactivated and provides a link to the 'AWS Service Quotas console'. Below this, there's a paragraph explaining that quotas (also referred to as limits) are the maximum values for resources, actions, and items in an AWS account. It mentions that if business needs aren't met by default limits, users might need to increase their service quota values. In the bottom right corner, there's a 'Activate Windows' watermark.

aws Services Search [Alt+S] N. Virginia voclabs/user2564760=104222196@student.swin.edu.au @ 0258-6342...

New EC2 Experience Tell us what you think

Auto scaling limits: There was an error loading the limits

Notifications 8 0 0 0 0 0

Limits page deactivated

The Limits page has been deactivated. To view your service quotas or to request an increase, use the [AWS Service Quotas console](#).

With the Service Quotas console, you can view and manage your quotas for AWS services from a central location. Quotas, also referred to as limits in AWS services, are the maximum values for the resources, actions, and items in your AWS account. Each AWS service defines its quotas and establishes default values for those quotas. If your business needs aren't met by the default limit of service resources or operations that apply to an AWS account or an AWS Region, you might need to increase your service quota values. The Service Quotas console enables you to look up your service quotas and to request increases. AWS Support might approve, deny, or partially approve your requests.

steps 52-53: The Limit page (which is deactivated)

Activate Windows
Go to Settings to activate Windows.

Task 6: Test Termination Protection

Failed to terminate an instance: The instance 'i-041b8796a9d586edc' may not be terminated. Modify its 'disableApiTermination' instance attribute and try again.

Instances (1/2) Info

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP
<input type="checkbox"/>	Bastion Host	i-0eac8b28404430abb	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a	ec2-54-145-63-23.com...	54.145.63.23	-
<input checked="" type="checkbox"/>	Web Server	i-041b8796a9d586edc	Running	t2.small	2/2 checks passed	No alarms	us-east-1b	ec2-34-230-1-54.comp...	34.230.1.54	-

Instance: i-041b8796a9d586edc (Web Server)

Details | Security | Networking | Storage | Status checks | Monitoring | Tags

Instance summary Info

Instance ID i-041b8796a9d586edc (Web Server)	Public IPv4 address 34.230.1.54 open address	Private IPv4 addresses 10.0.2.33
IPv6 address -	Instance state Running	Public IPv4 DNS ec2-34-230-1-54.compute-1.amazonaws.com open address
Hostname type IP name: ip-10-0-2-33.ec2.internal	Private IP DNS name (IPv4 only) ip-10-0-2-33.ec2.internal	Elastic IP addresses -
Answer private resource DNS name -	Instance type t2.small	AWS Compute Optimizer finding Opt-in to AWS Compute Optimizer for recommendations. Learn more
Auto-assigned IP address 34.230.1.54 [Public IP]	VPC ID vpc-0f8139768617fb132 (Lab VPC)	Auto Scaling Group name -
IAM Role -	Subnet ID subnet-0d637f5b080f5e8ea (Public Subnet 2)	Monitoring disabled Activate Windows Go to Settings to activate Windows.
IMDSv2 Required	Platform ID ami-0889a44b331db0194	Termination protection
Instance details Info	Platform details Amazon Linux (Inferred)	

steps 54-56: attempting to terminate the instance with termination protection enabled results in an error

aws

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Failed to terminate an instance: The instance 'i-041b8796a9d586edc' may not be terminated. Modify its 'disableApiTermination' instance attribute and try again.

Instances (1/2) info

Find instance by attribute or tag (case-sensitive)

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP
<input type="checkbox"/>	Bastion Host	i-0ea38b28404430abb	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a	ec2-54-145-63-23.com...	54.145.63.23	-
<input checked="" type="checkbox"/>	Web Server	i-041b8796a9d586edc	Running	t2.small	2/2 checks passed	No alarms	us-east-1b	ec2-34-230-1-54.comp...	34.230.1.54	-

Instance: i-041b8796a9d586edc (Web Server)

Details | Security | Networking | Storage | Status checks

Instance summary info

Instance ID

i-041b8796a9d586edc (Web Server)

IPv6 address

-

Hostname type

IP name: ip-10-0-

Answer private resource DNS name

-

Auto-assigned IP address

34.230.1.54 [Public IP]

IAM Role

-

IMDSv2

Required

Instance details info

Platform

Amazon Linux (Inferred)

Platform details

AMI ID

ami-0889a44b331db0194

AMI name

-

Monitoring

disabled

Termination protection

-

Change termination protection

To prevent your instance from being accidentally terminated, you can enable termination protection for the instance. [Learn more](#)

Instance ID

i-041b8796a9d586edc (Web Server)

Termination protection

☐ Enable

Termination protection disabled.

The instance is no longer protected against accidental termination. If the instance is terminated, data stored on ephemeral storage is lost.

Cancel Save

Activate Windows

Go to Settings to activate Windows.

steps 57-59:
disable termination
protection

aws

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Successfully terminated i-041b8796a9d586edc

Instances (1/2) Info

Find instance by attribute or tag (case-sensitive)

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP
<input type="checkbox"/>	Bastion Host	i-0eac8b28404430abb	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a	ec2-54-145-63-23.com...	54.145.63.23	-
<input checked="" type="checkbox"/>	Web Server	i-041b8796a9d586edc	Shutting-down	t2.small	2/2 checks passed	No alarms	us-east-1b	ec2-34-230-1-54.comp...	34.230.1.54	-

Instance: i-041b8796a9d586edc (Web Server)

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Instance summary Info

Instance ID

i-041b8796a9d586edc (Web Server)

IPv6 address

-

Hostname type

IP name: ip-10-0-2-33.ec2.internal

Answer private resource DNS name

-

Auto-assigned IP address

34.230.1.54 [Public IP]

IAM Role

-

IMDSv2

Required

Instance details Info

Platform

Amazon Linux (Inferred)

Platform details

-

Public IPv4 address

34.230.1.54 | open address

Instance state

Shutting-down

Private IP DNS name (IPv4 only)

ip-10-0-2-33.ec2.internal

Instance type

t2.small

VPC ID

vpc-0f8139768617fb132 (Lab VPC)

Subnet ID

subnet-0d637f5b080f5e8ea (Public Subnet 2)

Private IPv4 addresses

10.0.2.33

Public IPv4 DNS

ec2-34-230-1-54.compute-1.amazonaws.com | open address

Elastic IP addresses

-

AWS Compute Optimizer finding

Opt-in to AWS Compute Optimizer for recommendations. | Learn more

Auto Scaling Group name

-

Monitoring disabled

Activate Windows
Go to Settings to activate Windows.

Termination protection

-

steps 60-61: with termination protection disabled, the instance can be successfully terminated