

Lab 3: Introduction to Amazon EC2

EC² = ECC = Elastic Compute Cloud

Launch instances



Amazon Linux
Free tier eligible

Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-0c2b8ca1dad447f8a (64-bit x86) / ami-06cf15d6d096df5d2 (64-bit Arm)

Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras. This AMI is the successor of the Amazon Linux AMI that is approaching end of life on December 31, 2020 and has been removed from this wizard.

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

Select

- ☒ 64-bit (x86)
- ☐ 64-bit (Arm)

Number of instances	1	Launch into Auto Scaling Group
Purchasing option	☐ Request Spot instances	
Network	vpc-07506455f8e2363c6 Lab VPC	Create new VPC
Subnet	subnet-0cc2b14e462ef9cda Public Subnet 1 us-ea 251 IP Addresses available	Create new subnet
Auto-assign Public IP	Use subnet setting (Enable)	
Placement group	☐ Add instance to placement group	
Capacity Reservation	Open	
Domain join directory	No directory	Create new directory
IAM role	None	Create new IAM role
Shutdown behavior	Stop	
Stop - Hibernate behavior	☐ Enable hibernation as an additional stop behavior	
Enable termination protection	☒ Protect against accidental termination	

▼ Advanced Details

Enclave ⓘ

☐ Enable

Metadata accessible ⓘ

Enabled ↕

Metadata version ⓘ

V1 and V2 (token optional) ↕

Metadata token response hop limit ⓘ

1 ↕

User data ⓘ

☒ As text ☐ As file ☐ Input is already base64 encoded

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



Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: ☒ Create a **new** security group
☐ Select an **existing** security group

Security group name:

Description:

Type i	Protocol i	Port Range i	Source i	Description i
HTTP SSH ▼	TCP	80 22	Custom ▼ 0.0.0.0/0	e.g. SSH for Admin Desktop ✕

Add Rule

 **Warning**

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Status check

✔ 2/2 checks passed

ဆိုတဲ့ status check ဖွင့် web server ပေါ် 2/2 checks passed

Details

Security

Networking

Storage

Status checks

Monitoring

Tags

Status checks

Info

Status checks detect problems that may impair i-03ada30093829d00f (Web Server) from running your applications.

System status checks

Instance status checks

⋮ Initializing

⋮ Initializing

Report the instance status if our checks do not reflect your experience with this instance or if they do not detect issues you are having.

Report instance status

Details

Security

Networking

Storage

Status checks

Monitoring

Tags

Status checks

Info

Status checks detect problems that may impair i-03ada30093829d00f (Web Server) from running your applications.

System status checks

Instance status checks

✔ System reachability check passed

✔ Instance reachability check passed

Report the instance status if our checks do not reflect your experience with this instance or if they do not detect issues you are having.

Report instance status

[Details](#)[Security](#)[Networking](#)[Storage](#)[Status checks](#)[Monitoring](#)[Tags](#)[Manage detailed monitoring](#)[Add to dashboard](#)

1h

3h

12h

1d

3d

1w

custom ▾



CPU utilization (%)

Percent

12

6

0

04:45 05:00 05:15 05:30

i-03ada30093829d00f (Web Server)

Status check failed (any) (co...

1

No data available.

Try adjusting the dashboard time range.

0.5

0

04:45 05:00 05:15 05:30

i-03ada30093829d00f (Web Server)

Status check failed (instanc...

1

No data available.

Try adjusting the dashboard time range.

0.5

0

04:45 05:00 05:15 05:30

i-03ada30093829d00f (Web Server)

Status check failed (system)...

1

No data available.

Try adjusting the dashboard time range.

0.5

0

04:45 05:00 05:15 05:30

i-03ada30093829d00f (Web Server)

Network in (bytes)

Bytes

21.4M

10.7M

0

04:45 05:00 05:15 05:30

i-03ada30093829d00f (Web Server)

Network out (bytes)

Bytes

233k

116k

0

04:45 05:00 05:15 05:30

i-03ada30093829d00f (Web Server)

Network packets in (count)

Count

14.6k

7.29k

0

04:45 05:00 05:15 05:30

i-03ada30093829d00f (Web Server)

Network packets out (count)

Count

5.41k

2.71k

0

04:45 05:00 05:15 05:30

i-03ada30093829d00f (Web Server)

Disk reads (bytes)

Bytes

1

0.5

0

04:45 05:00 05:15 05:30

i-03ada30093829d00f (Web Server)

Disk read operations (opera...

Count

1

0.5

0

04:45 05:00 05:15 05:30

i-03ada30093829d00f (Web Server)

Disk writes (bytes)

Bytes

1

0.5

0

04:45 05:00 05:15 05:30

i-03ada30093829d00f (Web Server)

Disk write operations (oper...

Count

1

0.5

0

04:45 05:00 05:15 05:30

i-03ada30093829d00f (Web Server)

↓ มีค่า

Get system log

Get instance screenshot

Manage detailed monitoring

Manage CloudWatch alarms

EC2 Serial Console

Replace root volume

Actions ▲

Connect

View details

Manage instance state

Instance settings ▶

Networking ▶

Security ▶

Image and templates ▶

Monitor and troubleshoot ▶

Get system log [Info](#)

Review system log for instance i-03ada30093829d00f as of Fri Aug 20 2021 12:44:45 GMT+0700 (เวลาอินโดจีน)

```
[ 21.372092] cloud-init[3162]: ---> Package apr-util-bdb.x86_64 0:1.6.1-5.amzn2.0.2 will be installed
[ 21.679053] cloud-init[3162]: --> Finished Dependency Resolution
[ 21.709979] cloud-init[3162]: Dependencies Resolved
[ 21.715901] cloud-init[3162]: =====
[ 21.722456] cloud-init[3162]: Package                Arch          Version                               Repository      Size
[ 21.727718] cloud-init[3162]: =====
[ 21.736088] cloud-init[3162]: Installing: Web server
[ 21.738967] cloud-init[3162]: httpd ← x86_64    2.4.48-2.amzn2                       amzn2-core     1.3 M
[ 21.746842] cloud-init[3162]: Installing for dependencies:
[ 21.754063] cloud-init[3162]: apr                x86_64        1.6.3-5.amzn2.0.2                   amzn2-core     118 k
[ 21.762278] cloud-init[3162]: apr-util          x86_64        1.6.1-5.amzn2.0.2                   amzn2-core     99 k
[ 21.769070] cloud-init[3162]: apr-util-bdb      x86_64        1.6.1-5.amzn2.0.2                   amzn2-core     19 k
[ 21.776219] cloud-init[3162]: generic-logos-httpd noarch        18.0.0-4.amzn2                      amzn2-core     19 k
[ 21.788810] cloud-init[3162]: httpd-filesystem  noarch        2.4.48-2.amzn2                      amzn2-core     24 k
[ 21.794644] cloud-init[3162]: httpd-tools      x86_64        2.4.48-2.amzn2                      amzn2-core     87 k
[ 21.820688] cloud-init[3162]: mailcap          noarch        2.1.41-2.amzn2                      amzn2-core     31 k
[ 21.827726] cloud-init[3162]: mod_http2        x86_64        1.15.19-1.amzn2.0.1                amzn2-core     149 k
[ 21.836192] cloud-init[3162]: Transaction Summary
[ 21.839385] cloud-init[3162]: =====
[ 21.849159] cloud-init[3162]: Install 1 Package (+8 Dependent packages)
[ 21.853414] cloud-init[3162]: Total download size: 1.9 M
[ 21.858881] cloud-init[3162]: Installed size: 5.1 M
```


31. In the **Actions** ▾ menu, select **Monitor and troubleshoot** ▶ **Get Instance Screenshot**.

This shows you what your Amazon EC2 instance console would look like if a screen were attached to it.



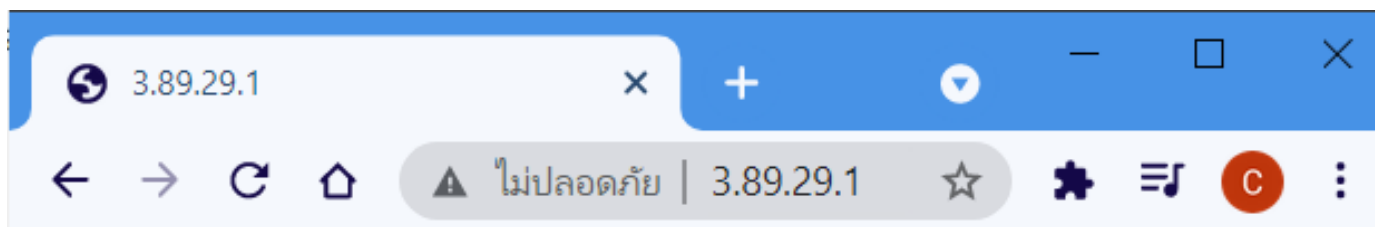
cap รูปหน้าจอของ instance มาดูได้ ว่าเกิดปัญหาอะไรขึ้น

Inbound rules [Info](#)

Security group rule ID	Type Info	Protocol Info	Port range Info	Source Info
sgr-0dce0a39e180cab24	HTTP ▼	TCP	80	Anywh... ▼

Public IPv4 address

 3.89.29.1 | [open address](#)  **ก็อปปี้ ip address ไปเปิดเอง http://3.89.29.1**



Hello From Your Web Server!

Instances (1/2) [Info](#)

Instance state: running

Instance state ▲

Stop instance
Start instance
Reboot instance
Hibernate instance
Terminate instance

	Name ▼	Instance ID	Instance state ▼	Instance type ▼	Status
☐	Bastion Host	i-03b8a498c815d3ed8	✓ Running	t2.micro	✓ 2/2
☒	Web Server	i-03ada30093829d00f	✓ Running	t2.micro	✓ 2/2 checks passed No alarm

ปิด (shutdown) ก่อน

☒	Web Server	i-03ada30093829d00f	⌚ Stopping
☒	Web Server	i-03ada30093829d00f	⊖ Stopped

รอให้ shutdown เสร็จเรียบร้อย (stopped)

Actions ▲

Connect

View details

Manage instance state

Instance settings ▶

Networking ▶

Security ▶

Image and templates ▶

Monitor and troubleshoot ▶

Attach to Auto Scaling Group

Change instance type

Change Nitro Enclaves

Change termination protection

Change shutdown behavior

Change credit specification

Modify instance placement

Modify Capacity Reservation settings

Edit user data

Manage tags

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-03ada30093829d00f (Web Server)

Current instance type

t2.micro

Instance type

t2.micro ▲

t2.micro ▲

t2.nano

t2.small

t2.xlarge

t3.2xlarge

t3a.2xlarge

t3a.large

t3a.medium

t3a.micro

t3a.nano ▼

เปลี่ยน instance type เป็น t2.small
ที่ได้ CPU และ RAM มากขึ้น (แพงขึ้น)

Cancel

Apply

▼ Elastic Block Store

Volumes ← Hard disk ที่มีทั้งหมด (ที่อยู่กับ instance)

Snapshots

Lifecycle Manager New

Create Volume

Actions ^

Filter by tags

Name

Web Server

Modify Volume

Create Snapshot

Create Snapshot Lifecycle Policy

Delete Volume

Attach Volume

Detach Volume

Force Detach Volume

Change Auto-Enable IO Setting

Add/Edit Tags

Modify Volume

Volume ID vol-006d195bbbaf0d82

Volume Type General Purpose SSD (gp2) ⓘ

Size 10 เปลี่ยนจาก 8 เป็น 10 (Min: 1 GiB, Max: 16384 GiB) ⓘ

IOPS 100 / 3000

(Baseline of 3 IOPS per GiB with a minimum of 100 IOPS, burstable to 3000 IOPS) ⓘ

Modify Volume



Modify Volume Request Succeeded

Your volume is now being modified.

Close

Instances (1/2) [Info](#)

Filter instances

	Name	Instance ID	Instance state	Instance type	Status
☐	Bastion Host	i-03b8a498c815d3ed8	Running	t2.micro	2/2
☒	Web Server	i-03ada30093829d00f	Stopped	t2.small	-

Instance state

- Stop instance
- Start instance
- Reboot instance
- Hibernate instance
- Terminate instance

เปิด (start)

Initializing

2/2 checks passed

Hard disk จะเพิ่มจาก 8 GB เป็น 10 GB
(OS จะรู้เองอัตโนมัติ เราไม่ต้องทำ resize partition เอง)

ขอเพิ่มได้

Limits					Calculate vCPU limit		Request limit increase
Find limits					Running instances ▼ < 1 >		
	Name ▼	Limit type ▲	Current limit	Description			
☐	Security groups per instance	Running instances	8	The number of security groups per instance			
☐	Security groups	Running instances	–	The total number of security groups for this Region.			
☐	Reserved Instances	Running instances	20	The total number of instances corresponding to new reservati...			
☐	Running On-Demand All G instan...	Running instances	0 vCPUs	Running On-Demand G instances			
☐	Running On-Demand All Inf insta...	Running instances	0 vCPUs	Running On-Demand Inf instances			
☐	Running On-Demand All P instan...	Running instances	0 vCPUs	Running On-Demand P instances			
☐	Running On-Demand All Standar...	Running instances	32 vCPUs	Running On-Demand Standard (A, C, D, H, I, M, R, T, Z) instances			
☐	Running On-Demand All High Me...	Running instances	0 vCPUs	Running On-Demand High Memory instances			
☐	Running On-Demand All X instan...	Running instances	0 vCPUs	Running On-Demand X instances			
☐	Running On-Demand All F instan...	Running instances	0 vCPUs	Running On-Demand F instances			

Instances (1/2) [Info](#)

[Connect](#)[Instance state ▲](#)[Instance state: running X](#)[Clear filters](#)

ทำลาย instance ทิ้งอย่างถาวร

	Name ▼	Instance ID	Instance state ▼	Instance type ▼	Status
☐	Bastion Host	i-03b8a498c815d3ed8	Running	t2.micro	2/2
☒	Web Server	i-03ada30093829d00f	Running	t2.small	2/2 checks passed No alarm

Stop instance
Start instance
Reboot instance
Hibernate instance
Terminate instance

Terminate instance? X



On an EBS-backed instance, the default action is for the root EBS volume to be deleted when the instance is terminated. Storage on any local drives will be lost.

เตือนว่า hard disk หลัก จะถูกทำลายไปพร้อมกับ instance

Are you sure you want to terminate these instances?

i-03ada30093829d00f (Web Server)

To confirm that you want to terminate the instances, choose the terminate button below. Terminating the instance cannot be undone.

[Cancel](#)[Terminate](#)

ปิด termination protection ที่ตั้งค่าไว้

Attach to Auto Scaling Group

Change instance type

Change Nitro Enclaves

Change termination protection

Change shutdown behavior

Change credit specification

Modify instance placement

Modify Capacity Reservation settings

Edit user data

Manage tags

Actions ▲

Connect

View details

Manage instance state

Instance settings ▶

Networking ▶

Security ▶

Image and templates ▶

Monitor and troubleshoot ▶

Change termination protection Info

Enable termination protection to prevent your instance from being accidentally terminated.

Instance ID

 i-03ada30093829d00f (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.

- ✔ Disabled termination protection for i-03ada30093829d00f
- ✔ Successfully terminated i-03ada30093829d00f