

1. Launch one EC2 using Amazon Linux 2 image and add a script in user data to install Apache.

Launch a instance with linux 2 image and give all the details to create and add the script to install apache in the additional details.

Current user data

User data currently associated with this instance.

```
#!/bin/bash
yum update -y
yum install -y httpd
systemctl start httpd
systemctl enable httpd
echo "<h1>Hello from my EC2 instance!</h1>" > /var/www/html/index.html
```

Copy the ip address and add port number 80 and run the page.



Hello from my EC2 instance!

2. Launch one EC2 using Ubuntu image and add a script in user data to install Nginx.

Create a instance with ubuntu image

Name

ec2 ubuntu

Add additional AMIs

▼ Application and OS Images (Amazon Machine Image) Info

An AMI contains the operating system, application server, and applications for your instance. If you don't see a suitable AMI, you can search for one by using the search field or choose **Browse more AMIs**.

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

Recents

Quick Start

Amazon Linux

aws

macOS

Mac

Ubuntu

ubuntu

Windows

Microsoft

Red Hat

Red Hat

SUSE Linux

SUSE

Debian

debian

Amazon Machine Image (AMI)

Ubuntu Server 24.04 LTS (HVM), SSD Volume Type

Add the nginx installation script in the user data.

EC2 > Instances > Launch an instance

Select

User data - optional Info

Upload a file with your user data or enter it in the field.

Choose file

```
#!/bin/bash
# Update package list
sudo apt update
# Install Nginx
sudo apt install -y nginx
# Enable Nginx to start on boot
sudo systemctl enable nginx
# Start Nginx service
sudo systemctl start nginx
# Show Nginx status
sudo systemctl status nginx
```

☐ User data has already been base64 encoded

▼ Summary

Number of instances Info

1

Software Image (AMI)

Canonical, Ubuntu, 24.04, amd64...read more

ami-0a716d3f3b16d290c

Virtual server type (instance type)

t3.micro

Firewall (security group)

default

Storage (volumes)

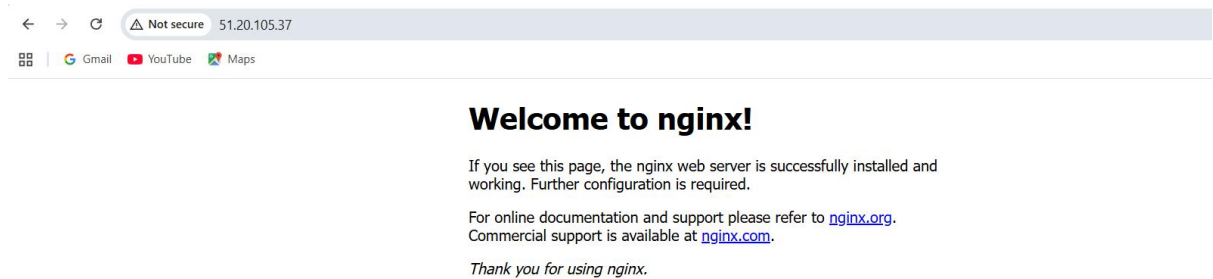
1 volume(s) - 8 GiB

Cancel

Launch instance

Preview code

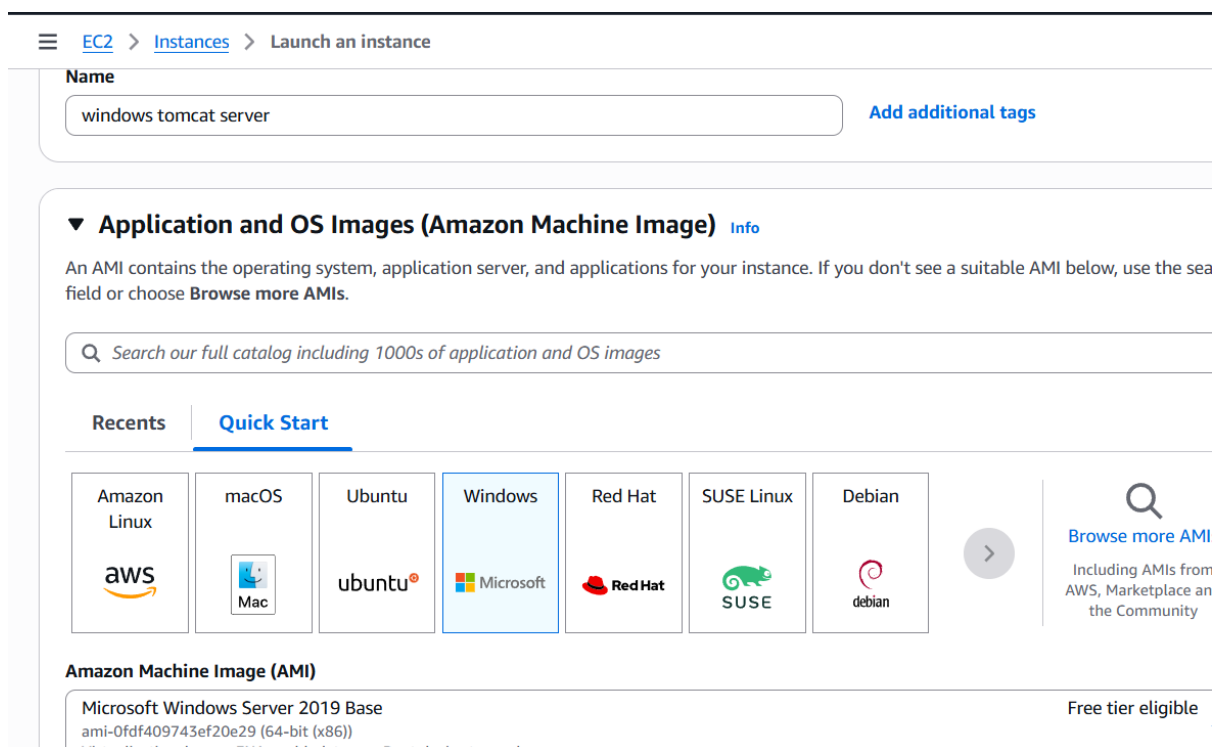
Copy the ip address and run with the port number 80.



3. Launch one Windows server and install Tomcat on Windows.

Create an instance named as windows tomcat server.

Select Microsoft windows as AMI (Amazon Machine Image)



Create security group set as allow RDP traffic from

Have design partner

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

We'll create a new security group called 'launch-wizard-7' with the following rules:

☒ Allow RDP traffic from

Helps you connect to your instance

Anywhere

0.0.0.0/0

☐ Allow HTTPS traffic from the internet

To set up an endpoint, for example when creating a web server

☐ Allow HTTP traffic from the internet

To set up an endpoint, for example when creating a web server

⚠ 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.



aws

Search

[Alt+S]

EC2 > Instances > i-0dab16b8c579c5958 > Connect to instance

Instance ID

i-0dab16b8c579c5958

 (windows tomcat server)

Connection Type

☒ Connect using RDP client
Download a file to use with your RDP client and retrieve your password.

☐ Connect using Fleet Manager
To connect to the instance using Fleet Manager, see [Working with the Fleet Manager console](#).

You can connect to your Windows instance using a remote desktop client of your choice, and by downloading and running the RDP shortcut file below:

[Download remote desktop file](#)

When prompted, connect to your instance using the following username and password:

Public DNS

ec2-13-61-178-194.eu-north-1.compute.amazonaws.com

Username [Info](#)


Administrator

Password [Get password](#)

If you've joined your instance to a directory, you can use your directory credentials to connect to your instance.


ance

Remote Desktop Connection


 **The identity of the remote computer cannot be verified. Do you want to connect anyway?**

The remote computer could not be authenticated due to problems with its security certificate. It may be unsafe to proceed.

Certificate name

 Name in the certificate from the remote computer:
EC2AMAZ-H801K04

Certificate errors

The following errors were encountered while validating the remote computer's certificate:
 The certificate is not from a trusted certifying authority.

Do you want to connect despite these certificate errors?

☐ Don't ask me again for connections to this computer

View certificate...

Yes

No

ient of your

me and pass

ow:

Directory credentials to connect to your instance.

16:12	Remote Desktop C...	1 KB
-------	---------------------	------

20:45

20:45

19:17

11:39

11:37

11:36

11:33

15:33

15:32

15:07

12:01

19:12

22:04

14:55

11:02

18:22

18:22

11:23

09:23

14:40

Windows Security

Enter your credentials

These credentials will be used to connect to
ec2-13-60-226-149.eu-north-1.compute.amazonaws.com.

Administrator

Password

DESKTOP-LU541U4\Administrator

☐ Remember me

[More choices](#)

OK

Cancel

Microsoft Edge PD...

6,034 KB

KEY File

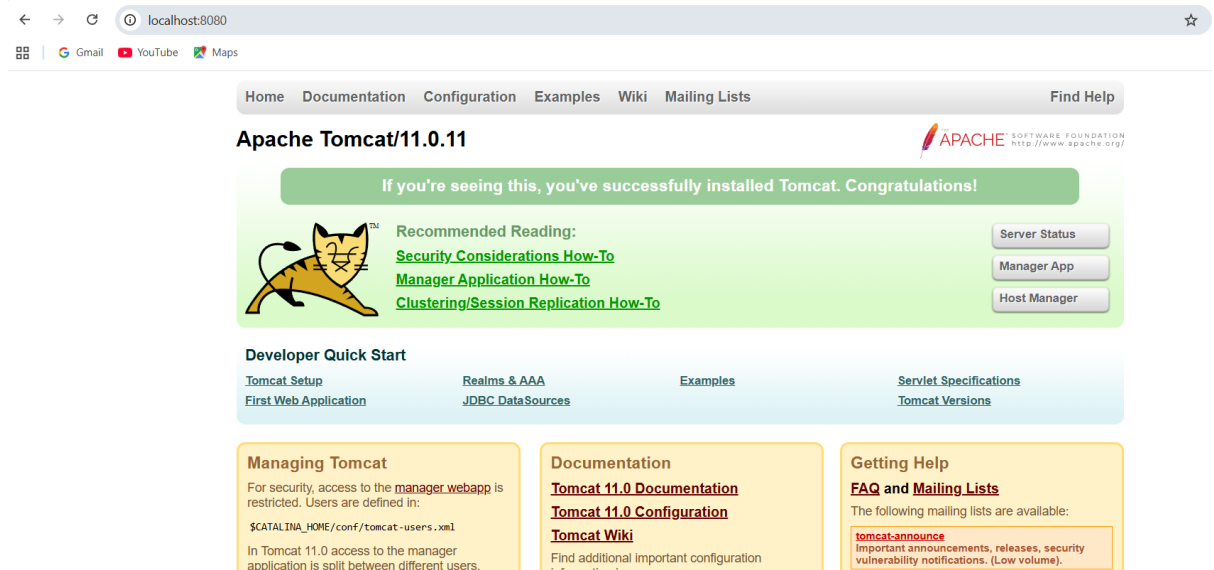
4 KB

PEM File

2 KB

JPEG File

231 KB



4. Take a snapshot of the instance created in Task 1.

Launch the task ec2 that we are created on the task 1.

Create snapshot to that ec2 instance.

EC2 > Snapshots > Create snapshot

Create snapshot [Info](#)

Create a point-in-time snapshot of an EBS volume and use it as a baseline for new volumes or for data backup. You can create snapshots from an individual volume, or volumes attached to an instance.

Source

Resource type [Info](#)

☐ Volume
Create a snapshot from a specific volume.

☒ Instance
Create multi-volume snapshots from an instance.

Instance ID
The instance from which to create multi-volume snapshots.

i-0fe30733258198308 (ec2)
eu-north-1b

Snapshot details

Description
Add a description for your snapshot.

ec2 snapshot

Create image from snapshot.

Snapshot ID: snap-092ab6e13ece53d2b

Details

Snapshot settings

Storage tier

Tags

Snapshot ID

Owner

Description

Full snapshot size

Started

Progress

Product codes

Snapshot status

Fast snapshot restore

1.71 GiB

Thu Sep 18 2025 17:45:08 GMT+0530 (India Standard Time)

100%

Completed

ec2 snapshot

Give name and description for image.

EC2 > Snapshots > snap-092ab6e13ece53d2b > Create image from snapshot

Image settings

Snapshot ID

Image name

Description

Architecture

Root device name

ec2 snapshot

ec2 snapshot

x86_64

/dev/sda1

Successfully requested new image ami-0910707f4931cc72e. The image is being created. The image-creation process can take several minutes to complete.

Snapshot ID: snap-092ab6e13ece53d2b

Full snapshot size: 1.71 GiB

Volume size: 8 GiB

Description: ec2 snapshot

Storage tier: Standard

Snapshot status: Completed

5. Assign passwordless authentication for the EC2 created in Task 2.

In task 2 we have created a ec2 instance with ubuntu added nginx user data to it.

Create ssh-keygen

```
MUJJU SK@DESKTOP-LU541U4 MINGW64 ~/Downloads
$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/c/Users/Ashish/.ssh/id_rsa):
/c/Users/Ashish/.ssh/id_rsa already exists.
Overwrite (y/n)? y
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /c/Users/Ashish/.ssh/id_rsa
Your public key has been saved in /c/Users/Ashish/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:SR3oT15a3DH2PARRXzH/3BfV9rHUJ1VMdHp4MPDgVCU MUJJU SK@DESKTOP-LU541U4
The key's randomart image is:
+---[RSA 3072]-----+
|      .. o+B@^      |
|      .. o +=OE     |
|      .. ...o*OX    |
|      .... + .*B    |
|      S+ +   *      |
|      +         .   |
+---+-----+

```

Copy the public key

```
+---[SHA256]-----+
MUJJU SK@DESKTOP-LU541U4 MINGW64 ~/Downloads
$ cat /c/Users/Ashish/.ssh/id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQGDXS6RWRY5+1ze8ldHGpJ5zBwMnqhEZKg1dwJj60FTbF0MFwO2daQk9nP3c
EmL0nOpI6fISragy91XvblpZPwOs73igqzaeDSEIMsHUBV2KaBHTqCPM7Mgu7wpUoErRsmUHRck9fJai7uYvawJko+1OGagt
FE7AscBZK307uvONGlIvy3nWKKjmtKOKxjQ5eR/fQLZQceBXwst05mx2GvH604u+Wqw2FrqD6vAYu2/wMmm8UsJirUHkwuQl
50cpPfxkGrGvdgkCZyNiLcPzGX2ikR/roE/9FQT2zq7T6wBsxe0XJTtRKkvfLYNDMNq/1x56oF3pqLEsc3G43rCsHDYvuSXj
H1m3FZ66CAuTx49AdG8DIQ91I3fRYhFifZ/20Zj9c/T9ZGxqLPn5NYootxFX0gCz0HuyBd6cxEOvTE= MUJJU SK@DESKT
MUJJU SK@DESKTOP-LU541U4 MINGW64 ~/Downloads

```

Create a file with vi ~/.authorized_keys and copy the key and save it.

```
ubuntu@ip-172-31-17-86:~$ vi ~/.ssh/authorized_keys
ubuntu@ip-172-31-17-86:~$ ls -l
total 0
ubuntu@ip-172-31-17-86:~$ ls -l ~/.ssh/authorized_keys
-rw----- 1 ubuntu ubuntu 578 Sep 18 13:40 /home/ubuntu/.ssh/authorized_keys
ubuntu@ip-172-31-17-86:~$ exit
logout
Connection to 13.60.9.77 closed.

```


Login ssh from starting ssh [ubuntu@13.60.9.77](https://13.60.9.77) with out pem key.

```
MUJJU SK@DESKTOP-LU541U4 MINGW64 ~/Downloads
$ ssh ubuntu@13.60.9.77
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.14.0-1011-aws x86_64)

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

System information as of Thu Sep 18 13:43:05 UTC 2025

System load:  0.0           Temperature:   -273.1 C
Usage of /:   34.4% of 6.71GB Processes:    115
Memory usage: 28%          Users logged in: 0
Swap usage:   0%           IPv4 address for ens5: 172.31.17.86

Expanded Security Maintenance for Applications is not enabled.


10 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

*** System restart required ***
Last login: Thu Sep 18 13:36:42 2025 from 103.143.169.218
ubuntu@ip-172-31-17-86:~$
```

6. Launch any EC2 using the spot purchasing option.

While creating instance on additional details keep it as spot instance.

 [EC2](#) > [Instances](#) > Launch an instance

Instance bandwidth configuration | [Info](#)

Select ▼

Purchasing option | [Info](#)

☐ None

☐ Capacity Blocks
Launch instances for your active capacity blocks

☒ Spot instances
Request Spot Instances at the Spot price, capped at the On-Demand price

[Customize Spot instance options](#)

Capacity reservation | [Info](#)

Select ▼

Tenancy | [Info](#)

aws

Search

[Alt+S]

EC2

Instances

Launch an instance

Purchasing option

☐ None

☐ Capacity Blocks

Launch instances for your active capacity blocks

☒ Spot instances

Request Spot Instances at the Spot price, capped at the On-Demand price

Discard Spot instance options

Spot Instance Options

Specify Spot Instance Options such as Maximum Price, Request type, expiration date and interruption behavior

Maximum price

☒ No maximum price

Request Spot Instances at the Spot price, capped at the On-Demand price

☐ Set your maximum price (per instance/hour)

Request type

Persistent

Valid to

☒ No request expiry date

The default value is no expiry date

☐ Set your request expiry date

Interruption behavior

Stop

Create on launch instance then the spot instance will be created.

Info

Tutorial

▼ Summary

Number of instances

1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.8.2...read more

ami-043339ea831b48099

Virtual server type (instance type)

t3.micro

Firewall (security group)

default

Storage (volumes)

1 volume(s) - 8 GiB

Cancel

Launch instance

Preview code

Purchasing option

Spot Instances

You request a Spot Instance which is available for less than the On-Demand price. Spot Instances can be interrupted, so use them for applications with flexible run times and for applications that can be interrupted.

Capacity Blocks

You launch instances into your active Capacity Block reservation.

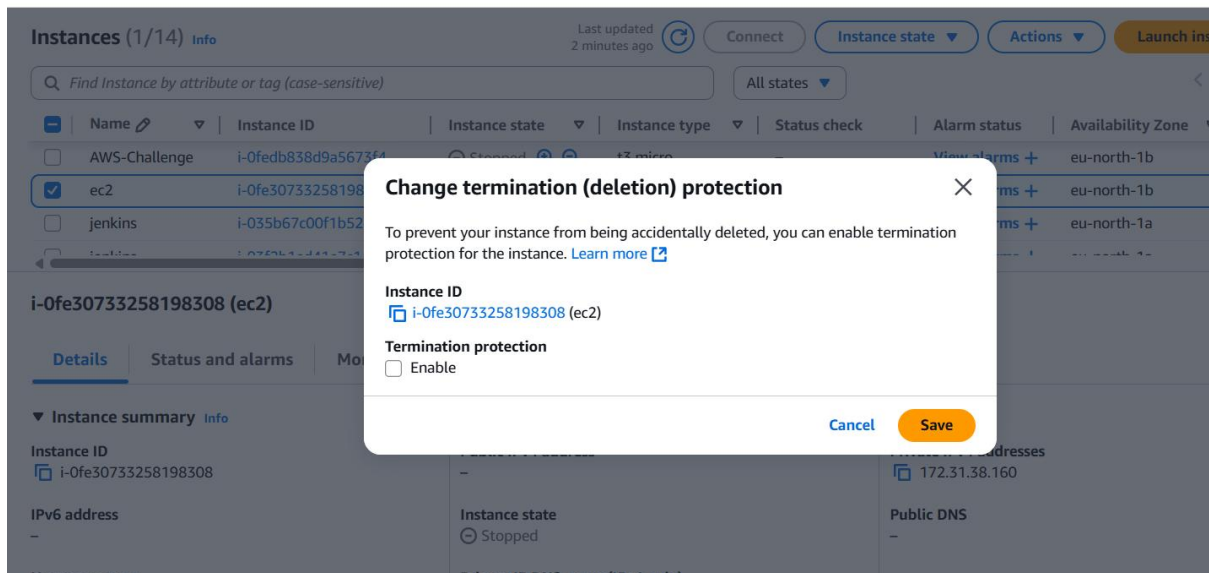
Learn more

Spot Instances

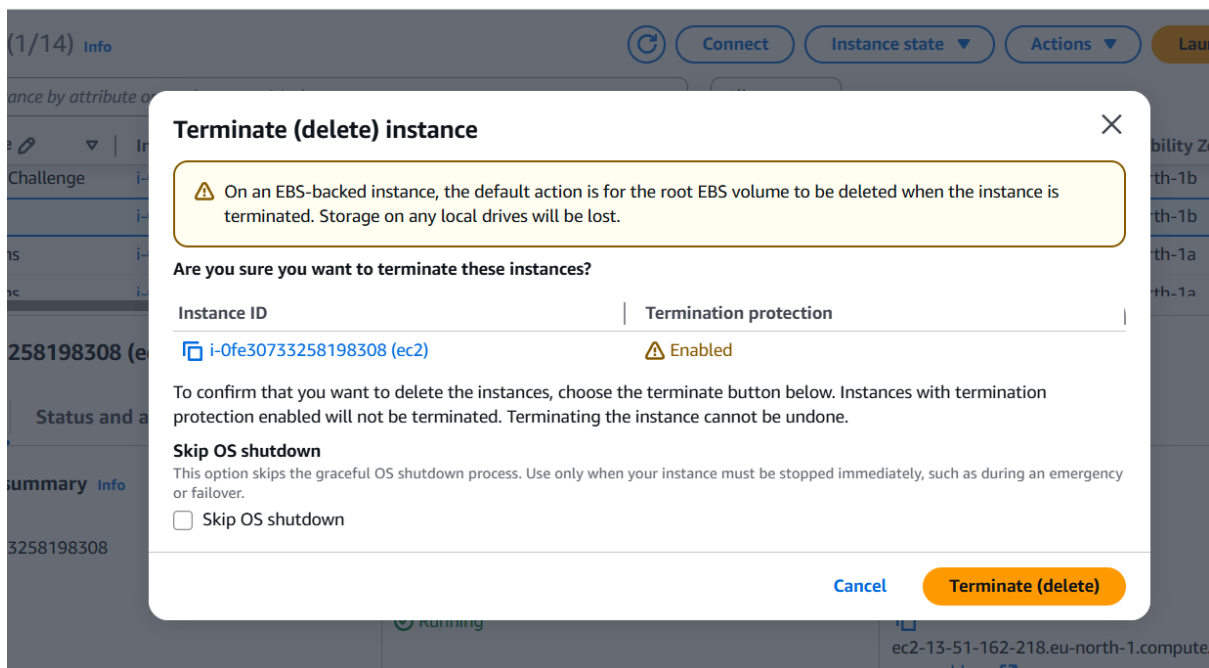
Capacity Blocks

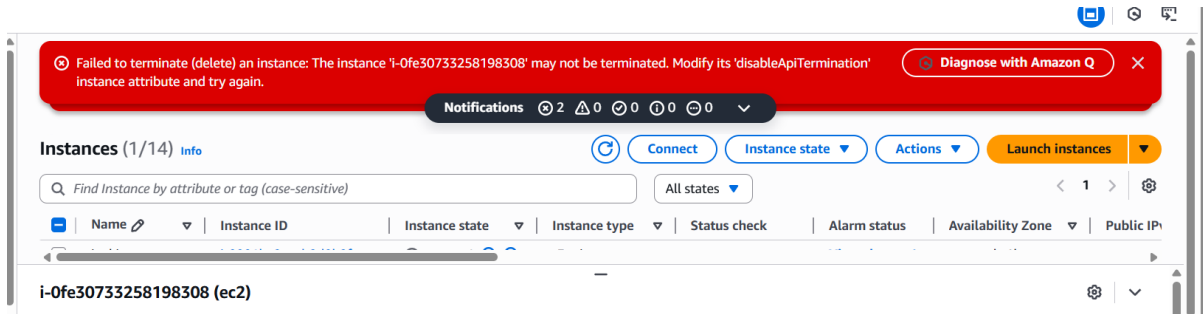
7. Enable termination policy on the EC2 created in Task .

In task 1 we created a ec2 instance with apache in user data. Select that instance and goto instance settings-termination protection-enable.



Try to terminate that instance it won't allow you to terminate.





8. Launch one EC2 using AWS CLI.

- Launch instance name with aws
- And connect to the server then Wget download cli
<https://awscli.amazonaws.com/AWSCLIV2.msi>
- Then gave a command of aws configure it will show u options like
- Access key
- Secret access key
- Region and format

```
[root@ip-172-31-38-160 ~]# aws ec2 describe-instances
{
  "Reservations": [
    {
      "ReservationId": "r-0996a5934c75f7ecc",
      "OwnerId": "235351028455",
      "Groups": [],
      "Instances": [
        {
          "Architecture": "x86_64",
          "BlockDeviceMappings": [
            {
              "DeviceName": "/dev/xvda",
              "Ebs": {
                "AttachTime": "2025-09-02T09:27:33+00:00",
                "DeleteOnTermination": true,
                "Status": "attached",
                "VolumeId": "vol-0c6a850661ec01030"
              }
            }
          ],
          "ClientToken": "3964d984-de4a-497c-bf8c-33f56e5d7bfb",
          "EbsOptimized": true,
          "EnaSupport": true,
          "Hypervisor": "xen",
          "NetworkInterfaces": [
```

