

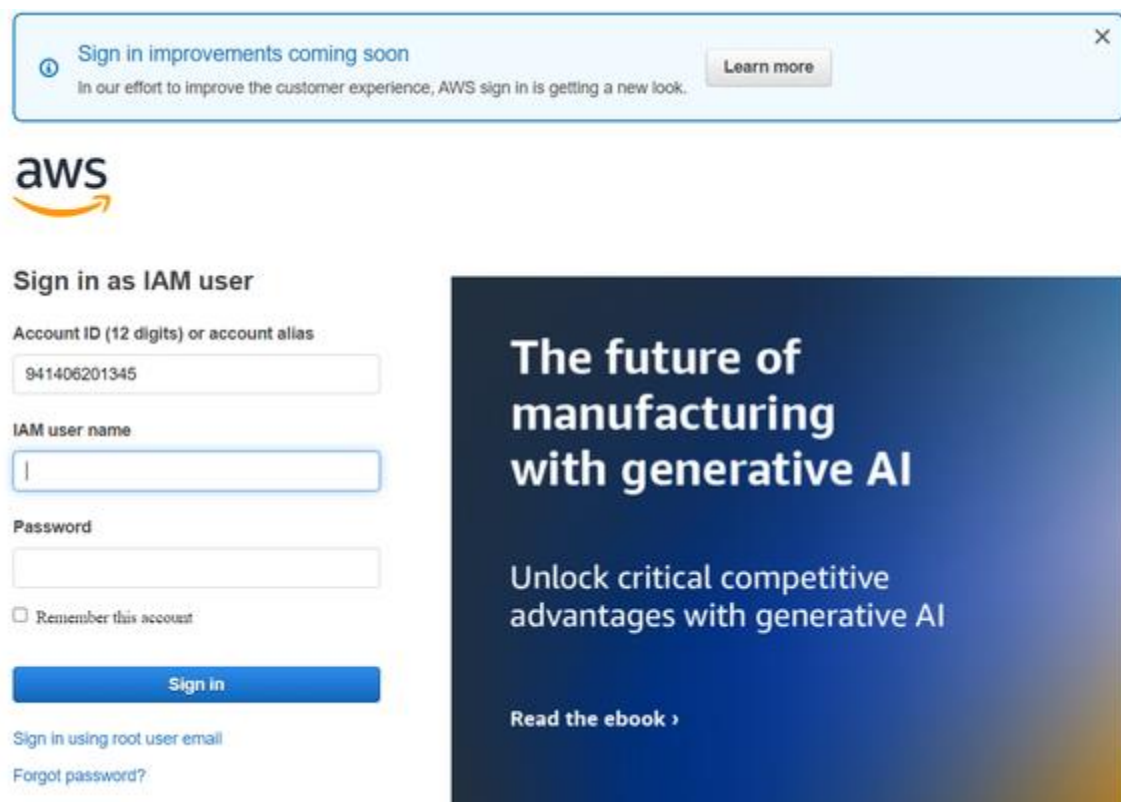
# Launch a Linux Server as a Webserver in AWS Cloud step by step

Launching a Linux server as a web server in the AWS Cloud involves several steps, including setting up an EC2 instance, configuring the security group, installing a web server (such as Apache or Nginx), and ensuring everything is properly configured. Here's a step-by-step guide:

## ### Step 1: Launch an EC2 Instance

1. Log in to AWS Management Console:

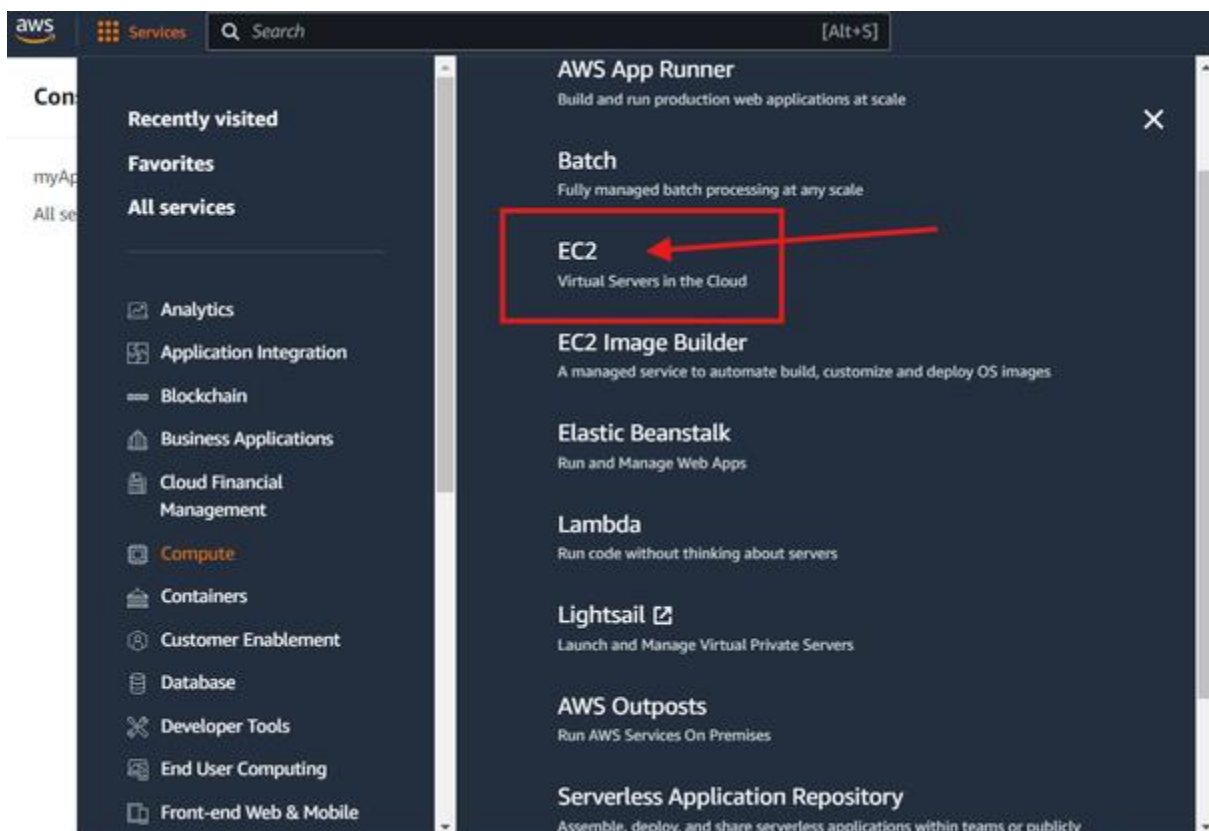
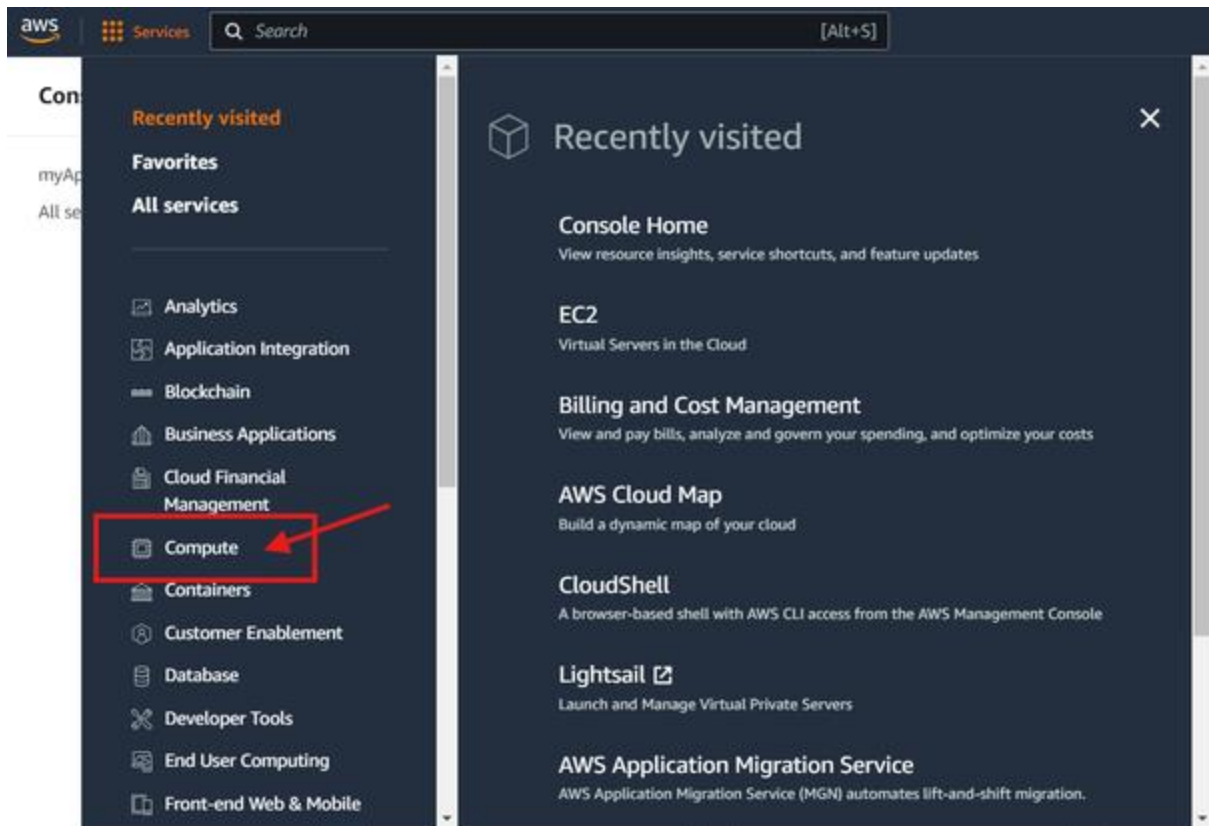
- Go to the AWS Management Console.



- Log in with your AWS account credentials.

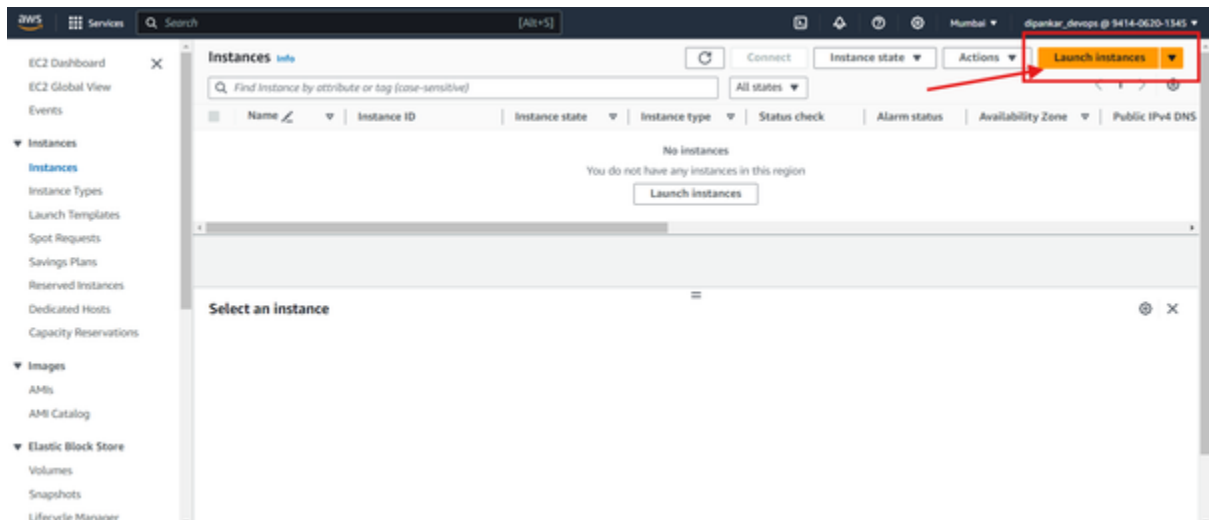
2. Navigate to EC2 Dashboard:

- In the AWS Management Console, find and click on "EC2" under the "Compute" section.

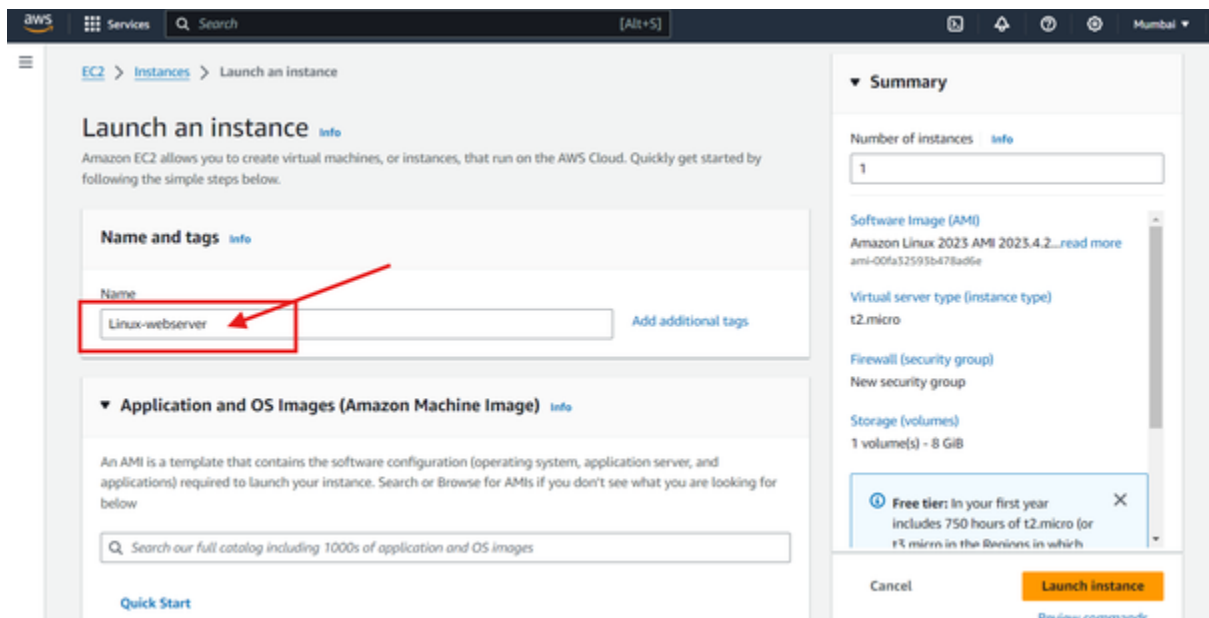


### 3. Launch an Instance:

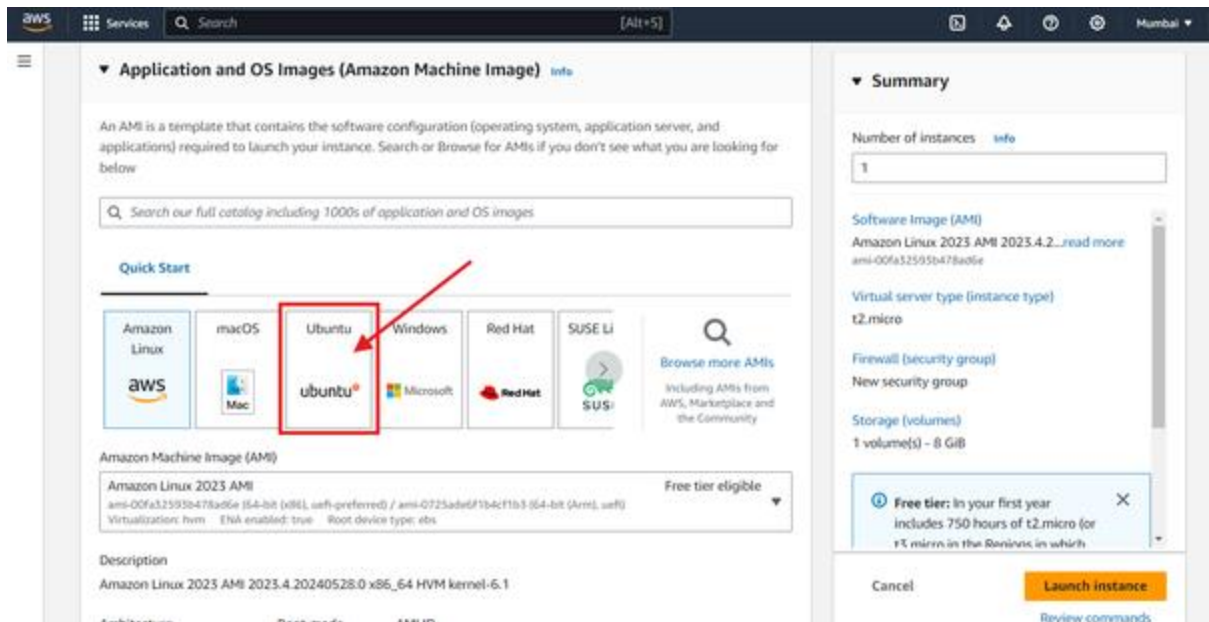
- Click on the "Launch Instance" button.



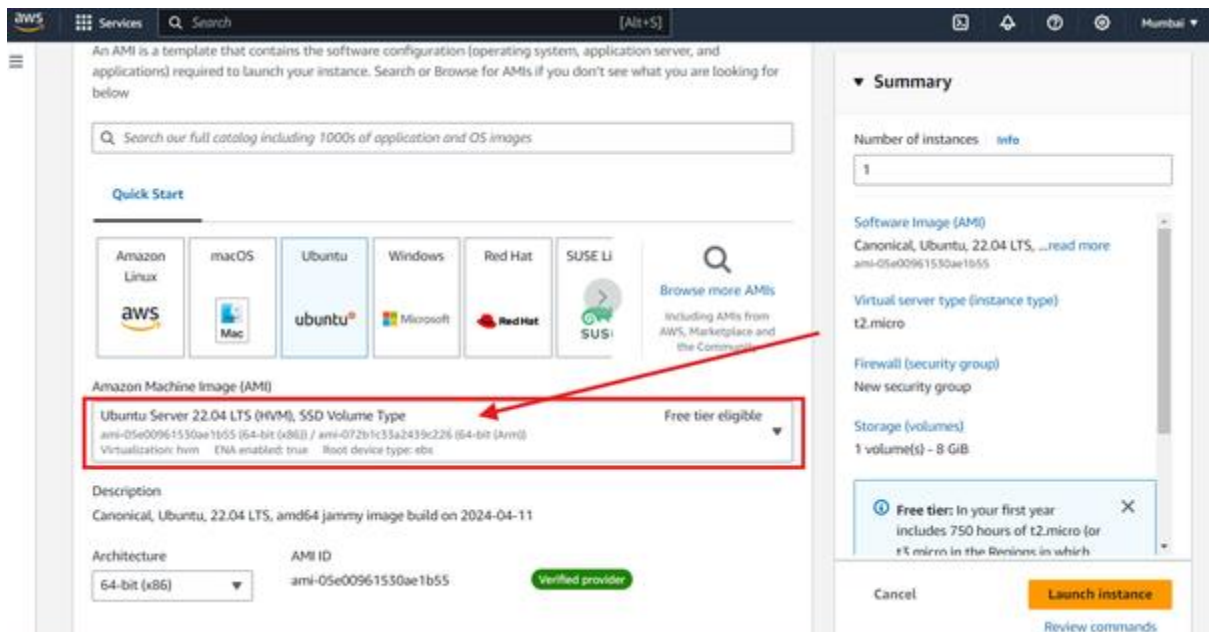
- Give the Name and tags.



- Choose an Amazon Machine Image (AMI):

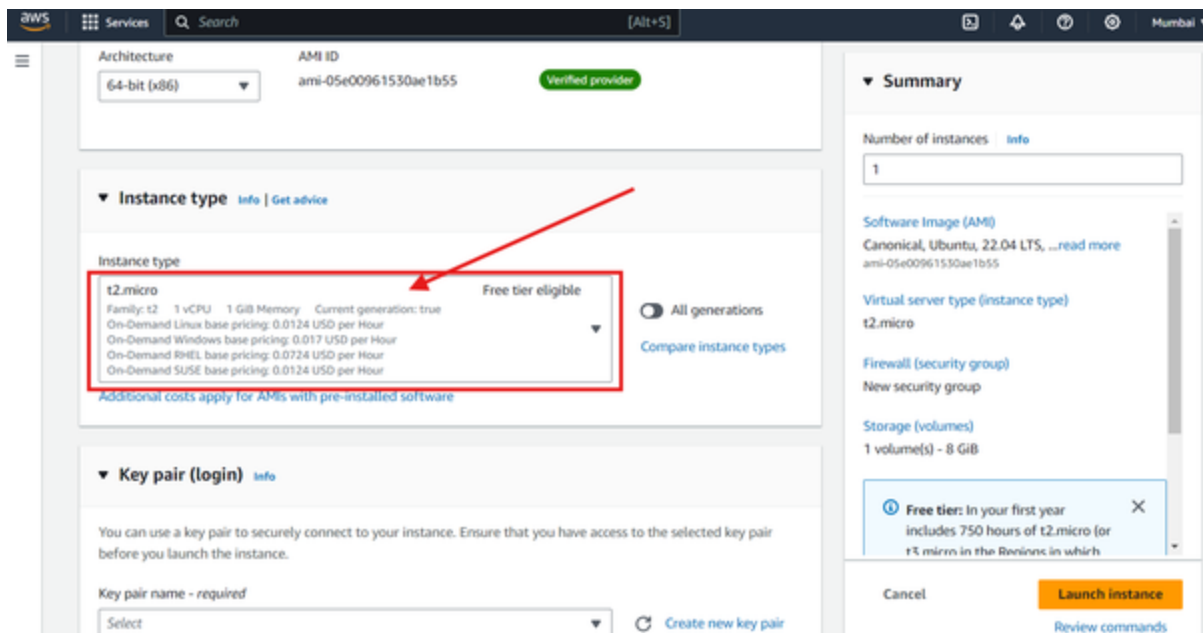


- Select an appropriate AMI



\*\*\* Choose an Instance Type:

- Select an instance type, such as `t2.micro`, which is free tier eligible.

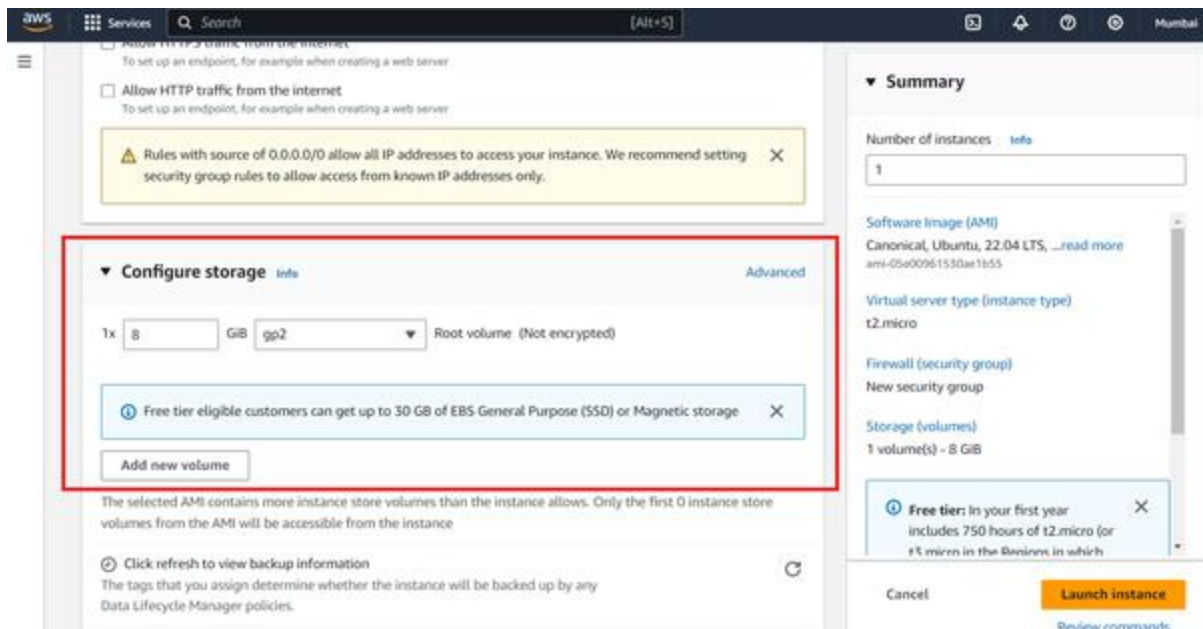


### \*\*\* Configure Instance Details:

- You can accept the default settings or configure as needed.

### \*\*\* Add Storage:

- You can accept the default settings or increase the size as needed.

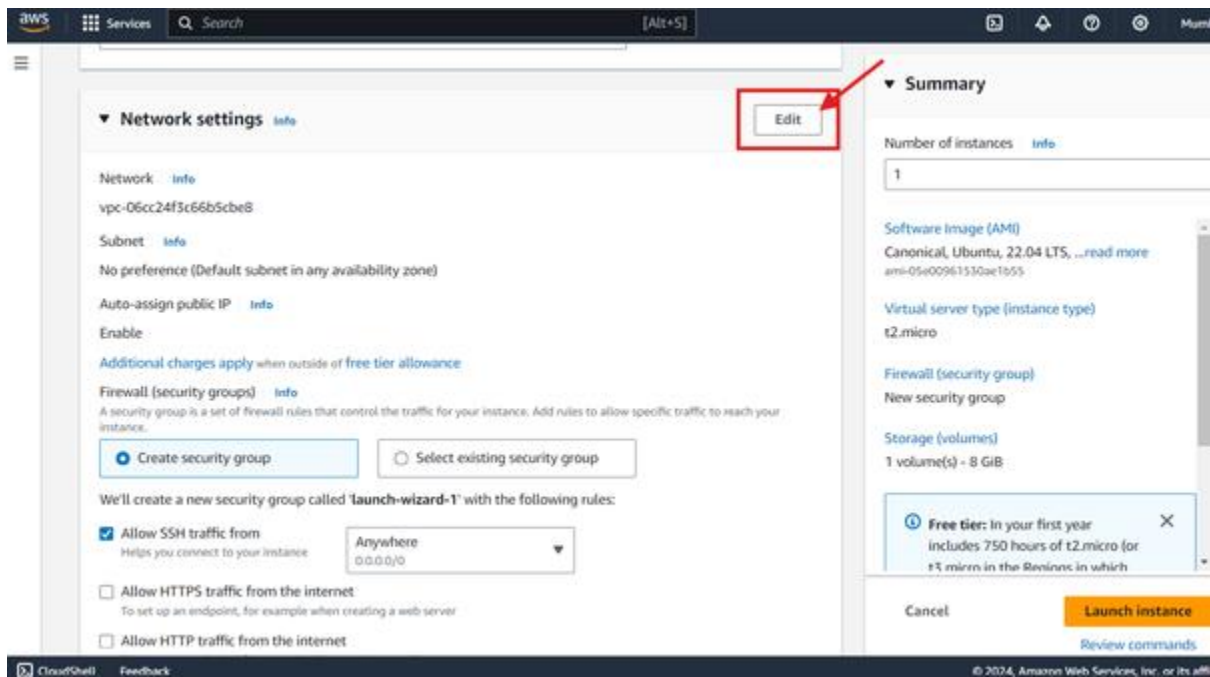


### \*\*\* Add Tags:

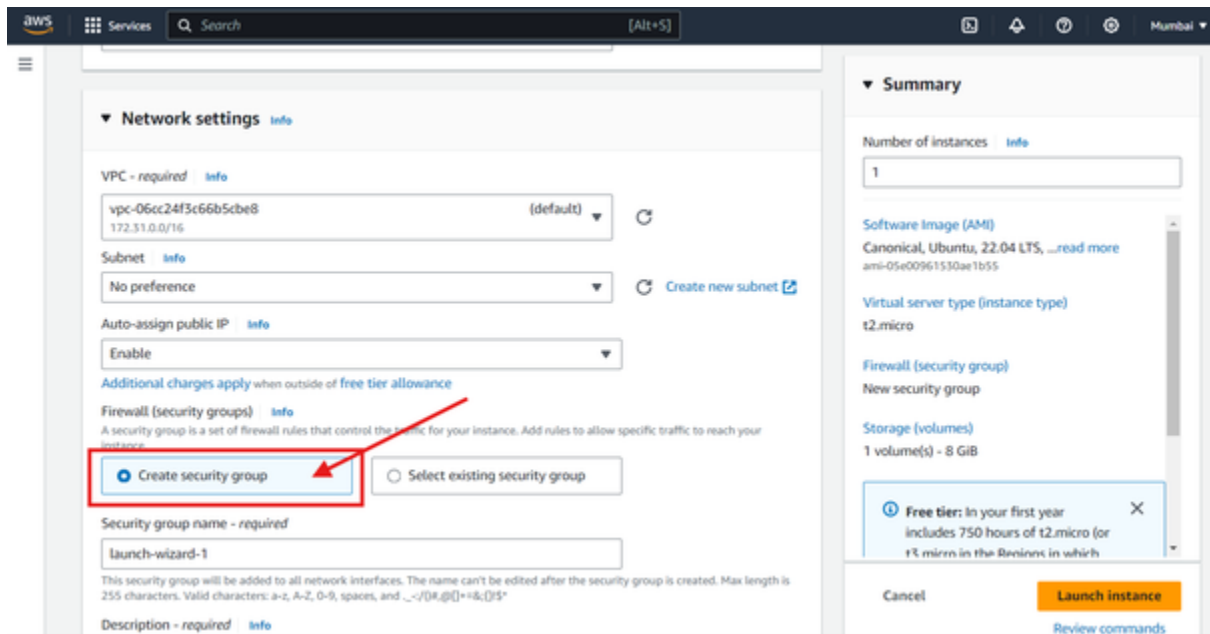
- Optionally add tags to your instance.

### \*\*\* Configure Security Group:

- Go to the Network Settings and Click on Edit option.



- Create a new security group.



- Give the Name of the Security Group





aws Services Search [Alt+S] Mumbai

On-demand SUSE base pricing: 0.0124 USD per Hour  
Additional costs apply for AMIs with pre-installed software

▼ 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.

Key pair name - required

Select

Create new key pair

▼ Network settings Info

VPC - required Info

vpc-06cc24f3c66b5cbe8 (default)

Subnet Info

No preference

Create new subnet

Auto-assign public IP Info

Enable

▼ Summary

Number of instances Info

1

Software image (AMI)

Canonical, Ubuntu, 22.04 LTS, ...read more  
ami-05e00961530ae1b55

Virtual server type (instance type)

t2.micro

Firewall (security group)

Test-SecurityGroup

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Region in which

Cancel Launch instance

Review commands

- Give the Name and Click on create key pair.



## Create key pair

Key pair name

Key pairs allow you to connect to your instance securely.

roydpankar\_key

The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type


☒ RSA  
RSA encrypted private and public key pair

☐ ED25519  
ED25519 encrypted private and public key pair

Private key file format

☒ .pem  
For use with OpenSSH

☐ .ppk  
For use with PuTTY

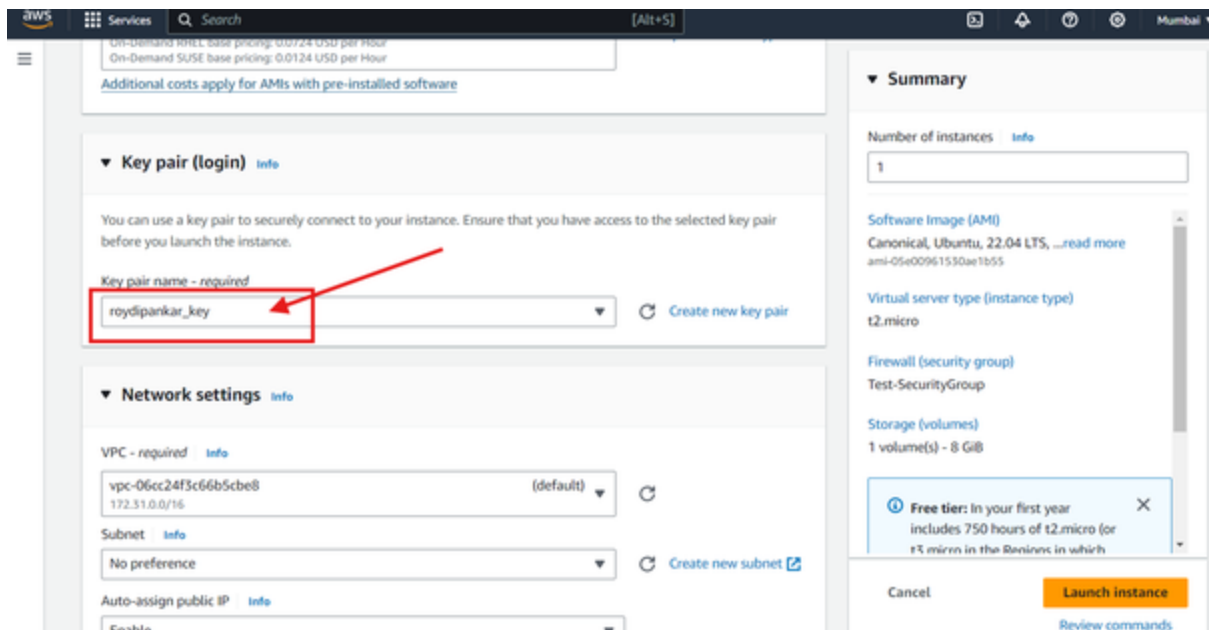
 When prompted, store the private key in a secure and accessible location on your computer. You will need it later to connect to your instance. [Learn more](#)

Cancel

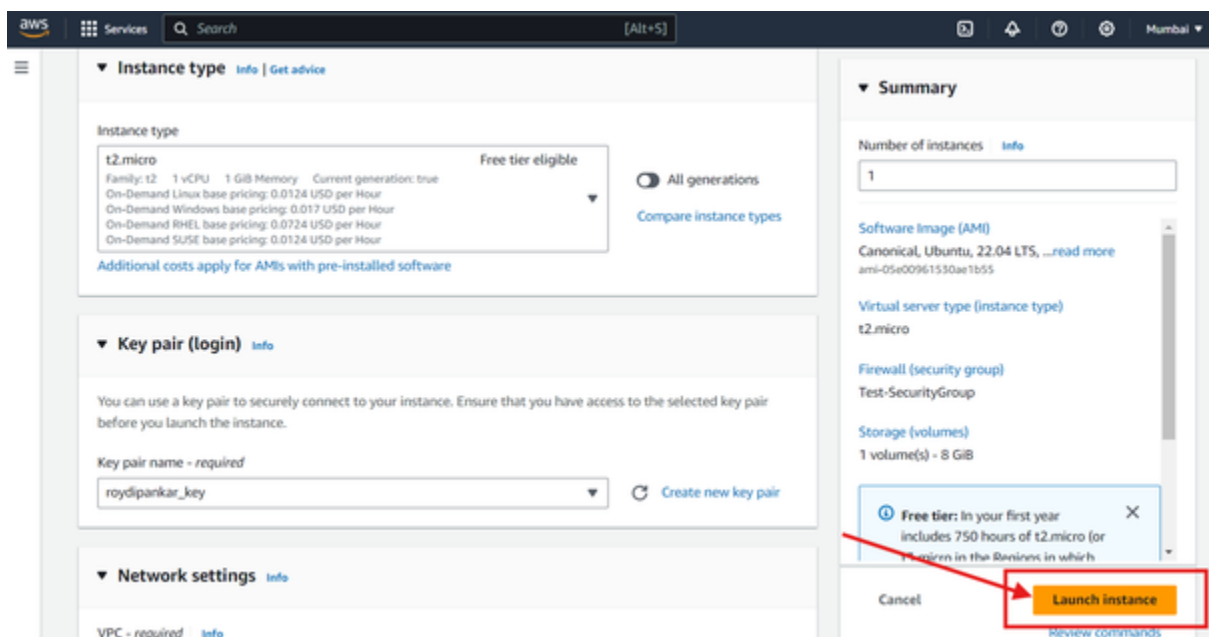
Create key pair

#### 4. Review and Launch:

- Review your settings and click "Launch".
- Select an existing key pair or create a new key pair, download it, and keep it secure.

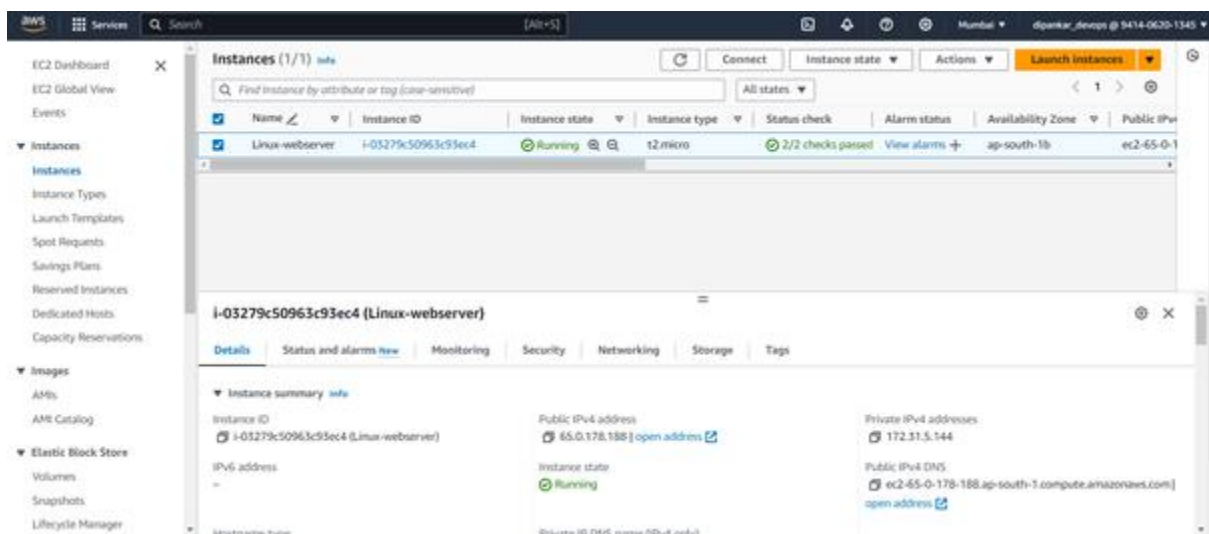
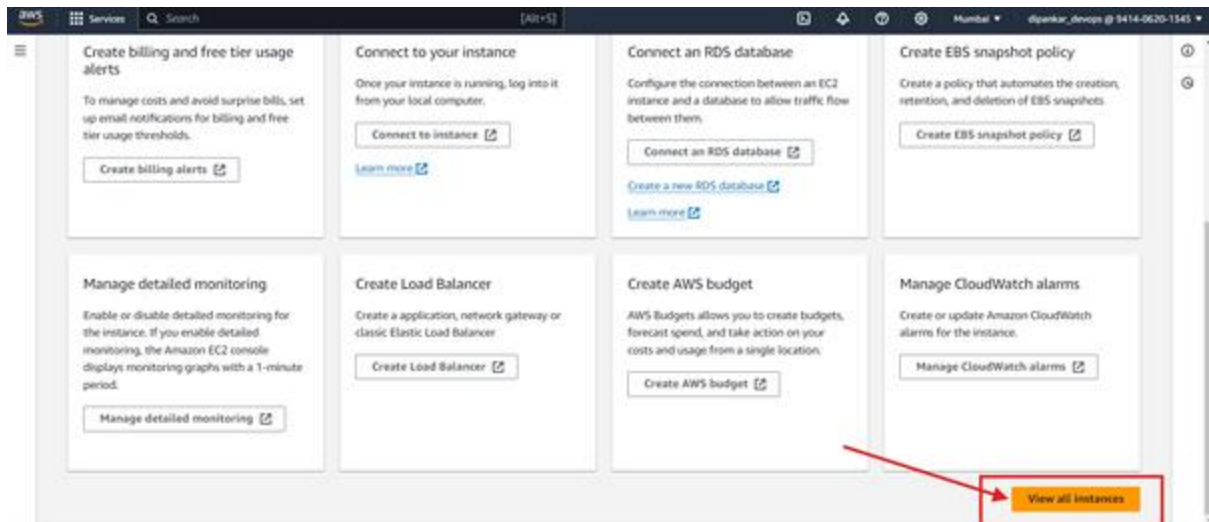


- Click "Launch Instances".



## 5. View Instances:

- Click "View all Instances" to see your running instances.



## ### Step 2: Connect to Your EC2 Instance

### 1. Open Terminal or Command Prompt:

- On your local machine, open the terminal (Linux/Mac) or Command Prompt (Windows).

### 2. Connect to the Instance:

- Navigate to the directory where your key pair file is located.
- Use the following command to connect to your instance (replace ``<key-pair-file>`` and ``<instance-public-dns>`` with your key file and instance's public DNS):

```
ssh -i <key-pair-file>.pem ec2-user@<instance-public-dns>
```

```
C:\Windows\System32\cmd.exe X + v
Microsoft Windows [Version 10.0.22631.3593]
(c) Microsoft Corporation. All rights reserved.

C:\Users\asus\Documents\Dipankar_Documents\AWS>ssh -i "roydipankar_key.pem" ubuntu@ec2-65-8-178-188.ap-south-1.compute.amazonaws.com
```

### ### Step 3: Install a Web Server (Apache)

1. Update the Package Index:

- Run the following command to update the package index:

`sudo yum update -y` →> [RHEL/Amazon Linux]

`sudo apt update -y` →> [Ubuntu]

```
ubuntu@ip-172-31-5-144:~$ sudo apt update -y
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease [128 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease [127 kB]
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [14.1 MB]
Get:5 http://security.ubuntu.com/ubuntu jammy-security InRelease [129 kB]
Get:6 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy/universe Translation-en [5652 kB]
Get:7 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 c-n-f Metadata [286 kB]
Get:8 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy/multiverse amd64 Packages [217 kB]
Get:9 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy/multiverse Translation-en [112 kB]
Get:10 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy/multiverse amd64 c-n-f Metadata [8372 B]
Get:11 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1686 kB]
Get:12 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main Translation-en [313 kB]
Get:13 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [1933 kB]
Get:14 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/restricted Translation-en [328 kB]
Get:15 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1076 kB]
Get:16 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en [247 kB]
Get:17 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 c-n-f Metadata [22.1 kB]
Get:18 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [42.7 kB]
Get:19 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse Translation-en [10.4 kB]
Get:20 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 c-n-f Metadata [472 B]
Get:21 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [67.1 kB]
Get:22 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main Translation-en [11.0 kB]
Get:23 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 c-n-f Metadata [388 B]
Get:24 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/restricted amd64 c-n-f Metadata [116 B]
Get:25 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [27.2 kB]
Get:26 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [16.2 kB]
Get:27 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 c-n-f Metadata [644 B]
Get:28 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-n-f Metadata [116 B]
Get:29 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [1475 kB]
Get:30 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [254 kB]
Get:31 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [1876 kB]
Get:32 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [318 kB]
Get:33 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [854 kB]
Get:34 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [165 kB]
Get:35 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [16.8 kB]
Get:36 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [37.2 kB]
Get:37 http://security.ubuntu.com/ubuntu jammy-security/multiverse Translation-en [7588 B]
```

2. Install Apache (httpd):

- Install Apache web server with the following command:

`sudo yum install httpd -y` →> [RHEL/Amazon Linux]

sudo apt install apache2 -y → [Ubuntu]

```
ubuntu@ip-172-31-5-144:~$  
ubuntu@ip-172-31-5-144:~$  
ubuntu@ip-172-31-5-144:~$  
ubuntu@ip-172-31-5-144:~$  
ubuntu@ip-172-31-5-144:~$ sudo apt install apache2 -y  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following additional packages will be installed:  
  apache2-bin apache2-data apache2-utils bzip2 libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap liblua5.3-0 mailcap mime-support ssl-cert  
Suggested packages:  
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser bzip2-doc  
The following NEW packages will be installed:  
  apache2 apache2-bin apache2-data apache2-utils bzip2 libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap liblua5.3-0 mailcap mime-support  
  ssl-cert  
0 upgraded, 13 newly installed, 0 to remove and 45 not upgraded.  
Need to get 2139 kB of archives.  
After this operation, 8521 kB of additional disk space will be used.  
Get:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libapr1 amd64 1.7.0-5ubuntu0.22.04.1 [108 kB]  
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libaprutil1 amd64 1.6.1-5ubuntu0.22.04.2 [92.8 kB]  
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libaprutil1-dbd-sqlite3 amd64 1.6.1-5ubuntu0.22.04.2 [11.3 kB]  
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libaprutil1-ldap amd64 1.6.1-5ubuntu0.22.04.2 [9170 B]  
Get:5 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 liblua5.3-0 amd64 5.3.6-1build1 [140 kB]  
Get:6 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 apache2-bin amd64 2.4.52-1ubuntu4.9 [1347 kB]  
Get:7 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 apache2-data all 2.4.52-1ubuntu4.9 [165 kB]  
Get:8 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 apache2-utils amd64 2.4.52-1ubuntu4.9 [88.7 kB]  
Get:9 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 mailcap all 3.70+nmu1ubuntu1 [23.8 kB]  
Get:10 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 mime-support all 3.66 [3696 B]  
Get:11 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 apache2 amd64 2.4.52-1ubuntu4.9 [97.9 kB]  
Get:12 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 bzip2 amd64 1.0.8-5build1 [34.8 kB]  
Get:13 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 ssl-cert all 1.1.2 [17.4 kB]  
Fetched 2139 kB in 0s (35.5 MB/s)  
Preconfiguring packages ...  
Selecting previously unselected package libapr1:amd64.  
(Reading database ... 68213 files and directories currently installed.)  
Preparing to unpack .../80-libapr1_1.7.0-5ubuntu0.22.04.1_amd64.deb ...  
Unpacking libapr1:amd64 (1.7.0-5ubuntu0.22.04.1) ...  
Selecting previously unselected package libaprutil1:amd64.
```

3. Start the Apache Service:

- Start Apache and ensure it starts on boot:

sudo systemctl start apache2

sudo systemctl enable apache2

sudo systemctl status apache2

```
ubuntu@ip-172-31-5-144:~$  
ubuntu@ip-172-31-5-144:~$  
ubuntu@ip-172-31-5-144:~$  
ubuntu@ip-172-31-5-144:~$  
ubuntu@ip-172-31-5-144:~$ sudo systemctl start apache2  
ubuntu@ip-172-31-5-144:~$  
ubuntu@ip-172-31-5-144:~$ sudo systemctl enable apache2  
Synchronizing state of apache2.service with SysV service script with /lib/systemd/systemd-sysv-install.  
Executing: /lib/systemd/systemd-sysv-install enable apache2  
ubuntu@ip-172-31-5-144:~$  
ubuntu@ip-172-31-5-144:~$ sudo systemctl status apache2  
● apache2.service - The Apache HTTP Server  
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)  
   Active: active (running) since Mon 2024-06-03 22:08:11 UTC; 5min ago  
     Docs: https://httpd.apache.org/docs/2.4/  
   Main PID: 2270 (apache2)  
     Tasks: 55 (limit: 1121)  
    Memory: 4.8M  
       CPU: 47ms  
    CGroup: /system.slice/apache2.service  
            └─2270 /usr/sbin/apache2 -k start  
              └─2272 /usr/sbin/apache2 -k start  
                └─2273 /usr/sbin/apache2 -k start  
  
Jun 03 22:08:11 ip-172-31-5-144 systemd[1]: Starting The Apache HTTP Server...  
Jun 03 22:08:11 ip-172-31-5-144 systemd[1]: Started The Apache HTTP Server.  
ubuntu@ip-172-31-5-144:~$
```



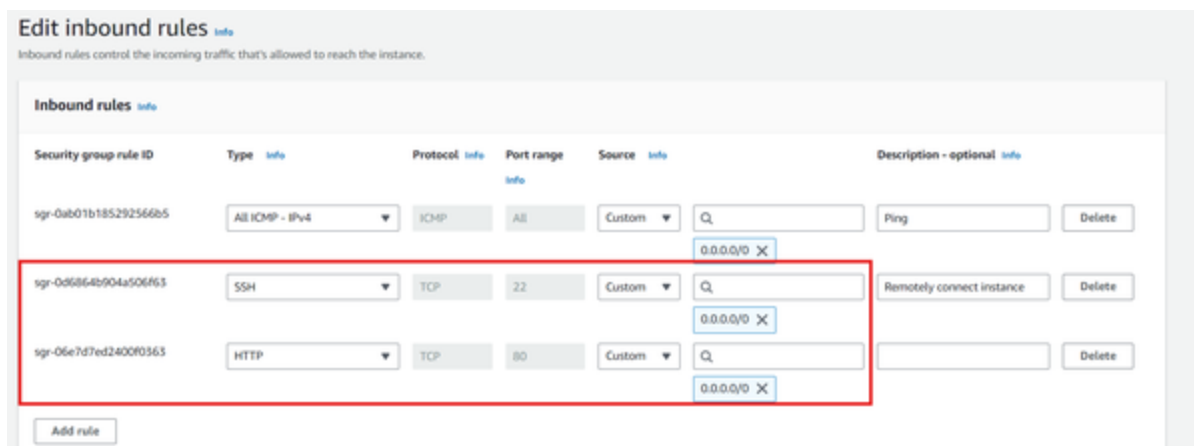
### ### Step 4: Configure Security Group (If Not Done During Launch)

1. Navigate to Security Groups:

- In the EC2 Dashboard, click on "Security Groups" in the left-hand menu.

2. Edit Inbound Rules:

- Select your instance's security group and click on the "Inbound rules" tab.
- Ensure that there are rules for HTTP (port 80) and SSH (port 22).



### ### Step 5: Host a Web Page

1. Create a Web Page:

- Create a simple HTML file in the Apache web root directory:

```
cd /var/www/html
```

```
touch index.html
```

```
echo "Hellow Apache in AWS Instance" > /var/www/html/index.html
```

```
root@ip-172-31-5-144:~# cd /var/www/html/
root@ip-172-31-5-144:/var/www/html# ls
root@ip-172-31-5-144:/var/www/html#
root@ip-172-31-5-144:/var/www/html# touch index.html
root@ip-172-31-5-144:/var/www/html#
root@ip-172-31-5-144:/var/www/html# echo "Hellow Apache in AWS Instance" > /var/www/html/index.html
root@ip-172-31-5-144:/var/www/html# cat index.html
Hellow Apache in AWS Instance
root@ip-172-31-5-144:/var/www/html#
```



## 2. Restart Apache:

- Restart Apache to ensure it picks up the new page:

```
sudo systemctl restart apache2
```

```
sudo systemctl status apache2
```

```
root@ip-172-31-5-144:~#
root@ip-172-31-5-144:~#
root@ip-172-31-5-144:~# sudo systemctl restart apache2
root@ip-172-31-5-144:~#
root@ip-172-31-5-144:~#
root@ip-172-31-5-144:~# sudo systemctl status apache2
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
   Active: active (running) since Mon 2024-06-03 22:36:09 UTC; 11s ago
     Docs: https://httpd.apache.org/docs/2.4/
   Process: 2853 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
  Main PID: 2859 (apache2)
    Tasks: 55 (limit: 1121)
   Memory: 4.8M
      CPU: 26ms
   CGroup: /system.slice/apache2.service
           └─2859 /usr/sbin/apache2 -k start
             └─2860 /usr/sbin/apache2 -k start
               └─2861 /usr/sbin/apache2 -k start

Jun 03 22:36:09 ip-172-31-5-144 systemd[1]: Starting The Apache HTTP Server...
Jun 03 22:36:09 ip-172-31-5-144 systemd[1]: Started The Apache HTTP Server.
root@ip-172-31-5-144:~#
```

## 3. Verify the Web Page:

- Open a web browser and navigate to your instance's public DNS or IP address. You should see the "Hellow Apache in AWS Instance" message.



### ### Conclusion

You've successfully launched a Linux server in AWS, configured it as a web server, and hosted a simple web page. You can now start developing and deploying your web applications on this server. Remember to manage your server responsibly, including monitoring performance, applying security updates, and optimizing configurations as needed.