

Practical 1: Infrastructure as a Service using AWS

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Roll No. A074

Steps for Ubuntu Instance

1. Log in to AWS Management Console:

- Go to [AWS Management Console](#).
- Sign in with your credentials.



Sign in

☒ Root user

Account owner that performs tasks requiring unrestricted access. [Learn more](#)

☐ IAM user

User within an account that performs daily tasks. [Learn more](#)

Root user email address

username@example.com

Next

By continuing, you agree to the [AWS Customer Agreement](#) or other agreement for AWS services, and the [Privacy Notice](#). This site uses essential cookies. See our [Cookie Notice](#) for more information.

New to AWS?

Create a new AWS account

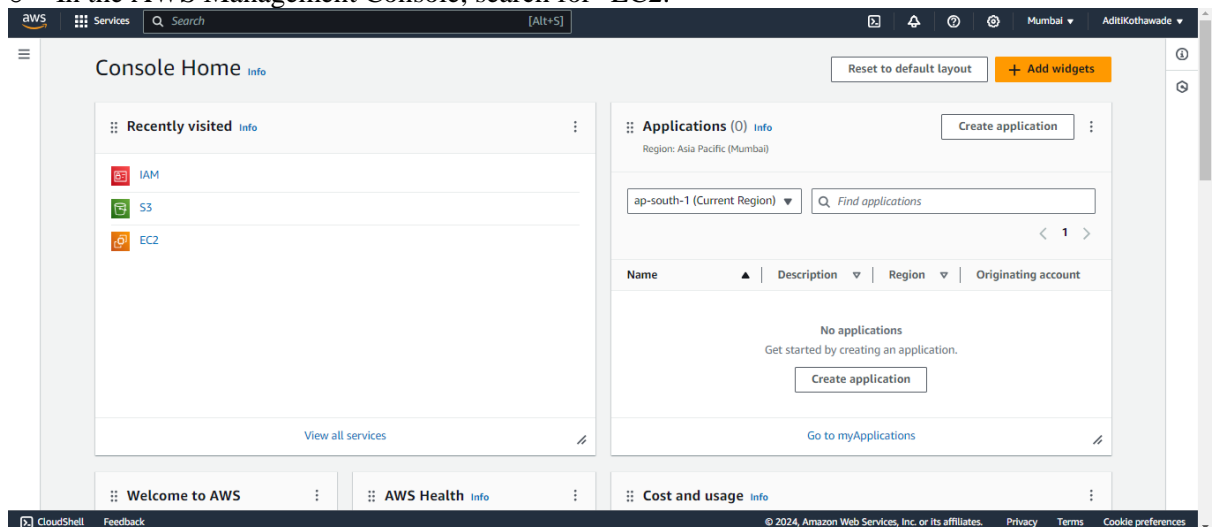
Try analytics services for free

AWS is the fastest way to get answers from all your data to all your users

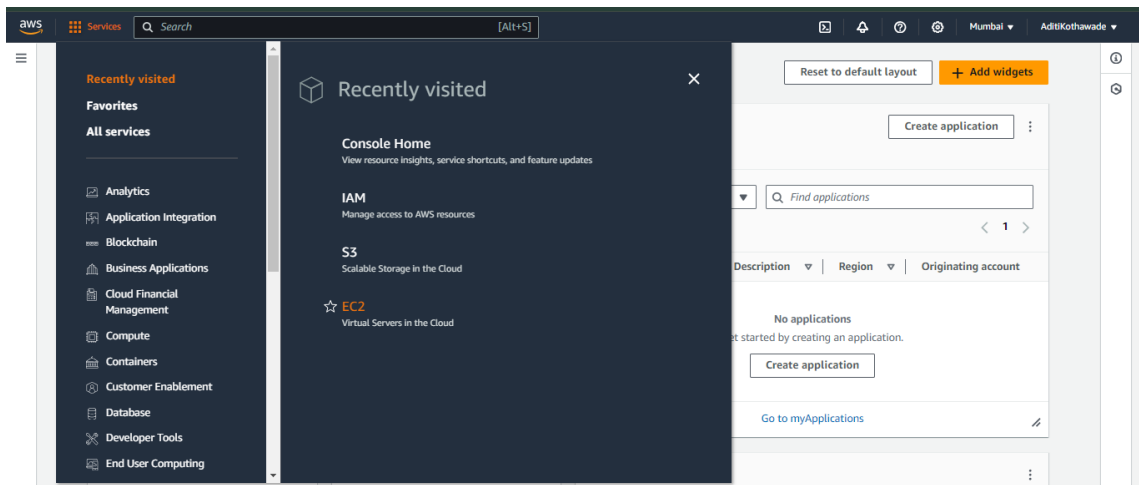
[Learn more >](#)

2. Navigate to EC2 Dashboard:

- In the AWS Management Console, search for "EC2."

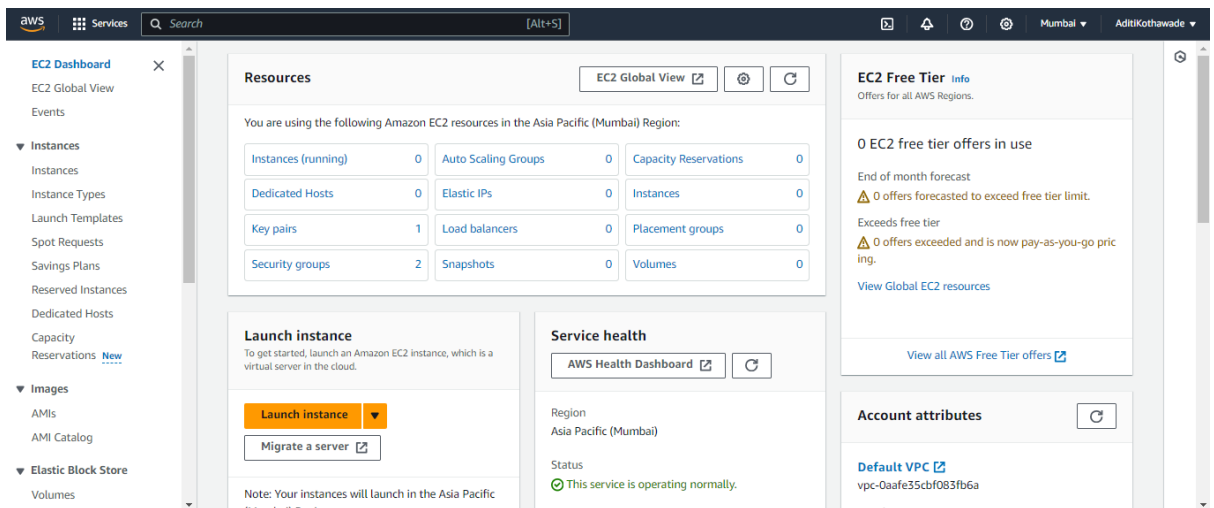


- Click on "EC2" to open the EC2 Dashboard.

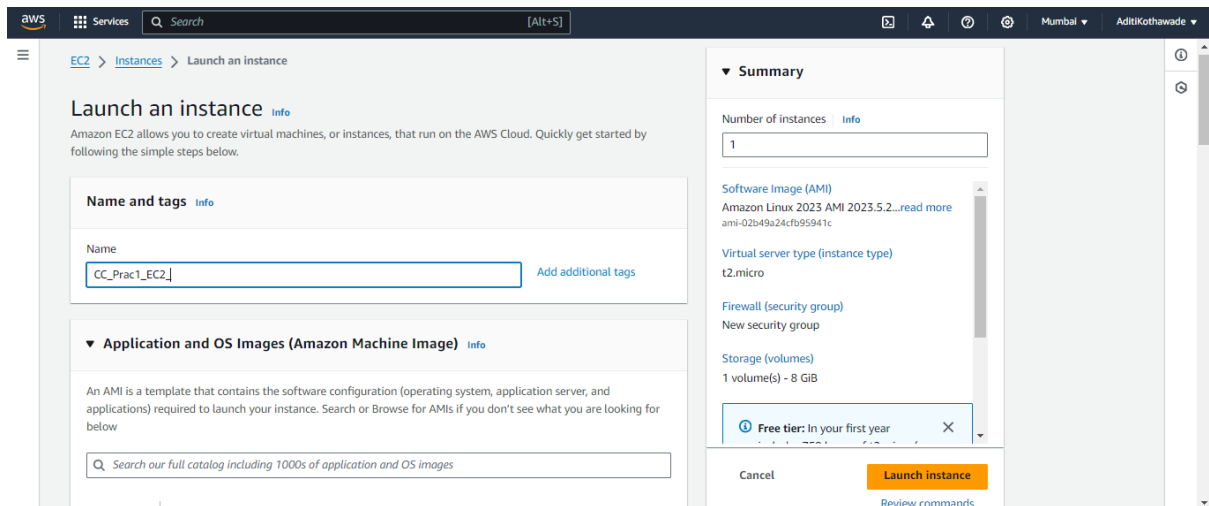


3. Launch Instance:

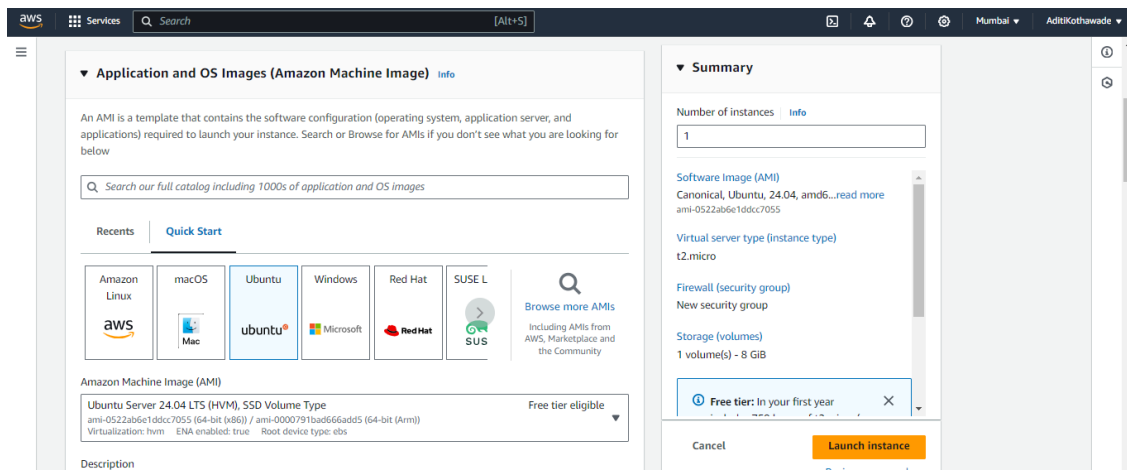
- Click on “Launch Instance” from the EC2 Dashboard.



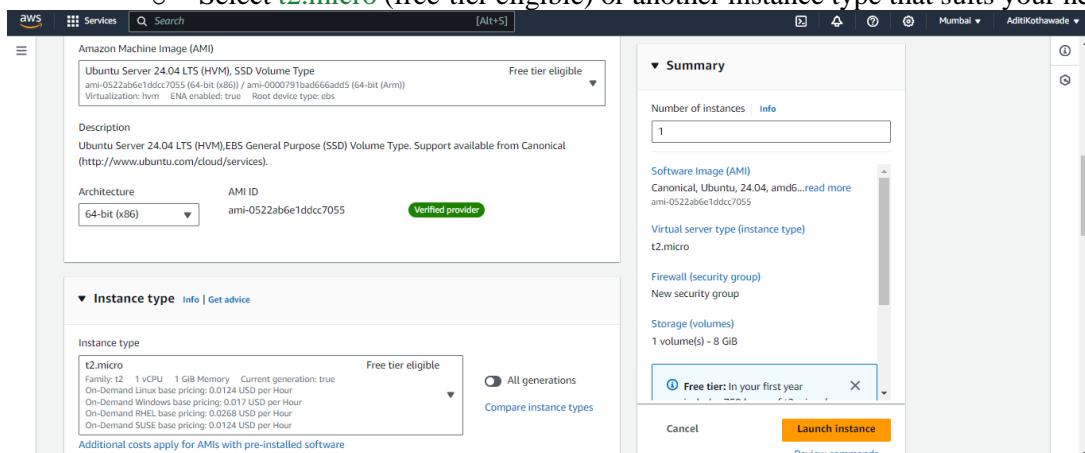
- After clicking on “Launch Instance” this interface will appear.
- Write the name of the Instance you want to create



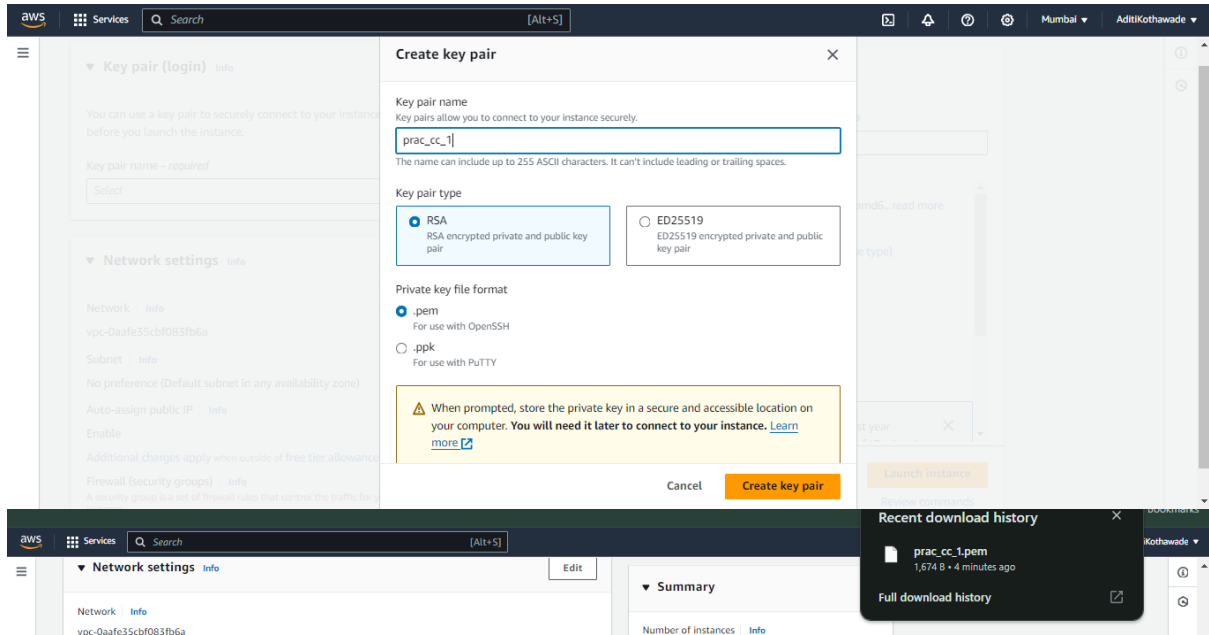
4. **Choose an Amazon Machine Image (AMI):**
 - Select an Ubuntu AMI, such as "Ubuntu Server 22.04 LTS."
 - Ubuntu is a popular choice for Linux-based operations.



5. **Choose an Instance Type:**
 - Select **t2.micro** (free-tier eligible) or another instance type that suits your needs.

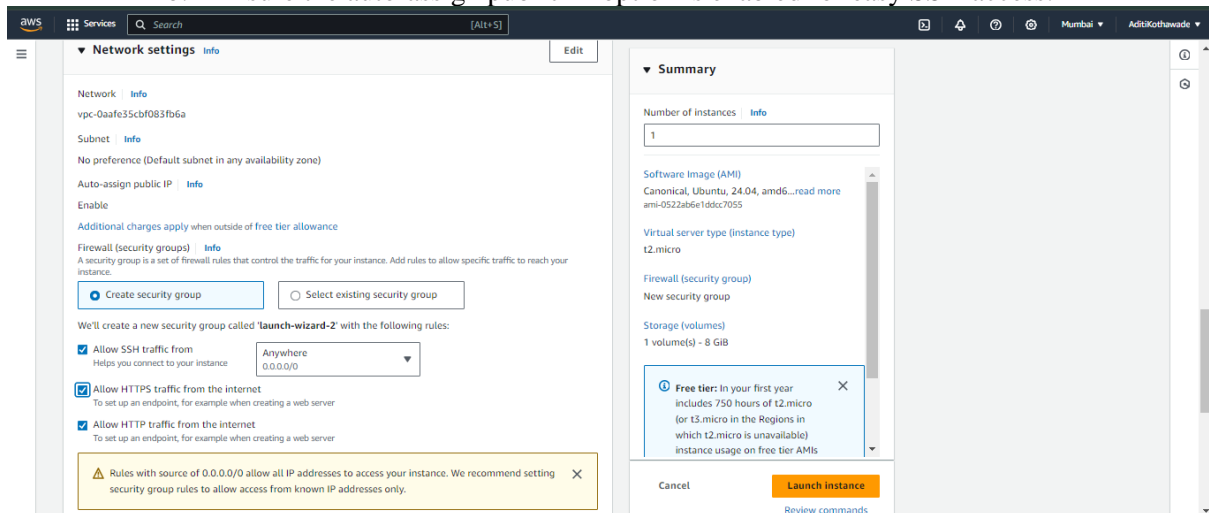


6. **Create a new key pair**
 - Click on create key pair button by selecting RSA, .pem
 - Create or select an existing key pair. Download the private key (.pem file).



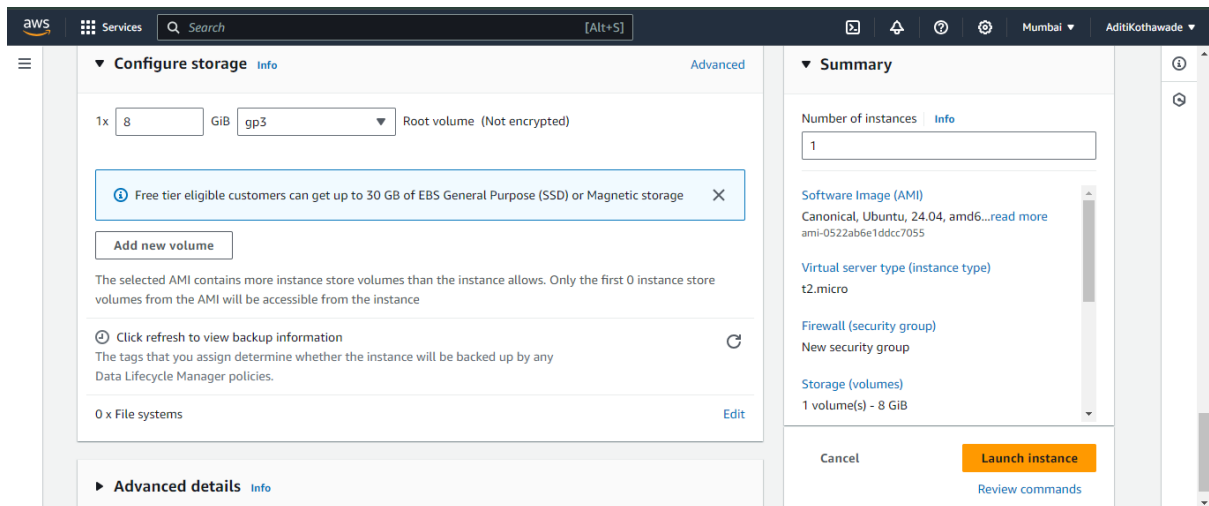
7. Configure Instance Details:

- Keep most settings as default unless you need specific configurations.
- Ensure the auto-assign public IP option is enabled for easy SSH access.



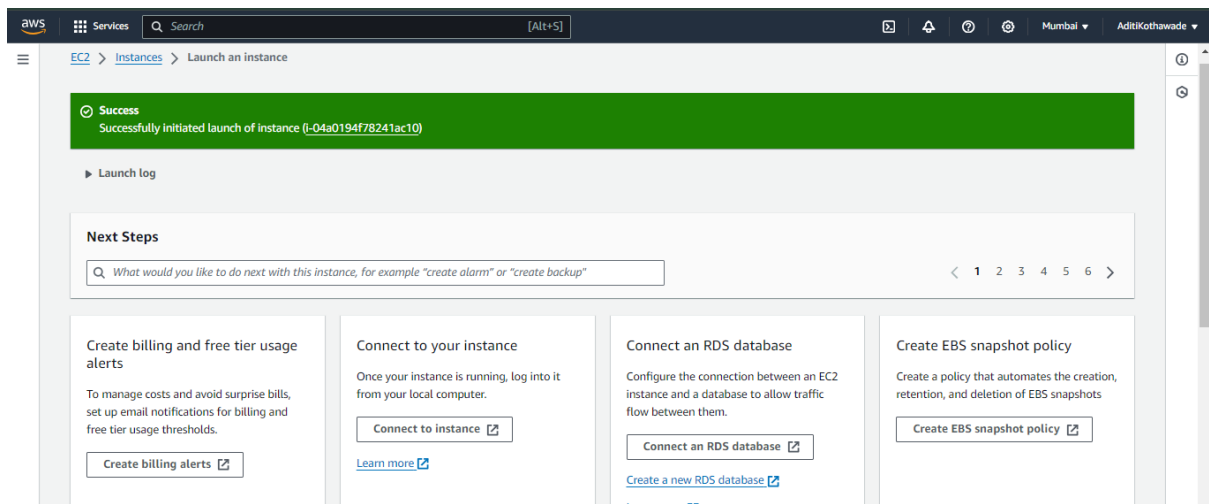
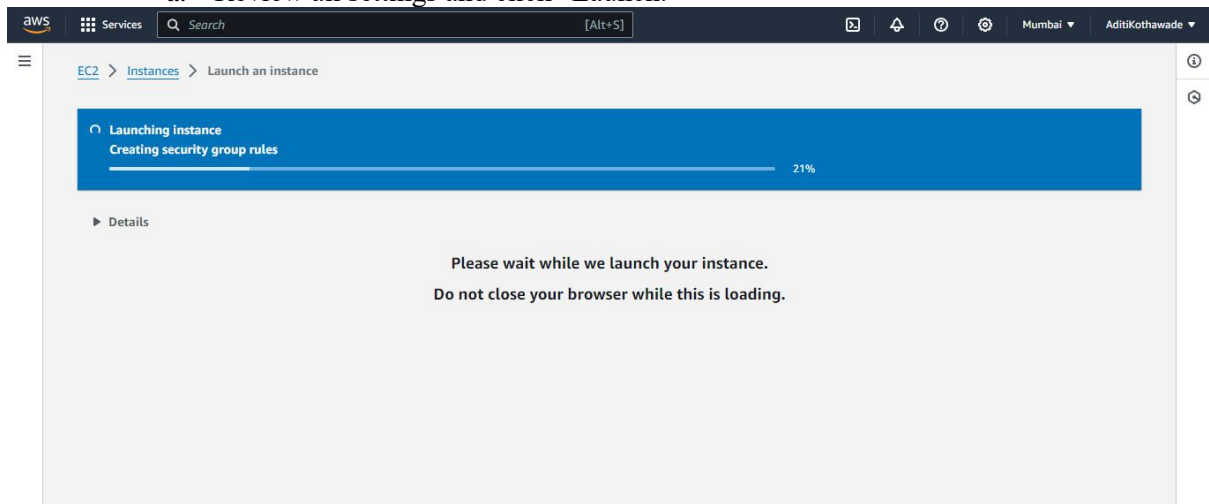
8. Configure Security Group:

- Create or select a security group.
- Add an inbound rule to allow SSH traffic (port 22) from your IP address.
- Allow HTTPS traffic from the internet



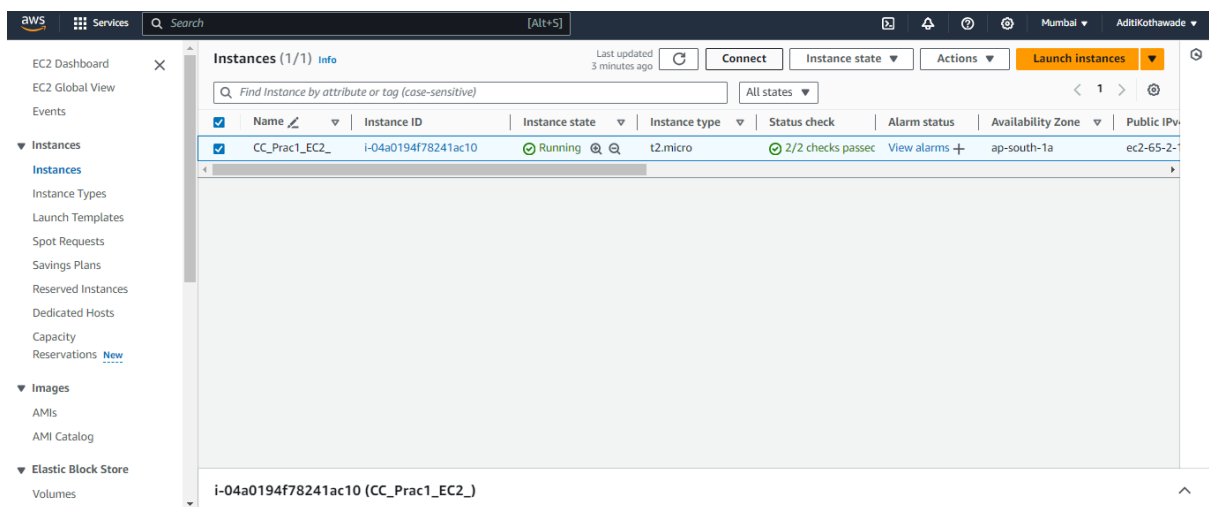
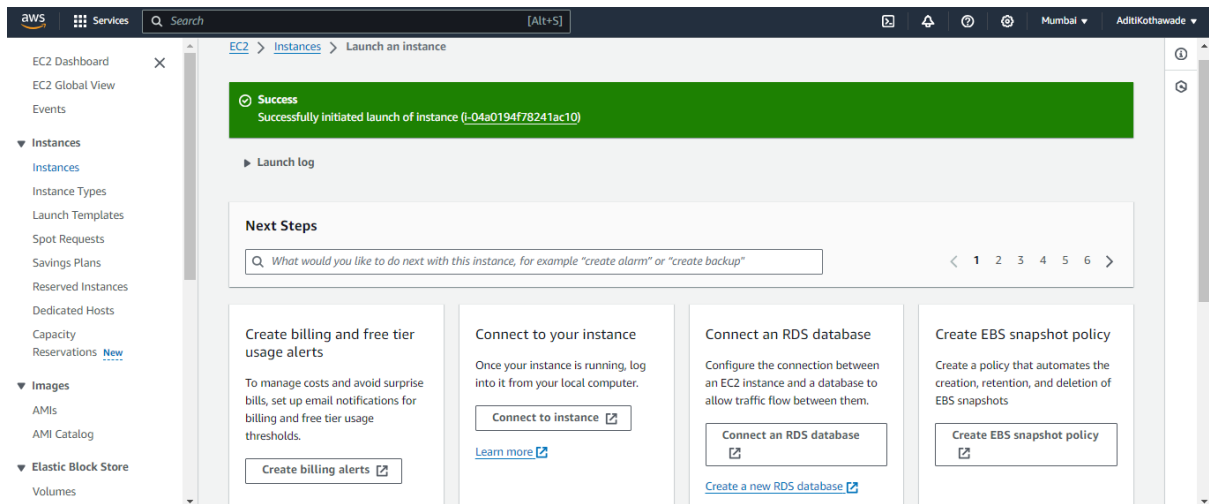
9. Review and Launch:

a. Review all settings and click “Launch.”



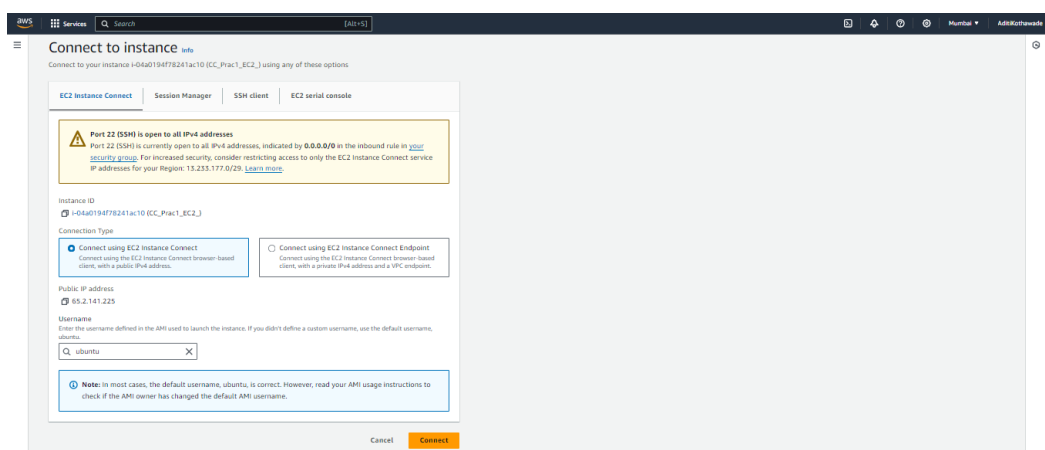
10. Connect to Your Ubuntu Instance:

a. Once the instance is running, click “Connect.”



11. Once you click on connect this interface will appear.

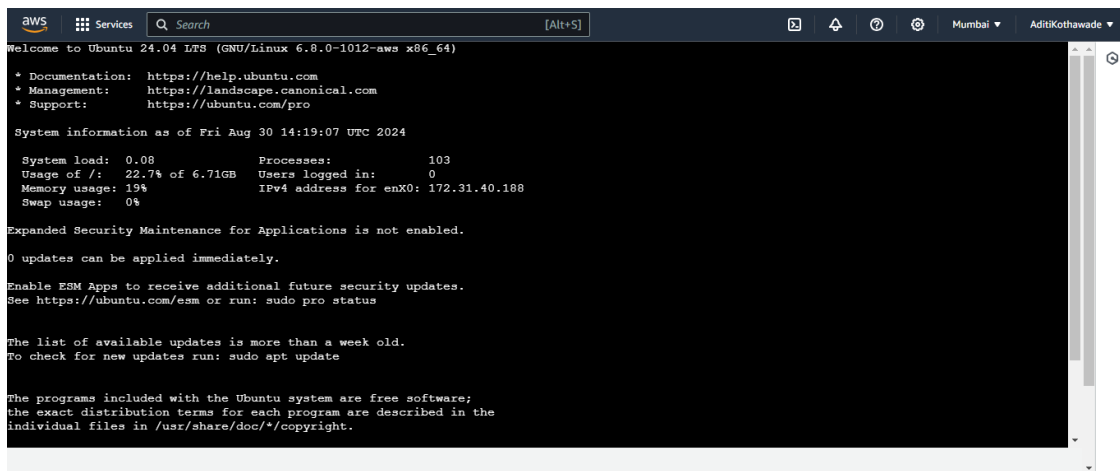
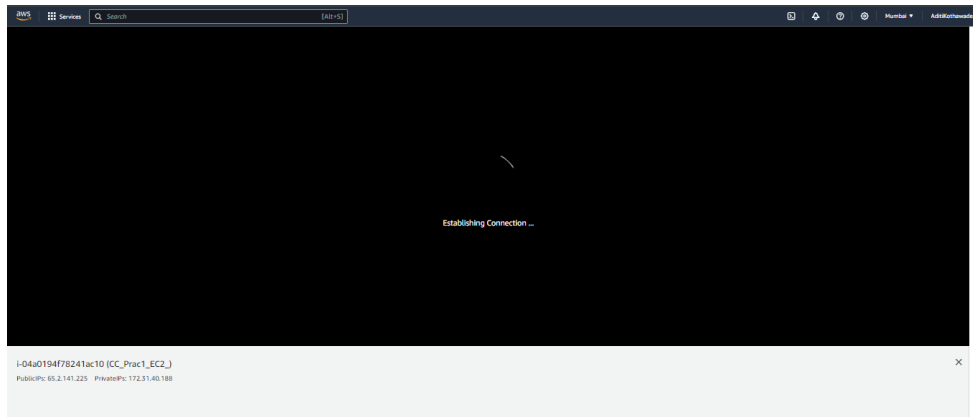
a. Click on “connect using EC2 instance connect”



12. Ubuntu interface will appear

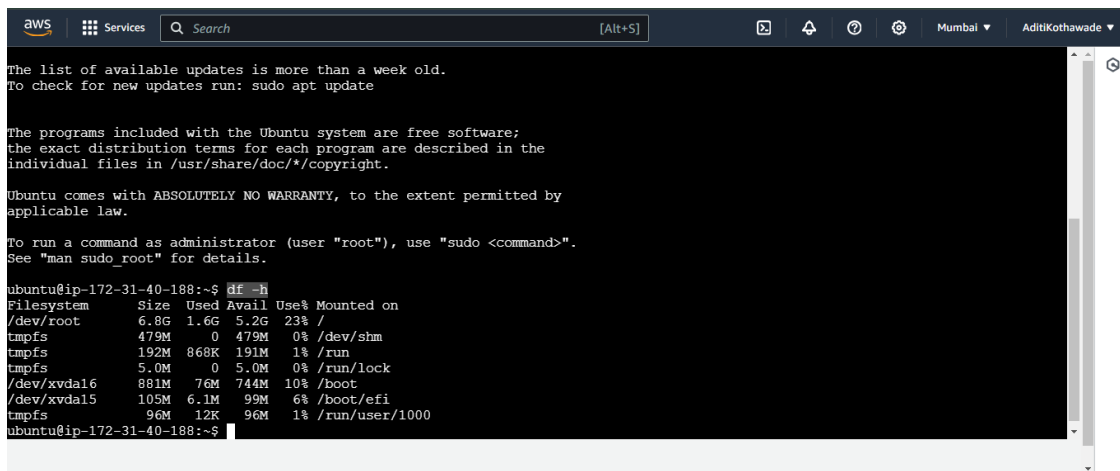
a. Now you are ready to code on ubuntu.

b. We will write 5 code on ubuntu



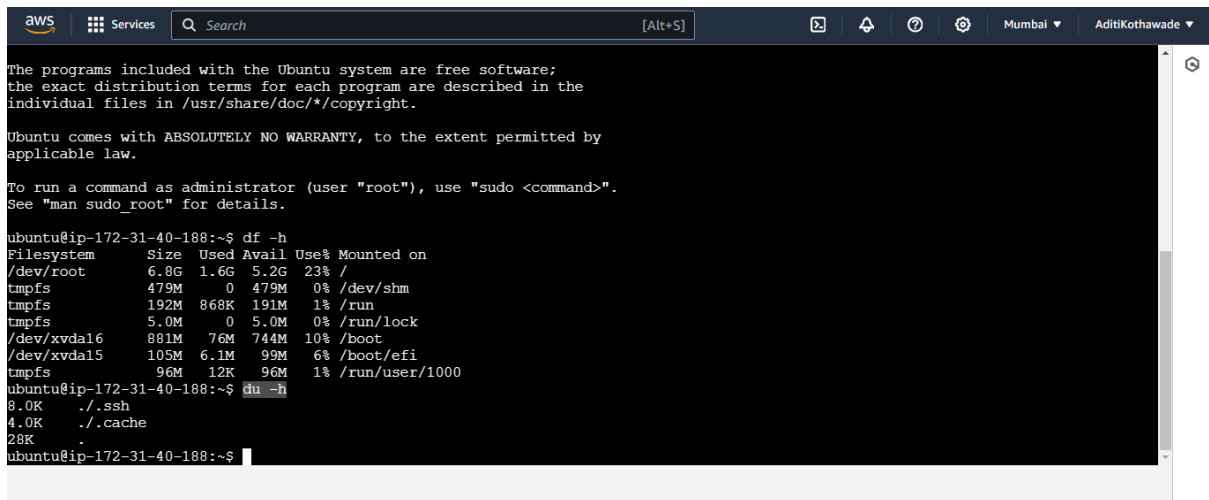
13. df -h

The **df -h** command in Linux is used to display information about disk space usage in a human-readable format.



14. du -h

The **du -h** command in Linux is used to display the disk usage of files and directories in a human-readable format.



```
aws Services Search [Alt+S] Mumbai AditiKothawade
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.

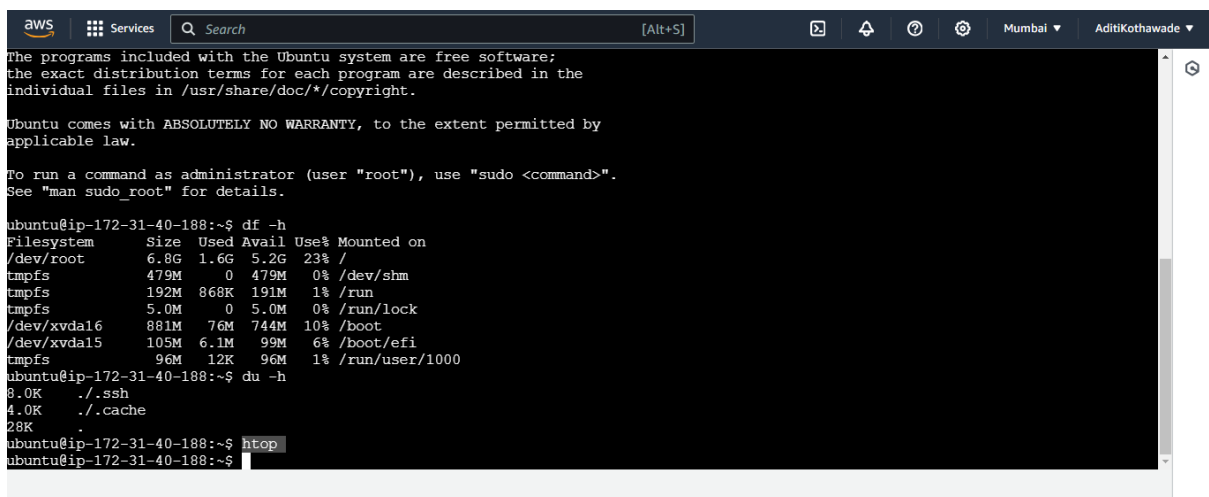
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

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

ubuntu@ip-172-31-40-188:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/root        6.8G  1.6G  5.2G   23% /
tmpfs            479M   0  479M    0% /dev/shm
tmpfs            192M  868K  191M    1% /run
tmpfs            5.0M   0   5.0M    0% /run/lock
/dev/xvda16      881M   76M  744M   10% /boot
/dev/xvda15      105M   6.1M   99M    6% /boot/efi
tmpfs            96M   12K   96M    1% /run/user/1000
ubuntu@ip-172-31-40-188:~$ du -h
8.0K    ./ssh
4.0K    ./cache
28K     .
ubuntu@ip-172-31-40-188:~$
```

15. htop

1. **htop** is an interactive process viewer for Unix systems (like Linux). It provides a dynamic, real-time view of the running processes on your system, similar to what **top** does but with a more user-friendly and visually appealing interface.
2. **htop** is a powerful and convenient tool for monitoring system performance and managing processes on Unix-like operating systems.



```
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/dev/xvda15      105M   6.1M   99M    6% /boot/efi
tmpfs            96M   12K   96M    1% /run/user/1000
ubuntu@ip-172-31-40-188:~$ du -h
8.0K    ./ssh
4.0K    ./cache
28K     .
ubuntu@ip-172-31-40-188:~$ htop
ubuntu@ip-172-31-40-188:~$
```

After running the code **htop** you will see this interface.


```
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CPU 0.0% Tasks: 29, 36 thr,
73Mem 149M/957M Load average: 0.00
0.0Swp OK/OK Uptime: 00:10:40

Main I/O
PID USER PRI NI VIRT RES SHR S CPU% MEM% TIME+ Command
1506 ubuntu 20 0 9024 4864 3584 R 0.7 0.5 0:00.03 htop
1 root 20 0 22520 13492 9524 S 0.0 1.4 0:04.34 /sbin/init
121 root 19 -1 50500 13832 12808 S 0.0 1.4 0:00.57 /usr/lib/systemd/systemd-journald
181 root RT 0 282M 27136 8704 S 0.0 2.8 0:00.02 /sbin/multipathd -d -s
192 root 20 0 26476 8140 5068 S 0.0 0.8 0:00.30 /usr/lib/systemd/systemd-udev
193 root 20 0 282M 27136 8704 S 0.0 2.8 0:00.00 /sbin/multipathd -d -s
194 root RT 0 282M 27136 8704 S 0.0 2.8 0:00.00 /sbin/multipathd -d -s
195 root RT 0 282M 27136 8704 S 0.0 2.8 0:00.00 /sbin/multipathd -d -s
196 root RT 0 282M 27136 8704 S 0.0 2.8 0:00.00 /sbin/multipathd -d -s
197 root RT 0 282M 27136 8704 S 0.0 2.8 0:00.03 /sbin/multipathd -d -s
198 root RT 0 282M 27136 8704 S 0.0 2.8 0:00.00 /sbin/multipathd -d -s
325 systemd-re 20 0 21584 12928 10624 S 0.0 1.3 0:00.11 /usr/lib/systemd/systemd-resolved
499 systemd-ne 20 0 22396 9856 8704 S 0.0 1.0 0:00.04 /usr/lib/systemd/systemd-networkd
558 root 20 0 2720 1920 1792 S 0.0 0.2 0:00.00 /usr/sbin/acpid
562 root 20 0 7224 2688 2432 S 0.0 0.3 0:00.00 /usr/sbin/cron -f -P
563 messagebus 20 0 9788 5376 4608 S 0.0 0.5 0:00.07 @dbus-daemon --system --address=systemd: --nofork --nopidfile -
-sys572 root 20 0 32456 20608 10496 S 0.0 2.1 0:00.09 /usr/bin/python3 /usr/bin/networkd-dispatcher --run-startup-tri
gger578 polkitd 20 0 374M 9600 7552 S 0.0 1.0 0:00.06 /usr/lib/polkit-1/polkitd --no-debug
```

16. free -h

The `free -h` command in Linux is used to display the system's memory usage, including RAM and swap space, in a human-readable format.

```
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To run a command as administrator (user "root"), use "sudo <command>".
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ubuntu@ip-172-31-40-188:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
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tmpfs            192M  868K  191M   1% /run
tmpfs             5.0M   0   5.0M   0% /run/lock
/dev/xvda16      881M   76M  744M  10% /boot
/dev/xvda15      105M   6.1M   99M   6% /boot/efi
tmpfs            96M   12K   96M   1% /run/user/1000

ubuntu@ip-172-31-40-188:~$ du -h
8.0K  ./ssh
4.0K  ./cache
28K  .

ubuntu@ip-172-31-40-188:~$ htop
ubuntu@ip-172-31-40-188:~$ free -h
              total        used        free      shared  buff/cache   available
Mem:           957Mi       300Mi       509Mi       880Ki       299Mi       657Mi
Swap:            0B           0B           0B
```

17. hostname

The `hostname` command in Linux is used to display or set the system's hostname, which is the name assigned to the machine on a network.

```
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To run a command as administrator (user "root"), use "sudo <command>".
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tmpfs            5.0M   0   5.0M   0% /run/lock
/dev/xvda16      881M   76M  744M  10% /boot
/dev/xvda15      105M   6.1M   99M   6% /boot/efi
tmpfs            96M   12K   96M   1% /run/user/1000
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8.0K  ./ssh
4.0K  ./cache
28K  .
ubuntu@ip-172-31-40-188:~$ htop
ubuntu@ip-172-31-40-188:~$ free -h
              total        used        free      shared  buff/cache   available
Mem:           957Mi       300Mi       509Mi       880Ki       299Mi       657Mi
Swap:            0B           0B           0B
ubuntu@ip-172-31-40-188:~$ hostname
ip-172-31-40-188
ubuntu@ip-172-31-40-188:~$
```

Exit

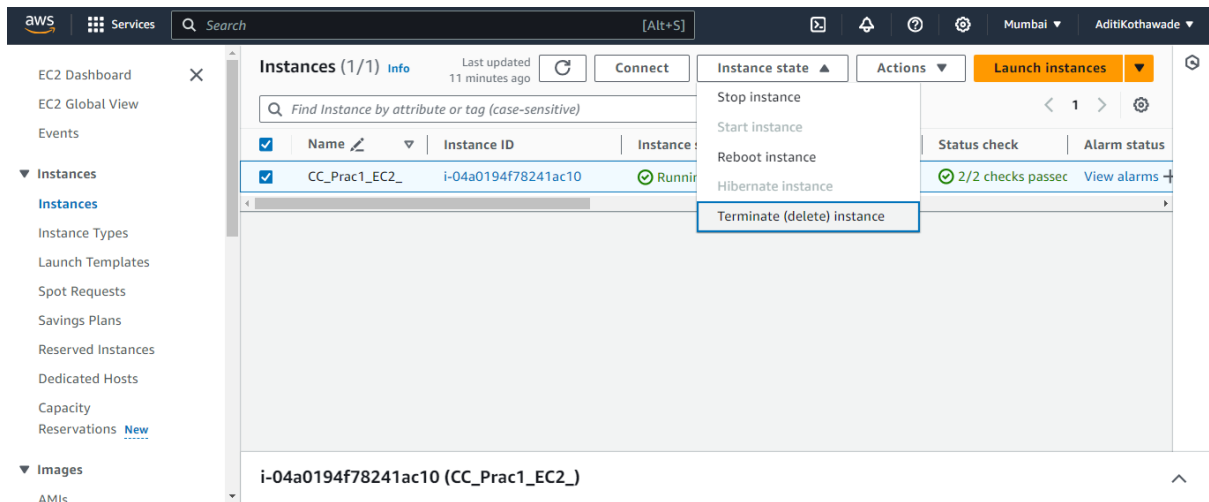
```
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See "man sudo_root" for details.

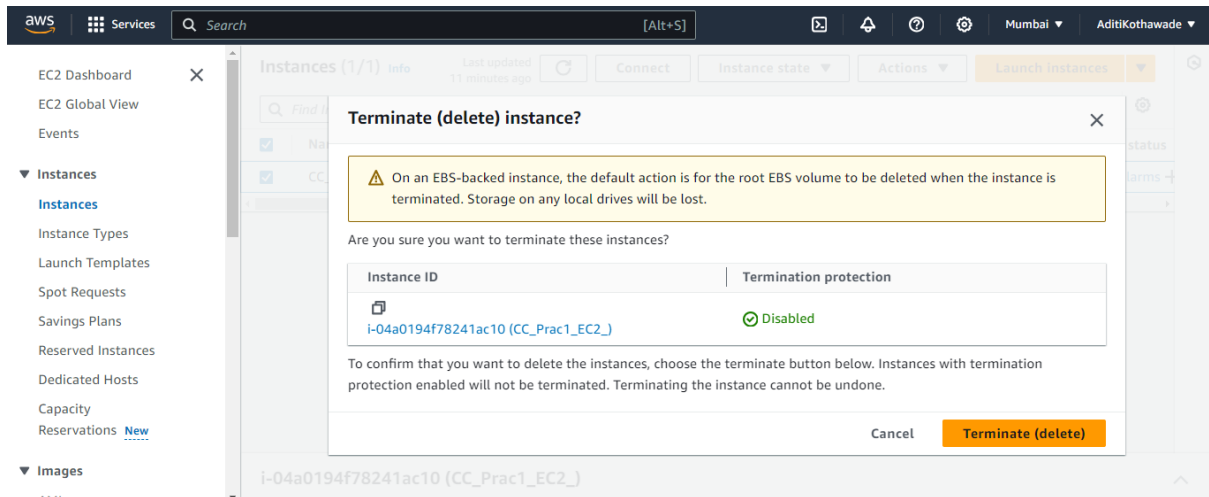
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ubuntu@ip-172-31-40-188:~$ du -h
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ubuntu@ip-172-31-40-188:~$ free -h
              total        used        free      shared  buff/cache   available
Mem:           957Mi       300Mi       509Mi       880Ki       299Mi       657Mi
Swap:            0B           0B           0B
ubuntu@ip-172-31-40-188:~$ hostname
ip-172-31-40-188
ubuntu@ip-172-31-40-188:~$ exit
logout
```

18. View Running Instances:

- In the EC2 Dashboard, click on "Instances" in the left-hand menu under the "Instances" section.
- Select the instance you want to terminate & Click the checkbox next to the instance to select it.
- With the instance selected, click the "Instance state" dropdown button at the top.
- Choose "Terminate instance" from the dropdown menu.



- **Confirm Termination**



19. Wait for Termination:

- The instance state will change to "shutting-down" and then to "terminated."
- Once terminated, the instance will no longer incur charges, and it will be removed from the list of running instances.

aws

Services

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Dedicated Hosts

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Reservations

Images

AMI

Successfully initiated termination (deletion) of i-04a0194f78241ac10

Instances (1/1)

Info

Last updated less than a minute ago

Connect

Instance state

Actions

Launch instances

Find Instance by attribute or tag (case-sensitive)

All states

< 1 >

☒

Name

☒

Instance ID

☒

Instance state

☒

Instance type

☒

Status check

☒

Alarm statu

☒

CC_Prac1_EC2_

☒

i-04a0194f78241ac10

☒

Shutting-d...

☒

t2.micro

☒

2/2 checks passec

☒

View alarms

i-04a0194f78241ac10 (CC_Prac1_EC2_)

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All states

< 1 >

☒

Name

☒

Instance ID

☒

Instance state

☒

Instance type

☒

Status check

☒

Alarm statu

☒

CC_Prac1_EC2_

☒

i-04a0194f78241ac10

☒

Terminated

☒

t2.micro

☒

2/2 checks passec

☒

View alarms

i-04a0194f78241ac10 (CC_Prac1_EC2_)
