

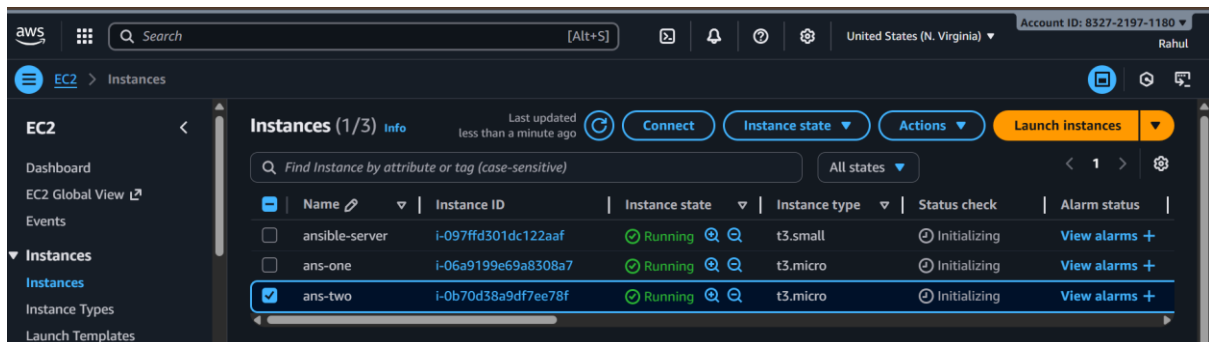
Weekly Assessment -2

Q1) Using configuration management tool Ansible create multiple users and confirm on your manage host.

Solution

Launched three instance that will server three different purpose

First instance will work as a configuration management tool to configure for the rest two hosts ans-one and ans-two .

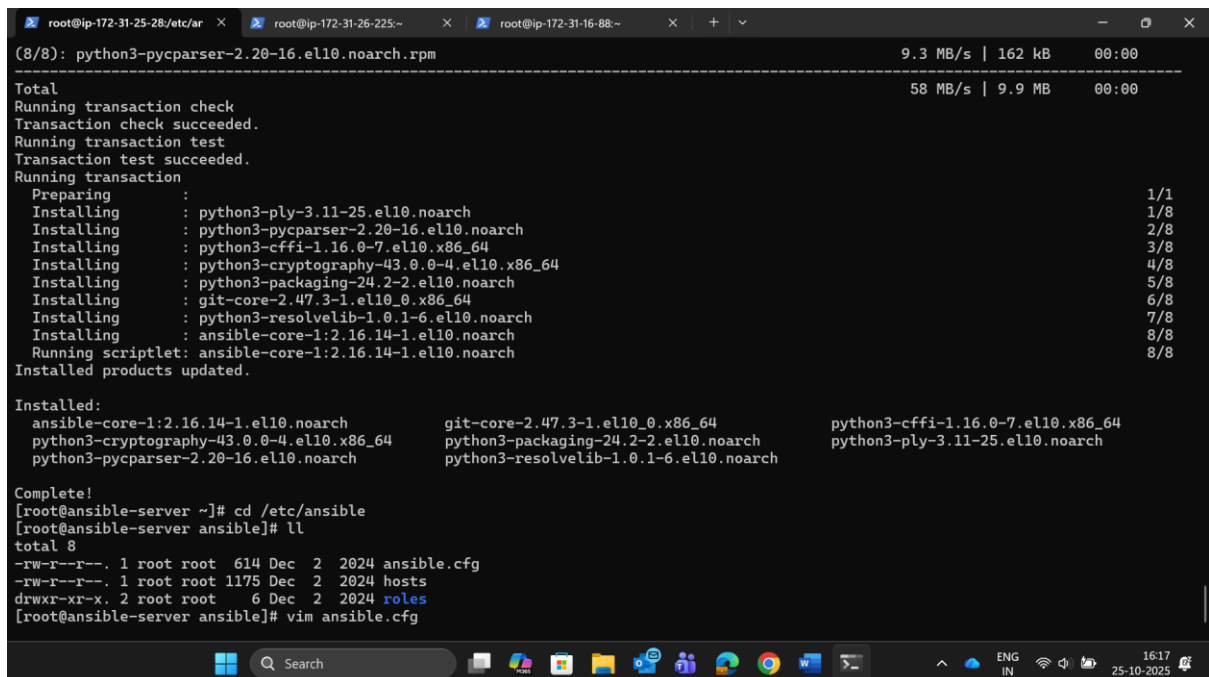


In Ansible-server I have chosen redhat distribution since it is managed by redhat

so works perfectly with redhat python is required for ansible. In ansible we got python inbuilt (kernel >=3 all have inbuilt python installed).

Command to install ansible that I used is

```
yum install ansible-core* -y
```



Then modified the default configuration file for ansible

```

root@ip-172-31-25-28:/etc/ansible$ cat ansible.cfg
# paramiko on older platforms rather than removing it
ssh_args = -o ControlMaster=auto -o ControlPersist=60s

# The path to use for the ControlPath sockets. This defaults to
# "%(directory)s/ansible-ssh-%%h-%%p-%%r", however on some systems with
# very long hostnames or very long path names (caused by long user names or
# deeply nested home directories) this can exceed the character limit on
# file socket names (108 characters for most platforms). In that case, you
# may wish to shorten the string below.
#
# Example:
# control_path = %(directory)s/%%h-%%p-%%r
#control_path = %(directory)s/ansible-ssh-%%h-%%p-%%r

# Enabling pipelining reduces the number of SSH operations required to
# execute a module on the remote server. This can result in a significant
# performance improvement when enabled, however when using "sudo:" you must
# first disable 'requiretty' in /etc/sudoers
#
# By default, this option is disabled to preserve compatibility with
# sudoers configurations that have requiretty (the default on many distros).
#
#pipelining = False

# if True, make ansible use scp if the connection type is ssh
# (default is sftp)
#scp_if_ssh = True

[accelerate]
accelerate_port = 5099
accelerate_timeout = 30
accelerate_connect_timeout = 5.0
-- INSERT --

```

Added our two available hosts into hosts in the ansible directory

```

root@ip-172-31-25-28:/etc/ansible$ cat hosts
## www[001:006].example.com

# You can also use ranges for multiple hosts:

## db-[99:101]-node.example.com

# Ex 3: A collection of database servers in the 'dbservers' group:

## [dbservers]
##
## db01.intranet.mydomain.net
## db02.intranet.mydomain.net
## 10.25.1.56
## 10.25.1.57

# Ex4: Multiple hosts arranged into groups such as 'Debian' and 'openSUSE':

## [Debian]
## alpha.example.org
## beta.example.org

## [openSUSE]
## green.example.com
## blue.example.com

[dev-server]
172.31.26.225

[prod-server]
172.31.16.88
-- INSERT --

```

Since Ansible is an agentless tool. To communicate with mentioned hosts ssh is required so pasted the ssh public key of ansible to the available hosts into `authorized_keys`

And as we can see below we are able to access the ans-one with ansible server so everything is good to go

ansible-playbook user.yaml --syntax-check => to validate the syntax

ansible-playbook user.yaml => to execute this

```

root@ip-172-31-25-28/etc/ar X root@ip-172-31-26-225~ X root@ip-172-31-16-88~ X + v
[DEPRECATION WARNING]: The 'smart' option for connections is deprecated. Set the connection plugin directly instead. This feature
will be removed in version 2.20. Deprecation warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.

PLAY [creating users] *****

TASK [Gathering Facts] *****
The authenticity of host '172.31.16.88 (172.31.16.88)' can't be established.
ED25519 key fingerprint is SHA256:cyDxNedv5CYr/EaxVUD/Nirp5DxJm8ZyNQ8bwmW0zTU.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? y[WARNING]: Platform linux on host 172.31.26.225 is using the di
scovered Python interpreter at /usr/bin/python3.9, but future
installation of another Python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-
core/2.16/reference_appendices/interpreter_discovery.html for more information.
ok: [172.31.26.225]
es
[WARNING]: Platform linux on host 172.31.16.88 is using the discovered Python interpreter at /usr/bin/python3.9, but future
installation of another Python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-
core/2.16/reference_appendices/interpreter_discovery.html for more information.
ok: [172.31.16.88]

TASK [Creating user] *****
changed: [172.31.16.88] => (item=vikash)
changed: [172.31.26.225] => (item=vikash)
changed: [172.31.16.88] => (item=soni)
changed: [172.31.26.225] => (item=soni)
changed: [172.31.16.88] => (item=rahul)
changed: [172.31.26.225] => (item=rahul)

PLAY RECAP *****
172.31.16.88      : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
172.31.26.225    : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

[root@ansible-server ansible]#

```

Verifying users into ans-one

```

[root@ans-one ~]# tail /etc/passwd
systemd-timesync:x:995:995:systemd Time Synchronization:/usr/sbin/nologin
chrony:x:994:994:chrony system user:/var/lib/chrony:/sbin/nologin
ec2-instance-connect:x:993:993::/home/ec2-instance-connect:/sbin/nologin
stapunpriv:x:159:159:systemtap unprivileged user:/var/lib/stapunpriv:/sbin/nologin
rpcuser:x:29:29:RPC Service User:/var/lib/nfs:/sbin/nologin
tcpdump:x:72:72::/sbin/nologin
ec2-user:x:1000:1000:EC2 Default User:/home/ec2-user:/bin/bash
vikash:x:1001:1001::/home/vikash:/bin/bash
soni:x:1002:1002::/home/soni:/bin/bash
rahul:x:1003:1003::/home/rahul:/bin/bash
[root@ans-one ~]#

```

Similarly into ans-two

```

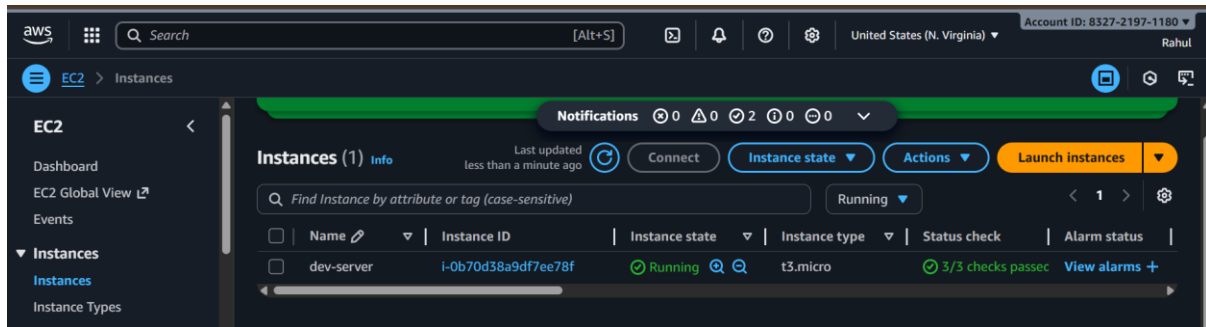
[root@ans-two ~]# tail /etc/passwd
systemd-timesync:x:995:995:systemd Time Synchronization:/usr/sbin/nologin
chrony:x:994:994:chrony system user:/var/lib/chrony:/sbin/nologin
ec2-instance-connect:x:993:993::/home/ec2-instance-connect:/sbin/nologin
stapunpriv:x:159:159:systemtap unprivileged user:/var/lib/stapunpriv:/sbin/nologin
rpcuser:x:29:29:RPC Service User:/var/lib/nfs:/sbin/nologin
tcpdump:x:72:72::/sbin/nologin
ec2-user:x:1000:1000:EC2 Default User:/home/ec2-user:/bin/bash
vikash:x:1001:1001::/home/vikash:/bin/bash
soni:x:1002:1002::/home/soni:/bin/bash
rahul:x:1003:1003::/home/rahul:/bin/bash
[root@ans-two ~]#

```

Q2) We have an EC2 instance in N. Virginia Region where a web server is running. create custom image of this server and launch new server in Ohio region using of this image

Solution

Launched an instance and named it dev-server into N.virginia region

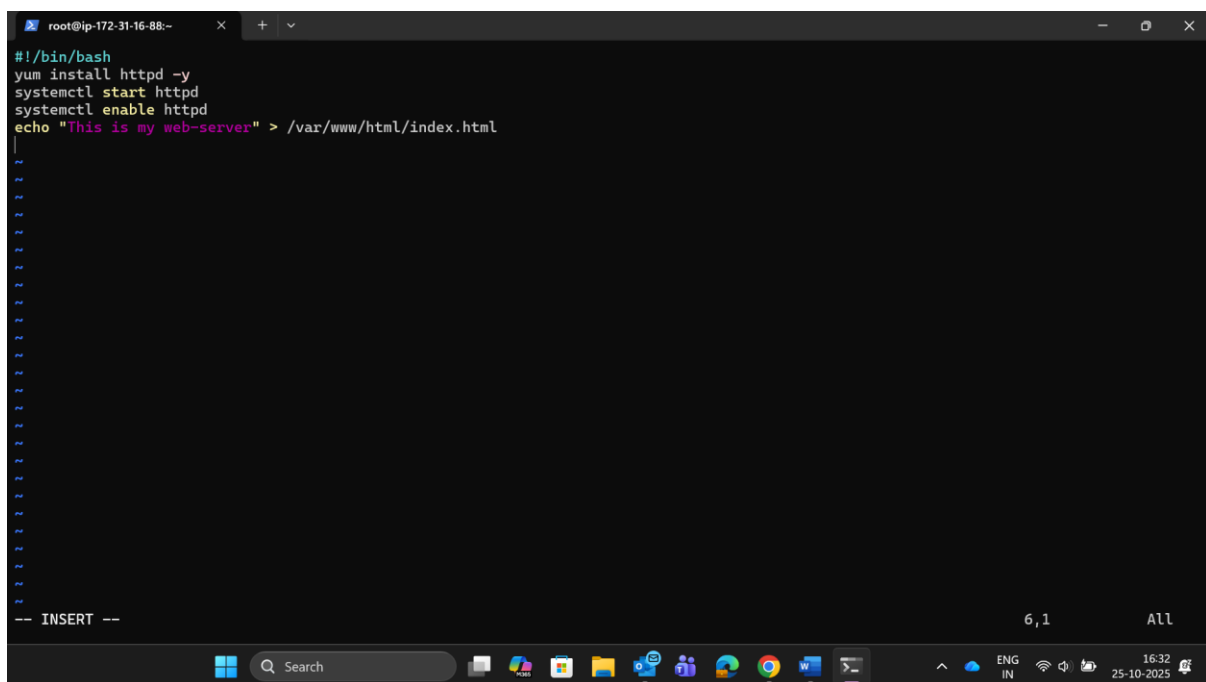


I am installing it with the help of script file

Because it have several advantages –

- reduces typo error
- Can be reused
- And time efficient

With this help of this script I am installing httpd and starting it and putting some content into index.html



Executed by assigning a permission to execute

```

root@ip-172-31-16-88:~
[root@dev-server ~]# vim apache.sh
[root@dev-server ~]# chmod +x apache.sh
[root@dev-server ~]# ./apache.sh

```

Now can see httpd is active and running

```

root@ip-172-31-16-88:~
Verifying : mod_lua-2.4.65-1.amzn2023.0.1.x86_64 12/12

Installed:
apr-1.7.5-1.amzn2023.0.4.x86_64          apr-util-1.6.3-1.amzn2023.0.1.x86_64
apr-util-openssl-1.6.3-1.amzn2023.0.1.x86_64  generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch
httpd-2.4.65-1.amzn2023.0.1.x86_64      httpd-core-2.4.65-1.amzn2023.0.1.x86_64
httpd-filesystem-2.4.65-1.amzn2023.0.1.noarch  httpd-tools-2.4.65-1.amzn2023.0.1.x86_64
libbrotli-1.0.9-4.amzn2023.0.2.x86_64      mailcap-2.1.49-3.amzn2023.0.3.noarch
mod_http2-2.0.27-1.amzn2023.0.3.x86_64      mod_lua-2.4.65-1.amzn2023.0.1.x86_64

Complete!
Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr/lib/systemd/system/httpd.service.
[root@dev-server ~]# systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; preset: disabled)
   Active: active (running) since Sat 2025-10-25 11:02:54 UTC; 8s ago
     Docs: man:httpd.service(8)
  Main PID: 4176 (httpd)
    Status: "Started, listening on: port 80"
     Tasks: 177 (Limit: 1053)
    Memory: 13.3M
       CPU: 61ms
    CGroup: /system.slice/httpd.service
            └─4176 /usr/sbin/httpd -DFOREGROUND
              └─4306 /usr/sbin/httpd -DFOREGROUND
                └─4309 /usr/sbin/httpd -DFOREGROUND
                  └─4310 /usr/sbin/httpd -DFOREGROUND
                    └─4311 /usr/sbin/httpd -DFOREGROUND

Oct 25 11:02:54 dev-server.example.com systemd[1]: Starting httpd.service - The Apache HTTP Server...
Oct 25 11:02:54 dev-server.example.com systemd[1]: Started httpd.service - The Apache HTTP Server.
Oct 25 11:02:54 dev-server.example.com httpd[4176]: Server configured, listening on: port 80
[root@dev-server ~]#

```

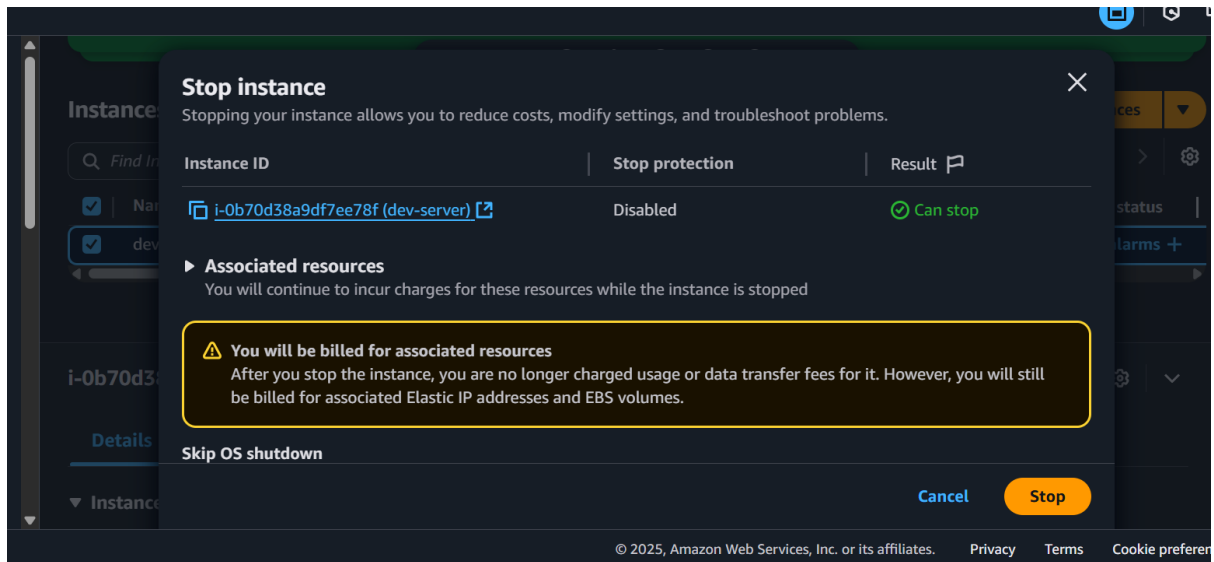
Here we can see our web-page

```

[root@dev-server ~]# curl http://localhost
This is my web-server
[root@dev-server ~]#

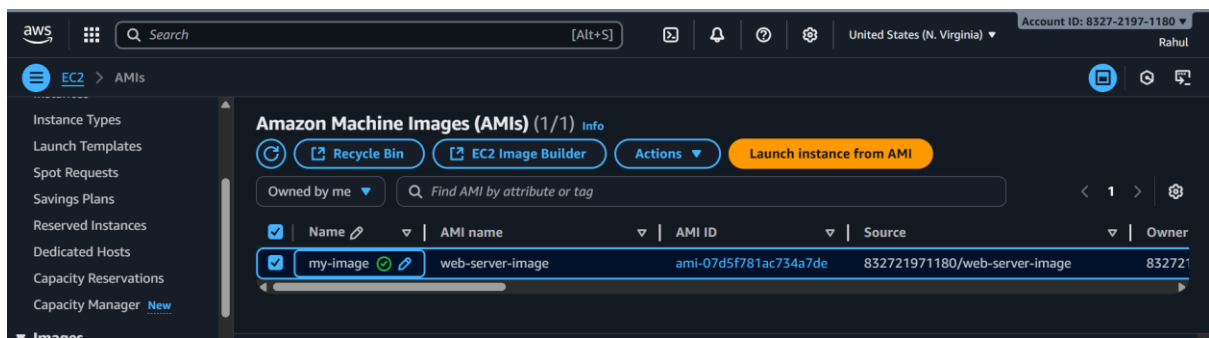
```

Now before creating an image out of this I will stop it since it is not recommended to make an image of a running instance because data come from disk to ram and then to cpu so there might be possibility that some data will not come.

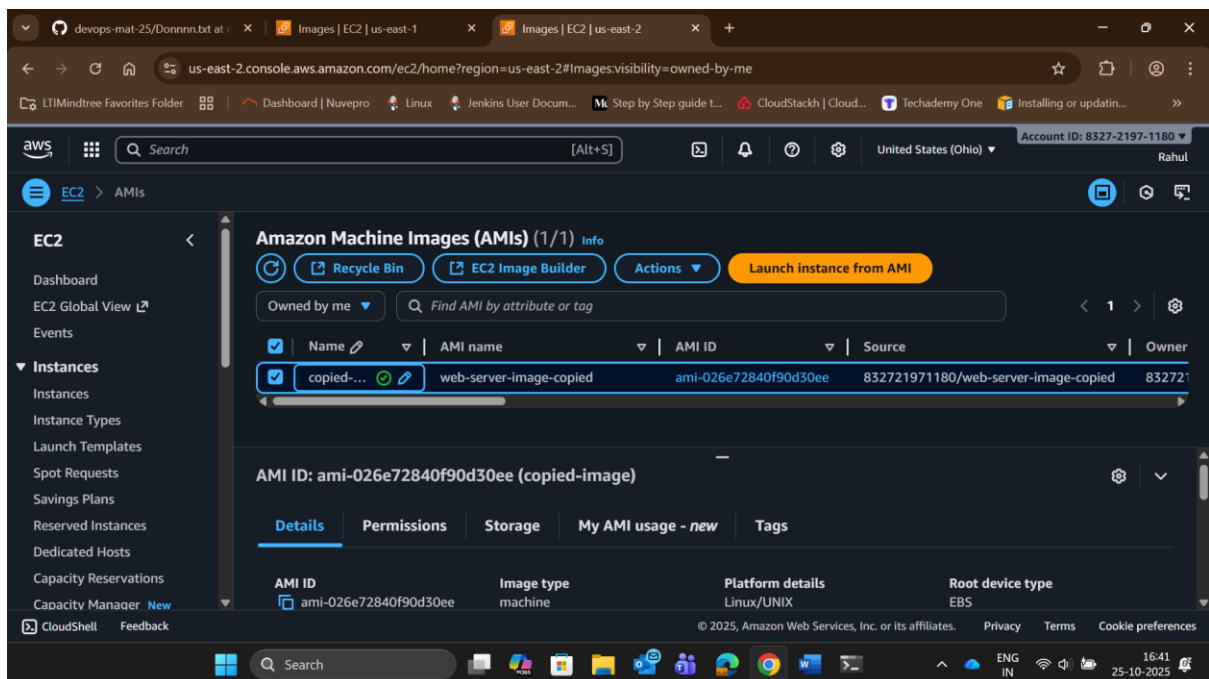


Created an AMI(Amazon machine image)

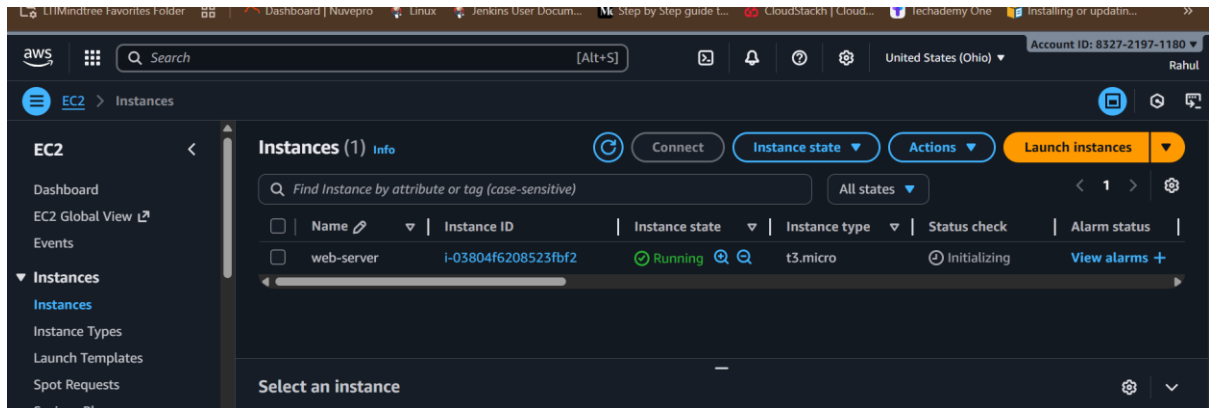
And copied this image into ohio region



Now my image is reflecting into ohio region



So I launched an instance with this image



Assigned hostname to it and can see with the help of rpmquery that httpd is already available and configured and status is also running

So I will directly move to running my web

And yes it is also running as can see into this screenshot

```
Windows PowerShell x root@ip-172-31-23-16:~ x + v
[root@ip-172-31-23-16 ~]# hostnamectl set-hostname web-server.example.com
[root@ip-172-31-23-16 ~]# bash
[root@web-server ~]# rpmquery httpd
bash: rpmquery: command not found
[root@web-server ~]# rpmquery httpd
httpd-2.4.65-1.amzn2023.0.1.x86_64
[root@web-server ~]# systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; preset: disabled)
   Active: active (running) since Sat 2025-10-25 11:23:14 UTC; 2min 40s ago
     Docs: man:httpd.service(8)
  Main PID: 1410 (httpd)
    Status: "Total requests: 0; Idle/Busy workers 100/0; Requests/sec: 0; Bytes served/sec: 0 B/sec"
     Tasks: 177 (limit: 1053)
    Memory: 18.7M
       CPU: 209ms
    CGroup: /system.slice/httpd.service
            └─1410 /usr/sbin/httpd -DFOREGROUND
              └─1411 /usr/sbin/httpd -DFOREGROUND
                └─1412 /usr/sbin/httpd -DFOREGROUND
                  └─1414 /usr/sbin/httpd -DFOREGROUND
                    └─1430 /usr/sbin/httpd -DFOREGROUND

Oct 25 11:23:14 dev-server.example.com systemd[1]: Starting httpd.service - The Apache HTTP Server...
Oct 25 11:23:14 dev-server.example.com systemd[1]: Started httpd.service - The Apache HTTP Server.
Oct 25 11:23:14 dev-server.example.com httpd[1410]: Server configured, listening on: port 80
[root@web-server ~]# curl http://localhost
This is my web-server
[root@web-server ~]#
```

*****The End*****