Cloud Computing Seminar

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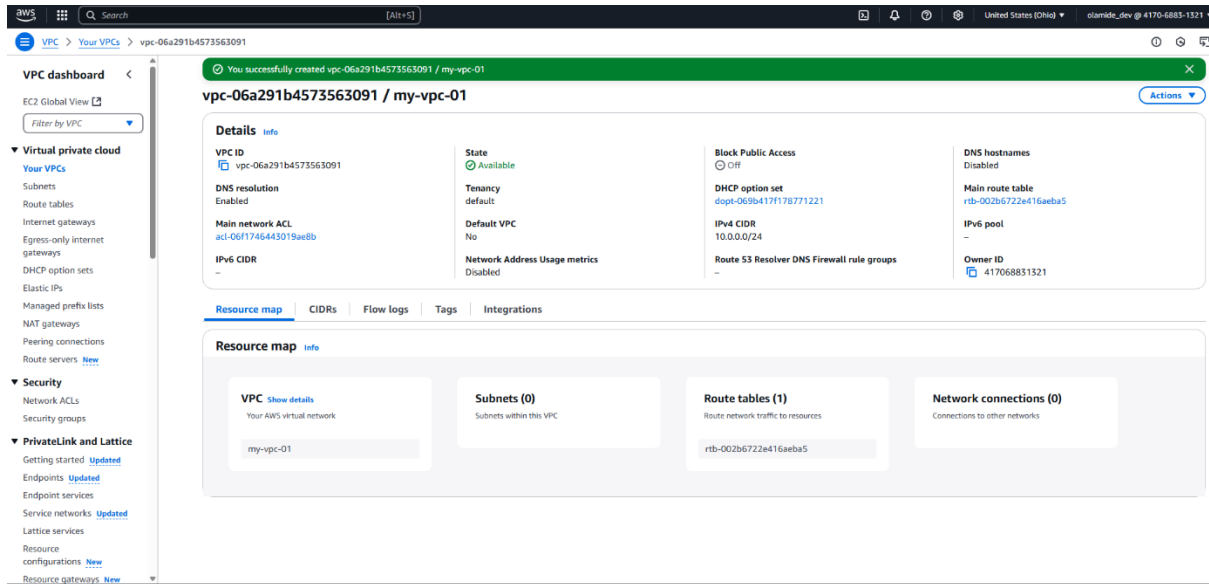
Term: Spring 2025

Topic: Networking
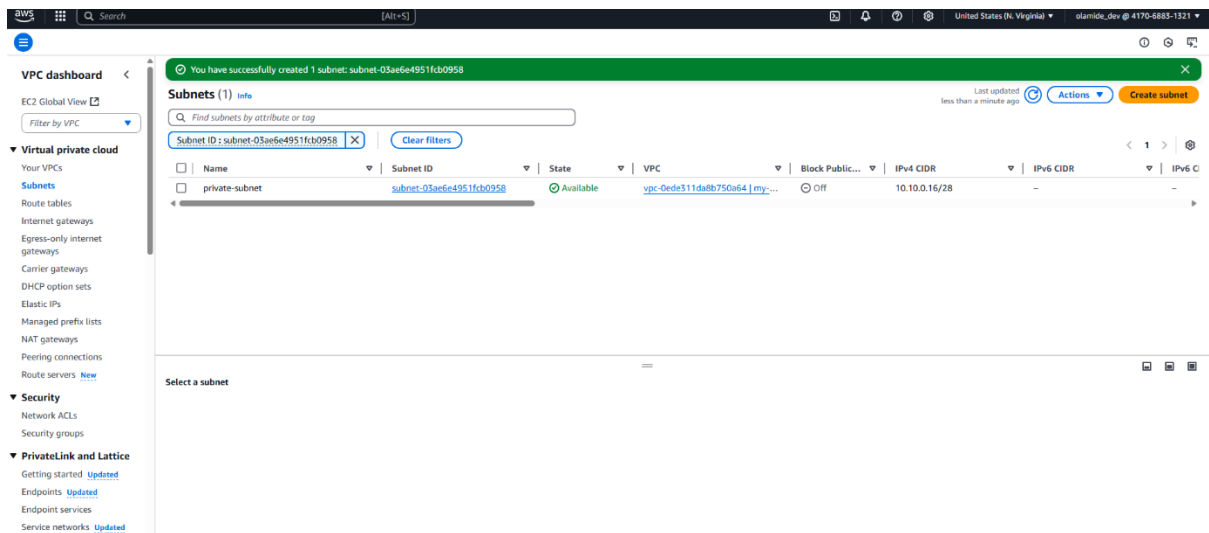

Fig 1.1 VPC Created

Fig 2.1 Private subnet created
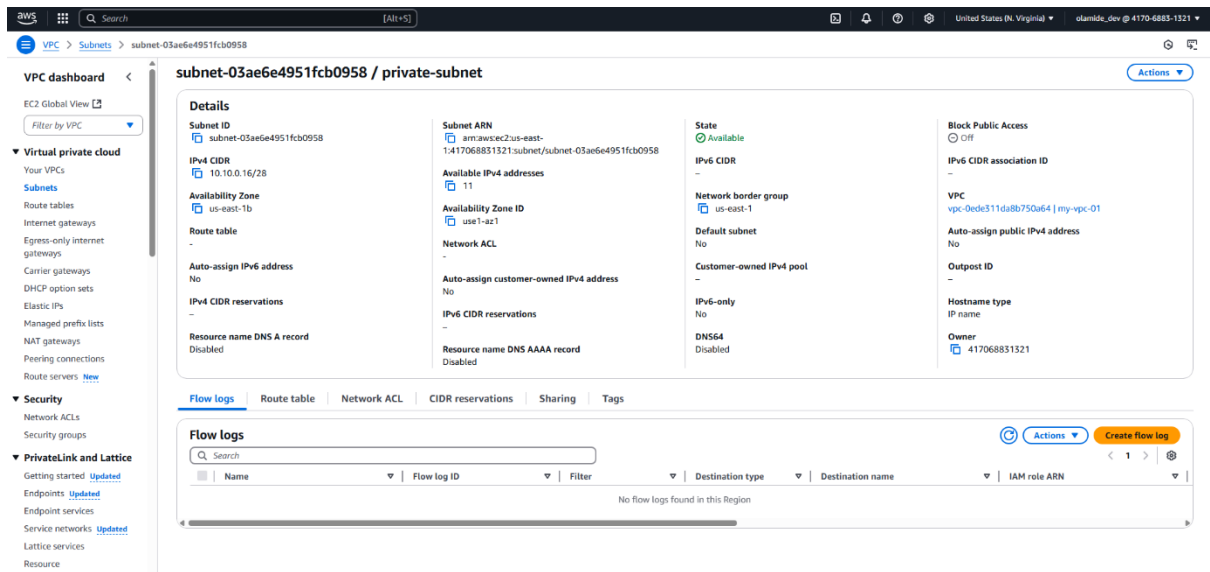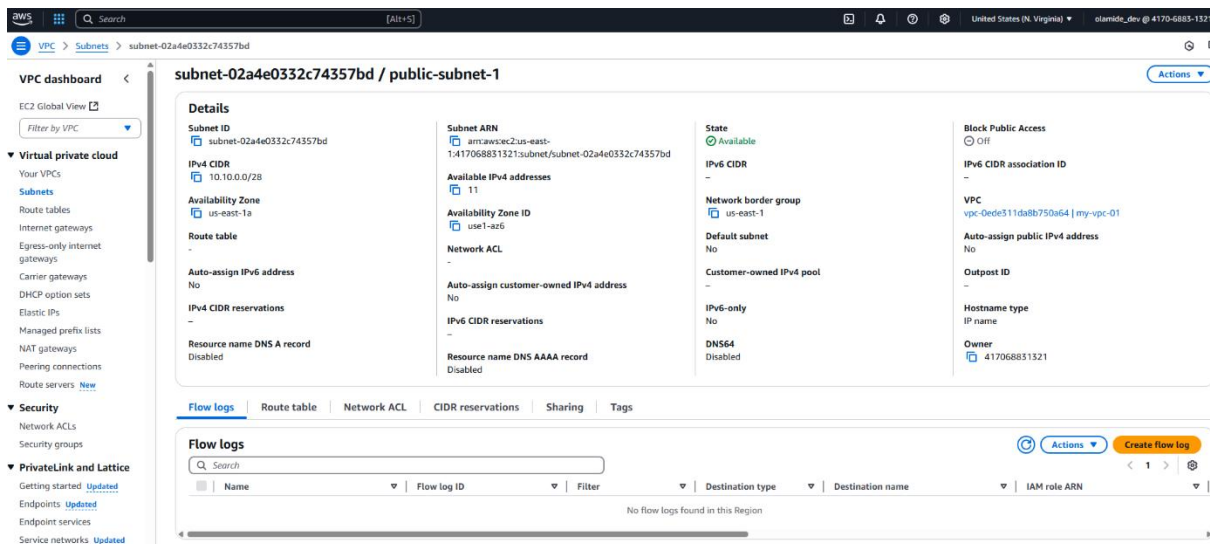
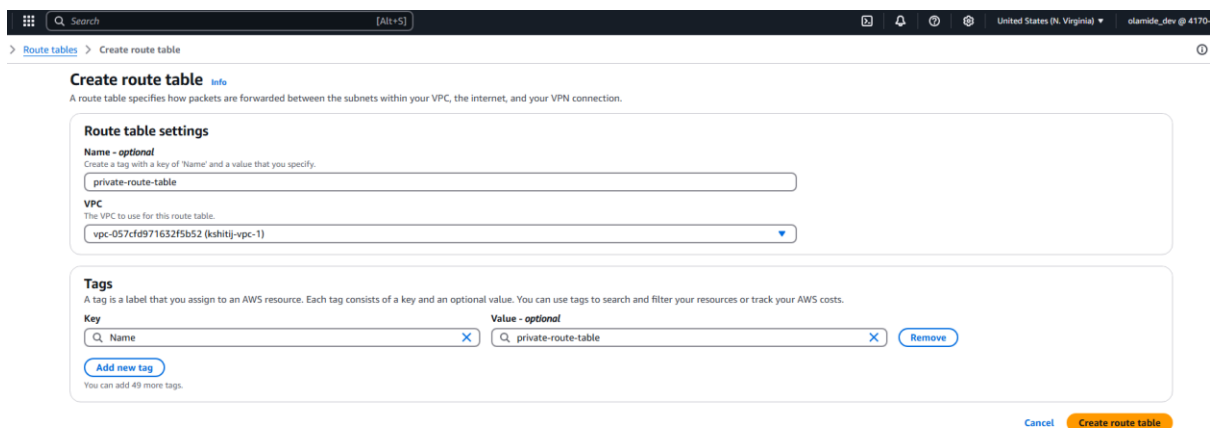Fig 2.2 Private Subnet details

Fig 2.3 Public Subnet details

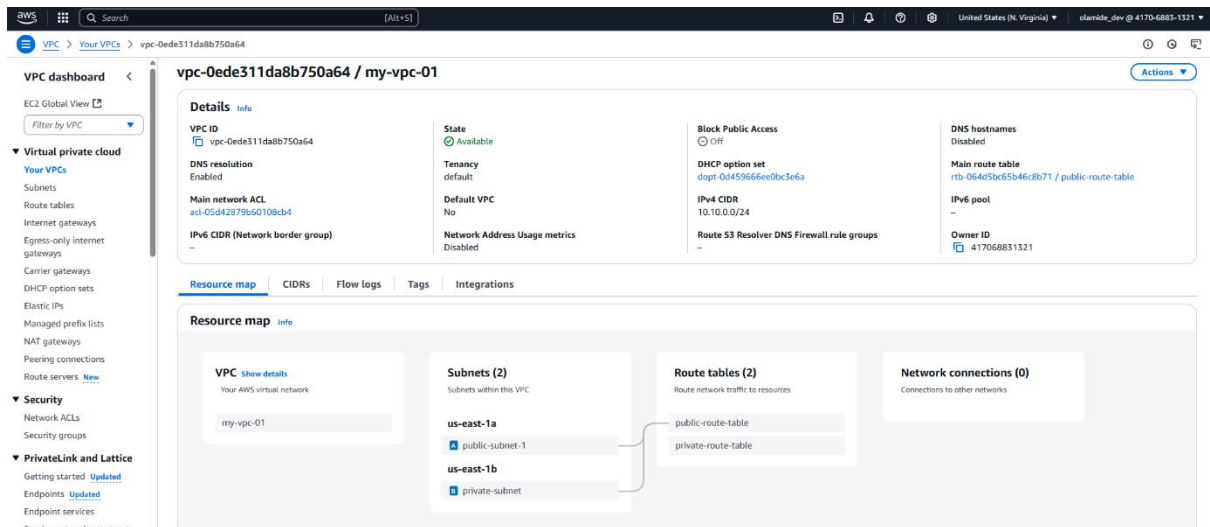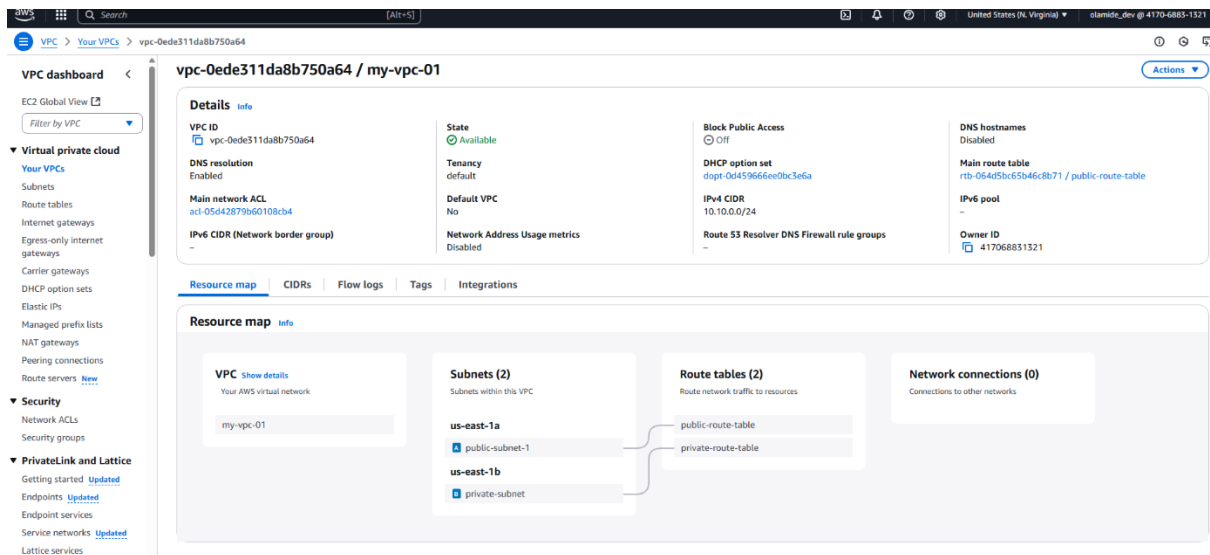Fig 3.1 Route Table Creation

Fig 3.2 Route Table Created

Fig 3.3 Connection Private Route Table To Private Subnet
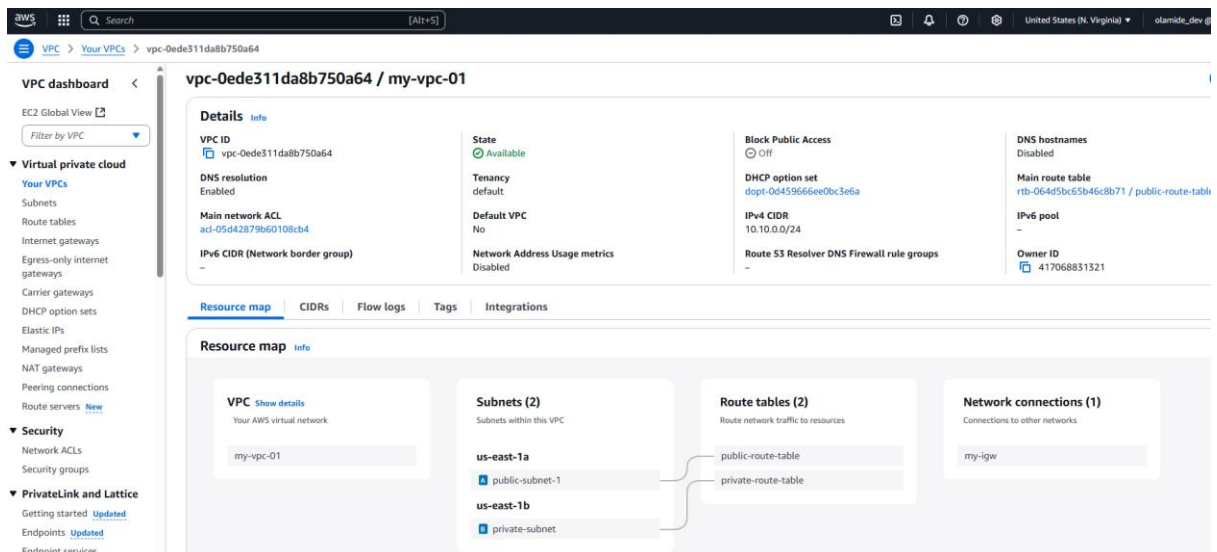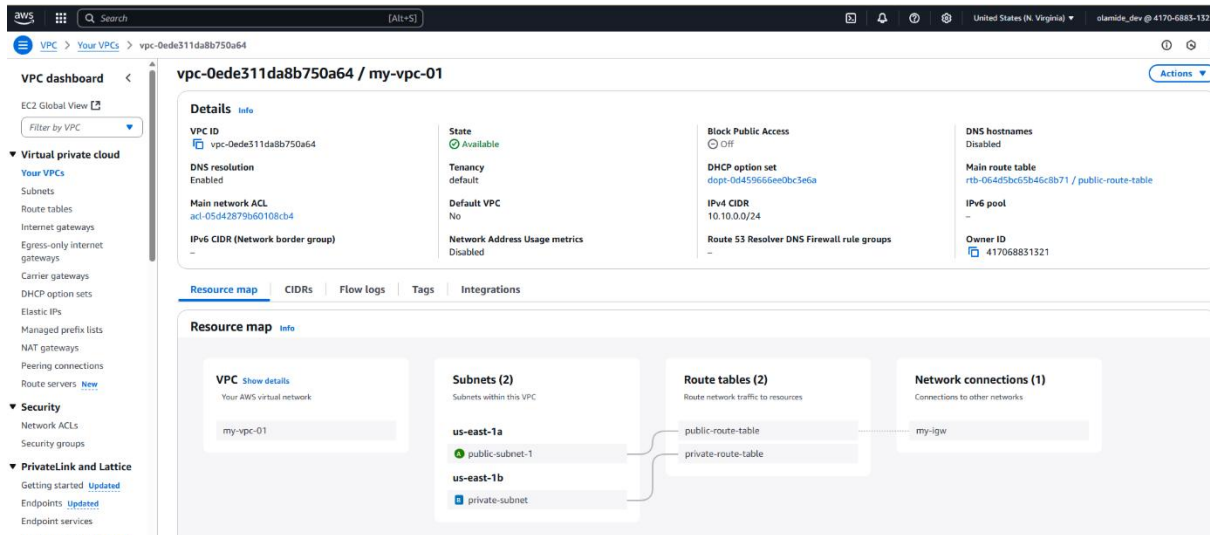

Fig 4.1 Internet Gateway Created

Fig 4.2 Internet Gateway attached to PVC

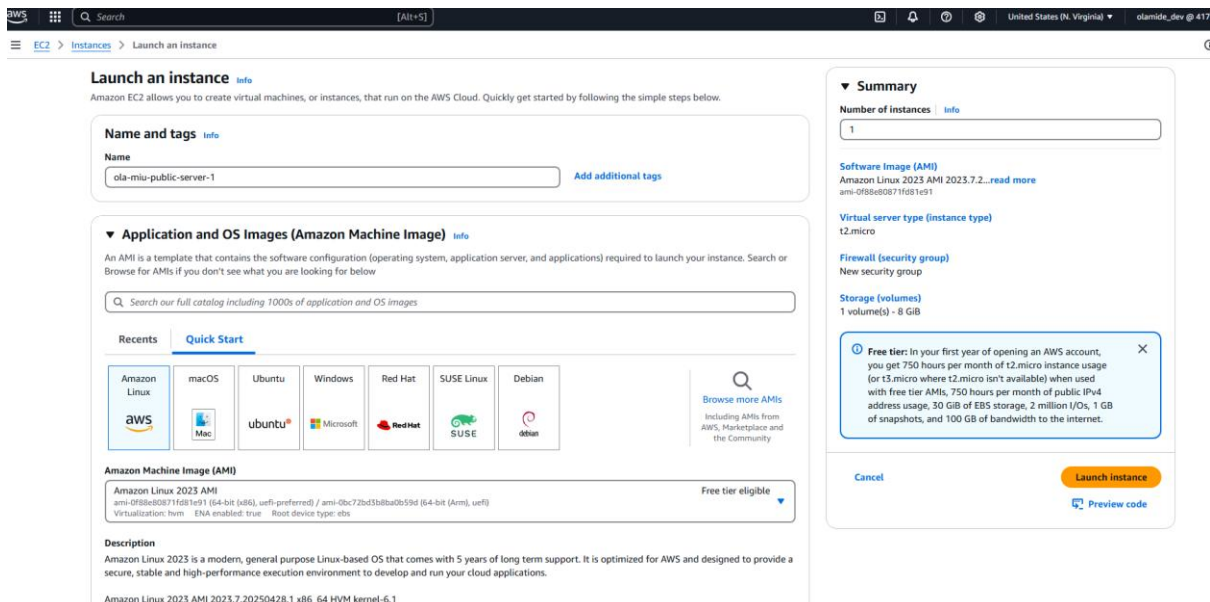Fig 5.1 EC2 Public Instance Created

Fig 5.2 Private EC2 Instance Created

Fig 5.3 Private EV2 instance Launched

```
C:\Users\aolam\Downloads>ssh -i ola-miu-keypair.pem ec2-user@54.81.124.102
     ,       #_
    ~\_  ####_          Amazon Linux 2023
   ~~  \_#####\
   ~~     \###|
   ~~     \#/ ___     https://aws.amazon.com/linux/amazon-linux-2023
    ~~     V~' '->
     ~~~        /
      ~~._.   _/
        _/ _/
       _/m/'
[ec2-user@ip-10-10-0-13 ~]$ echo "hello world" > hello.txt
[ec2-user@ip-10-10-0-13 ~]$ cat hello.txt
hello world
[ec2-user@ip-10-10-0-13 ~]$ exit
logout
Connection to 54.81.124.102 closed.

C:\Users\aolam\Downloads>scp -i ola-miu-keypair.pem ola-miu-keypair.pem ec2-user@54.81.124.102:/home/ec2-user ola-miu-keypair.pem
ola-miu-keypair.pem: Not a directory

C:\Users\aolam\Downloads>scp -i ola-miu-keypair.pem ola-miu-keypair.pem ec2-user@54.81.124.102:/home/ec2-user
ola-miu-keypair.pem                                         100% 1674    30.8KB/s   00:00

C:\Users\aolam\Downloads>ssh -i ola-miu-keypair.pem ec2-user@54.81.124.102
     ,       #_
    ~\_  ####_          Amazon Linux 2023
   ~~  \_#####\
   ~~     \###|
   ~~     \#/ ___     https://aws.amazon.com/linux/amazon-linux-2023
    ~~     V~' '->
     ~~~        /
      ~~._.   _/
        _/ _/
       _/m/'
Last login: Sun May  4 21:45:45 2025 from 209.152.96.166
[ec2-user@ip-10-10-0-13 ~]$ ssh -i ola-miu-keypair ec2-user@10.10.0.21
Warning: Identity file ola-miu-keypair not accessible: No such file or directory.
The authenticity of host '10.10.0.21 (10.10.0.21)' can't be established.
ED25519 key fingerprint is SHA256:6+V8PMqZ+zLbM4sYIp1b0V+Jd4qDTSD3H6yDHJAOxjQ.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '10.10.0.21' (ED25519) to the list of known hosts.
ec2-user@10.10.0.21: Permission denied (publickey,gssapi-keyex,gssapi-with-mic).
[ec2-user@ip-10-10-0-13 ~]$ ls
hello.txt  ola-miu-keypair.pem
[ec2-user@ip-10-10-0-13 ~]$ ssh -i ola-miu-keypair.pem ec2-user@10.10.0.21
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
@          WARNING: UNPROTECTED PRIVATE KEY FILE!          @
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
```

Fig 6.1 Connecting to Public EC2 Instance via SSH

```
Last login: Sun May  4 21:45:45 2025 from 209.152.96.166
[ec2-user@ip-10-10-0-13 ~]$ ssh -i ola-miu-keypair ec2-user@10.10.0.21
Warning: Identity file ola-miu-keypair not accessible: No such file or directory.
The authenticity of host '10.10.0.21 (10.10.0.21)' can't be established.
ED25519 key fingerprint is SHA256:6+V8PMqZ+zLbM4sYIp1b0V+Jd4qDTSD3H6yDHJAOxjQ.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '10.10.0.21' (ED25519) to the list of known hosts.
ec2-user@10.10.0.21: Permission denied (publickey,gssapi-keyex,gssapi-with-mic).
[ec2-user@ip-10-10-0-13 ~]$ ls
hello.txt  ola-miu-keypair.pem
[ec2-user@ip-10-10-0-13 ~]$ ssh -i ola-miu-keypair.pem ec2-user@10.10.0.21
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
@          WARNING: UNPROTECTED PRIVATE KEY FILE!          @
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
Permissions 0664 for 'ola-miu-keypair.pem' are too open.
It is required that your private key files are NOT accessible by others.
This private key will be ignored.
Load key "ola-miu-keypair.pem": bad permissions
ec2-user@10.10.0.21: Permission denied (publickey,gssapi-keyex,gssapi-with-mic).
[ec2-user@ip-10-10-0-13 ~]$ chmod 400 ola-miu-keypair.pem
[ec2-user@ip-10-10-0-13 ~]$ ssh -i ola-miu-keypair.pem ec2-user@10.10.0.21
     ,       #_
    ~\_  ####_          Amazon Linux 2023
   ~~  \_#####\
   ~~     \###|
   ~~     \#/ ___     https://aws.amazon.com/linux/amazon-linux-2023
    ~~     V~' '->
     ~~~        /
      ~~._.   _/
        _/ _/
       _/m/'
[ec2-user@ip-10-10-0-21 ~]$
```

Fig 6.2 Connecting to Private EC2 Instance from the Public Instance.