



## **CLOUD COMPUTING LAB** **BSE ( V-B )**

Submitted By:

Musfira Farooq

Roll No:

2023-BSE-045

Submitted To:

Sir Muhammad Shoaib

## **LAB 08**

**AWS: Account Setup, IAM, VPC Inventory,**  
**EC2, Docker & Gitea**

## Task 1

### Create an AWS account and enable UAE (me-central-1)

- AWS signup page:

**Try AWS at no cost for up to 6 months**

Start with USD \$100 in AWS credits, plus earn up to USD \$100 by completing various activities.

### Sign up for AWS

Root user email address  
Used for account recovery and as described in the [AWS Privacy Notice](#)

AWS account name  
Choose a name for your account. You can change this name in your account settings after you sign up.

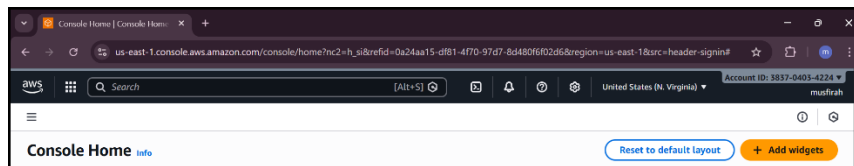
**Verify email address**

OR

**Sign in to an existing AWS account**

This site uses essential cookies. See our [Cookie Notice](#) for more information.

- Root user signed in:



- Enable region me-central-1:

<input type="checkbox"/>	Europe (Zurich)	⛔ Disabled
<input type="checkbox"/>	Europe (Milan)	⛔ Disabled
<input type="checkbox"/>	Europe (Spain)	⛔ Disabled
<input type="checkbox"/>	Israel (Tel Aviv)	⛔ Disabled
<input type="checkbox"/>	Middle East (UAE)	✅ Enabled
<input type="checkbox"/>	Middle East (Bahrain)	⛔ Disabled
<input type="checkbox"/>	Mexico (Central)	⛔ Disabled

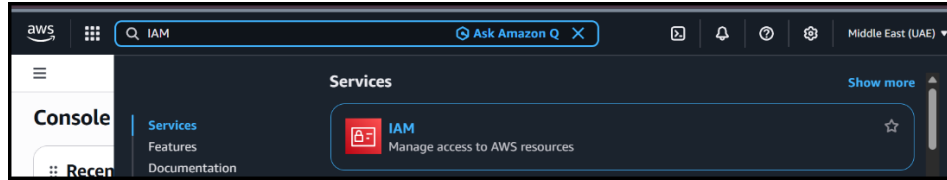
- task1 summary:



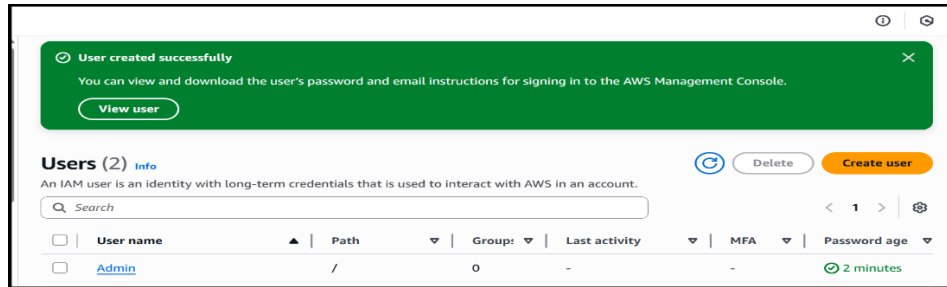
## Task 2

### Create IAM Admin and Lab8User with console access

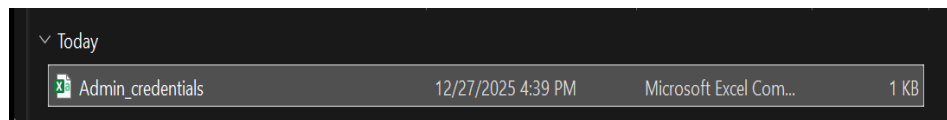
- open iam console:



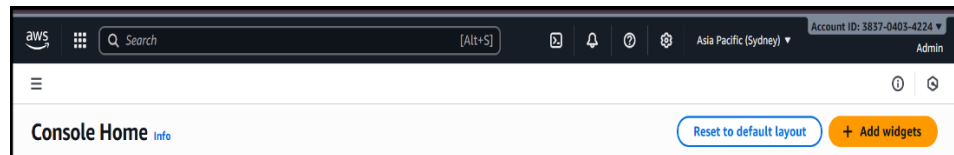
- admin create confirmation:



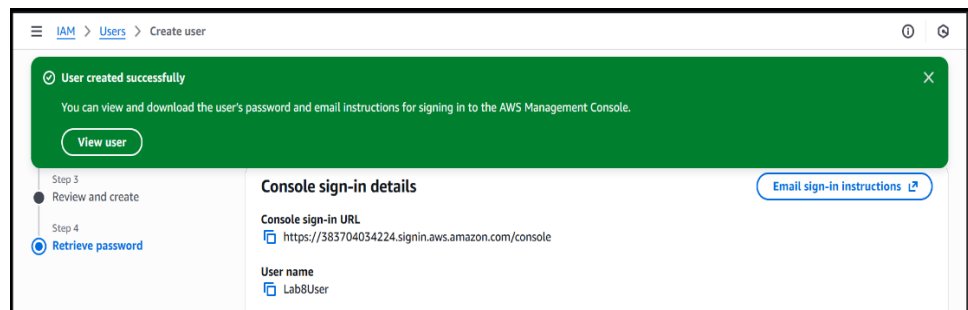
- admin csv and signin url:



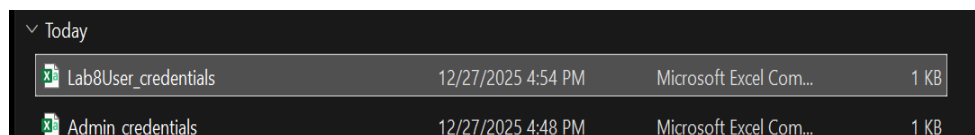
- admin console after login:



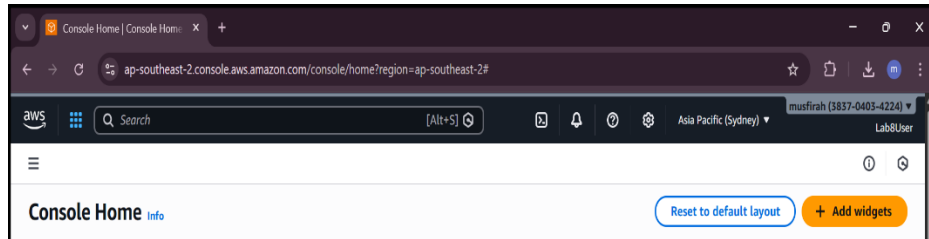
- create lab8user and csv:



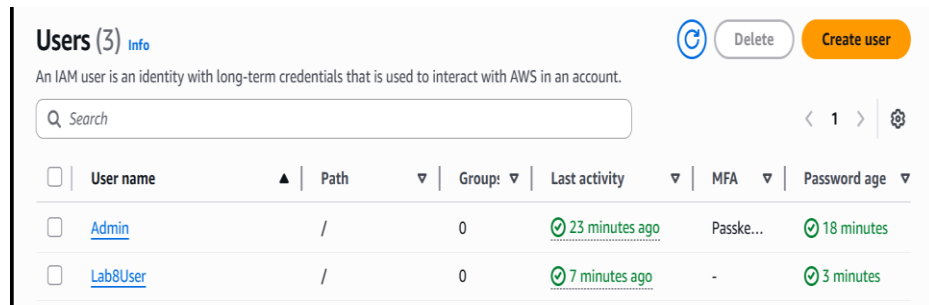
- lab8user csv saved:



- lab8user logged in:



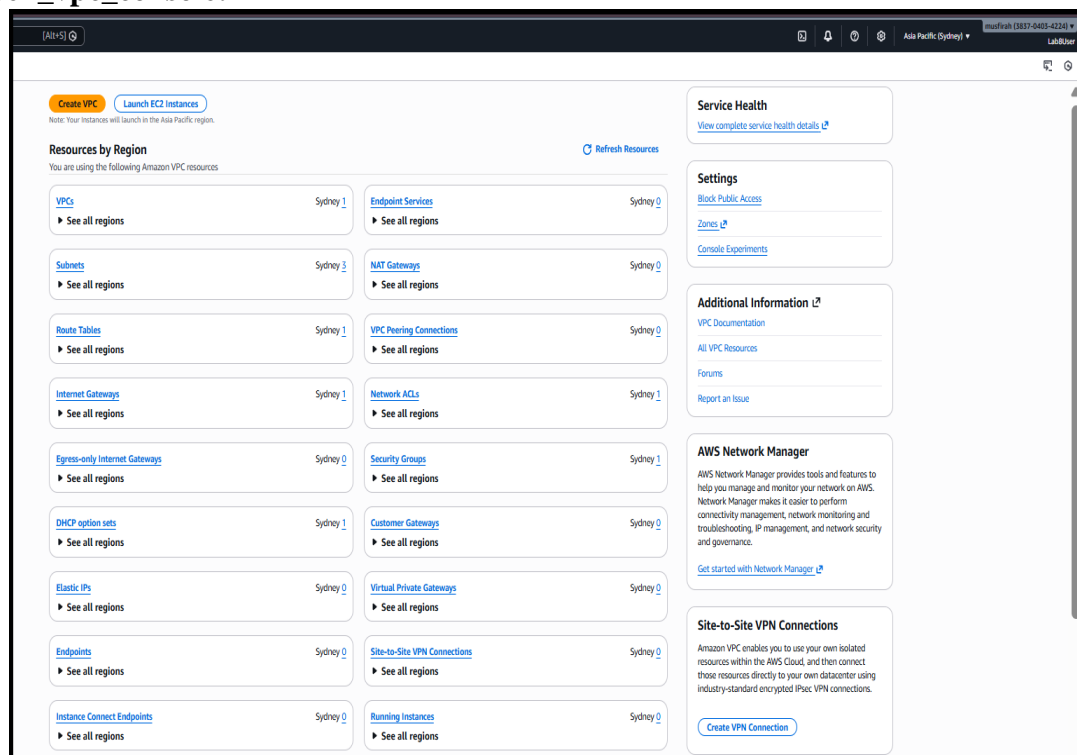
- task2 summary:



## Task 3

### Inspect VPC resources (in UAE me-central-1)

- open\_vpc\_console:



- **vpcs\_list:**

Table with 11 columns: Name, VPC ID, State, Encryption c..., Encryption control ..., Block Public..., IPv4 CIDR, IPv6 CIDR, DHCP option set, Main route table, Main network ACL. One row is visible with VPC ID vpc-09ee65582139e8e6.

- **subnets\_list:**

Table with 11 columns: Name, Subnet ID, State, VPC, Block Public..., IPv4 CIDR, IPv6 CIDR, IPv6 CIDR association ID, Available IPv4 addresses, Availability Zone. Three rows are visible, all with State 'Available'.

- **route\_tables\_list:**

Table with 8 columns: Name, Route table ID, Explicit subnet associ..., Edge associations, Main, VPC, Owner ID. One row is visible with Route table ID rtb-054edb042c137fb36.

- **network\_acls\_list:**

Table with 9 columns: Name, Network ACL ID, Associated with, Default, VPC ID, Inbound rules count, Outbound rules count, Owner. One row is visible with Network ACL ID acl-048b3d4190xc2120b.

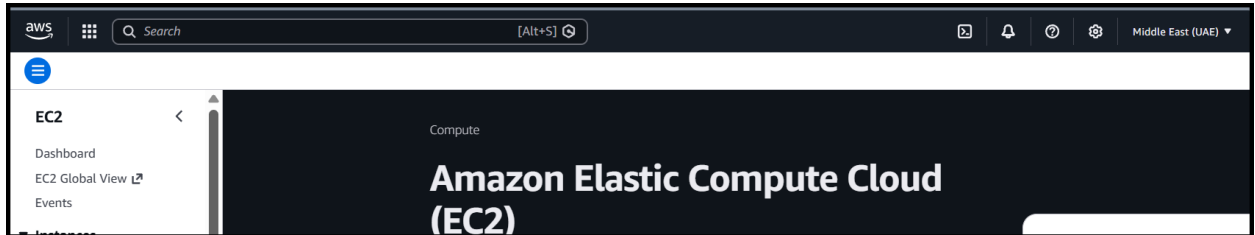
- **summary:**

Four screenshots of the AWS console showing different network resources: Network ACLs (1), Subnets (3), Route tables (1), and Your VPCs (1). Each screenshot includes a table of the respective resources and their details.

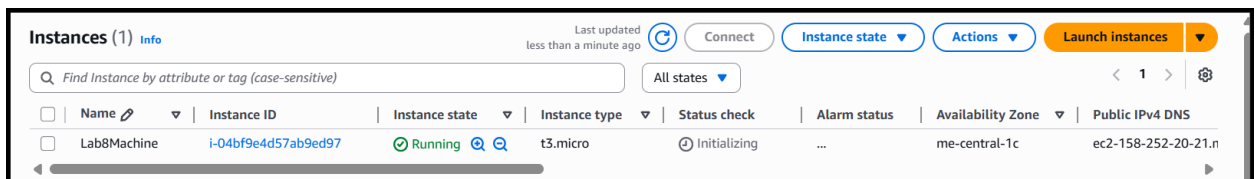
## Task 4

### Launch EC2, SSH, install Docker & Docker Compose, deploy Gitea

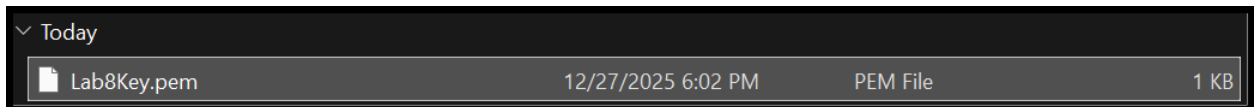
- Open EC2 Console



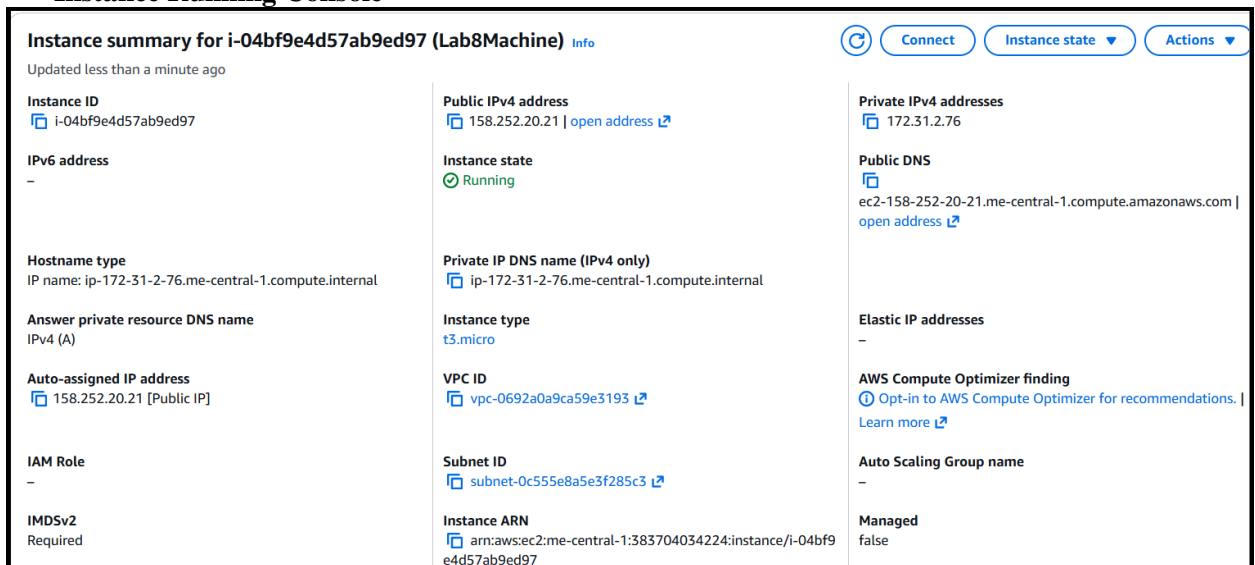
- Launch Instance Config



- Keypair Download



- Instance Running Console



- SSH From Windows To EC2

- **EC2 Install Docker Compose Started**

- **Vim Compose YAML Paste**

```
➤ ec2-user@ip-172-31-2-76:~
services:
  gitea:
    image: gitea/gitea:latest
    container_name: gitea
    environment:
      - DB_TYPE=postgres
      - DB_HOST=db:5432
      - DB_NAME=gitea
      - DB_USER=gitea
      - DB_PASSWD=gitea
    restart: always
    volumes:
      - gitea:/data
    ports:
      - 3000:3000
    extra_hosts:
      - "www.jenkins.com:host-gateway"
    networks:
      - webnet
  db:
    image: postgres:alpine
    container_name: gitea_db
    environment:
      - POSTGRES_USER=gitea
      - POSTGRES_PASSWORD=gitea
      - POSTGRES_DB=gitea
    restart: always
    volumes:
      - gitea_postgres:/var/lib/postgresql/data
    expose:
      - 5432
    networks:
      - webnet

volumes:
  gitea_postgres:
    name: gitea_postgres
  gitea:
    name: gitea
```

```

    name: gitea

networks:
  webnet:
    name: webnet
#   external: true


# Gitea is not allowed to webhook to Jenkins follow these steps
# 1) Go to Gitea Container
# 2) cat /data/gitea/conf/app.ini
# 3) echo "[webhook]" >> /data/gitea/conf/app.ini
# 4) echo "ALLOWED_HOST_LIST = 192.168.65.2" >> /data/gitea/conf/app.ini
# Gitea Tutorials : https://www.youtube.com/watch?v=d4w2CqH8TUA
-- INSERT --

```

- **Compose YAML Saved LS**

```
[ec2-user@ip-172-31-2-76 ~]$ sudo vim compose.yaml
[ec2-user@ip-172-31-2-76 ~]$ ls -l
total 4
-rw-r--r--. 1 root root 1127 Dec 27 13:29 compose.yaml
[ec2-user@ip-172-31-2-76 ~]$
```

- **Usermod And Groups Before After**

```
ec2-user@ip-172-31-2-76:~  
[ec2-user@ip-172-31-2-76 ~]$ groups  
ec2-user adm wheel systemd-journal  
[ec2-user@ip-172-31-2-76 ~]$ sudo usermod -aG docker $USER  
[ec2-user@ip-172-31-2-76 ~]$ groups  
ec2-user adm wheel systemd-journal  
[ec2-user@ip-172-31-2-76 ~]$ exit  
logout  
Connection to 158.252.20.21 closed.  
PS C:\WINDOWS\system32> ssh -i "C:\Users\Musfi\OneDrive\AWSKey\Lab8Key.pem" ec2-user@158.252.20.21  
 Amazon Linux 2023  
https://aws.amazon.com/linux/amazon-linux-2023  
Last login: Sat Dec 27 13:19:15 2025 from 203.215.167.149  
[ec2-user@ip-172-31-2-76 ~]$ groups  
ec2-user adm wheel systemd-journal docker  
[ec2-user@ip-172-31-2-76 ~]$
```

- **Docker Compose Up**

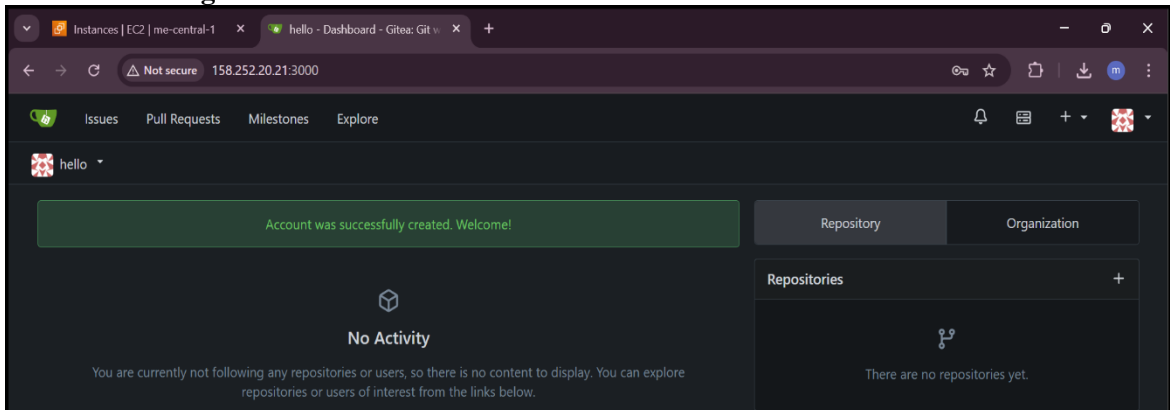
```
[ec2-user@ip-172-31-2-76 ~]$ docker compose up -d
[+] up 16/18
[+] up 23/23ea/gitea:latest Pulled
  ✓ Image gitea/gitea:latest Pulled
    ✓ 2d35ebdb57d9 Pull complete
    ✓ 9f4e672c1f34 Pull complete
    ✓ 4da94b3cc809 Pull complete
    ✓ 8e016ece0bd3 Pull complete
    ✓ 346e493cb6cb Pull complete
    ✓ 95215379f1d1 Pull complete
  ✓ Image postgres:alpine Pulled
    ✓ 1074353eec0d Pull complete
    ✓ 51a9324a2bdc Pull complete
    ✓ 1e827ac0fa1e Pull complete
    ✓ 0629ac8b8cc5 Pull complete
    ✓ 2e50a444bddf Pull complete
    ✓ 4465107e1675 Pull complete
    ✓ cc2ee20b6816 Pull complete
    ✓ 0dfdd86289dd1 Pull complete
    ✓ 98eecc0da868 Pull complete
    ✓ b747867e61cb Pull complete
  ✓ Network webnet Created
  ✓ Volume gitea_postgres Created
  ✓ Volume gitea Created
  ✓ Container gitea Created
  ✓ Container gitea_db Created
[ec2-user@ip-172-31-2-76 ~]$
```



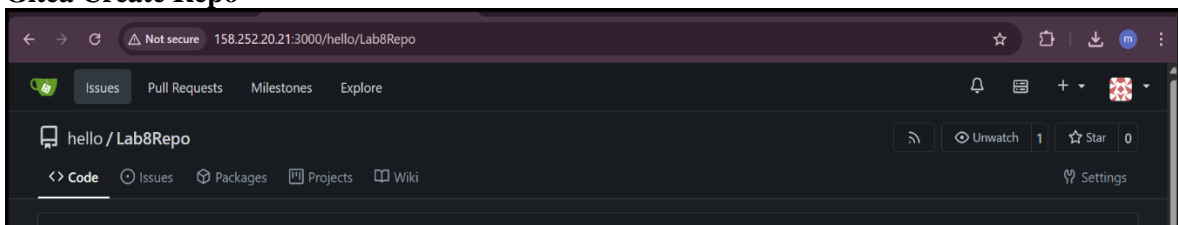
- **Security Group Allow 3000**

<input type="checkbox"/>	Name	Security group rule ID	IP version	Type	Protocol	Port range	Source	Description
<input type="checkbox"/>	-	sgr-07a6d902ef35974b7	IPv4	SSH	TCP	22	0.0.0.0/0	-
<input type="checkbox"/>	-	sgr-00955bfad8324f5bc	IPv4	Custom TCP	TCP	3000	0.0.0.0/0	-

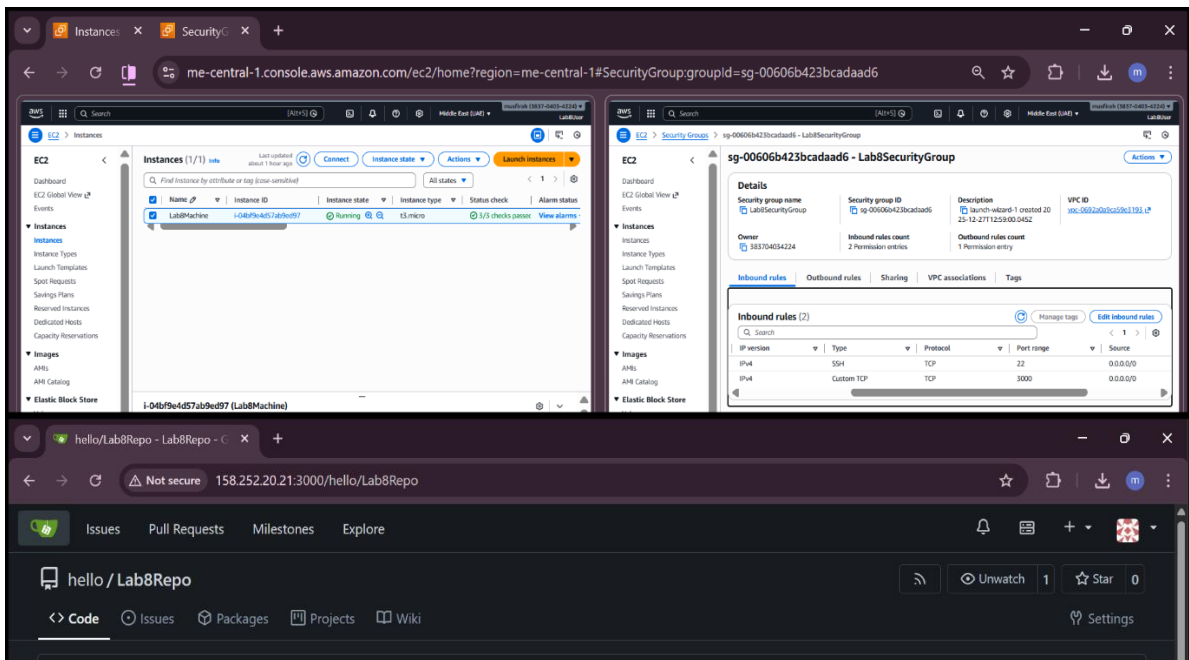
- **Gitea Install Page**



- **Gitea Create Repo**

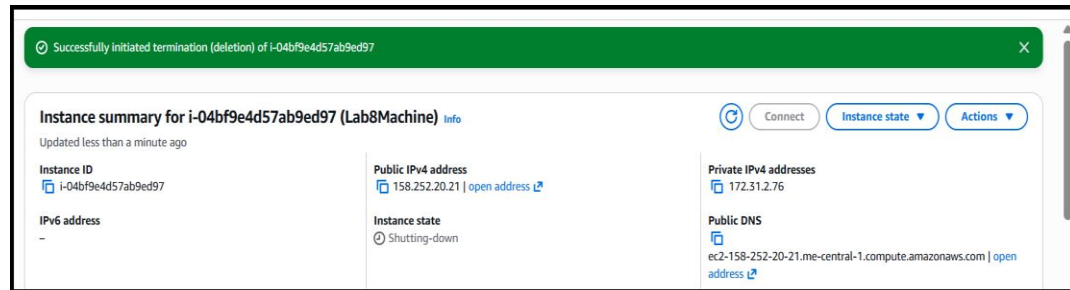


- **Summary**

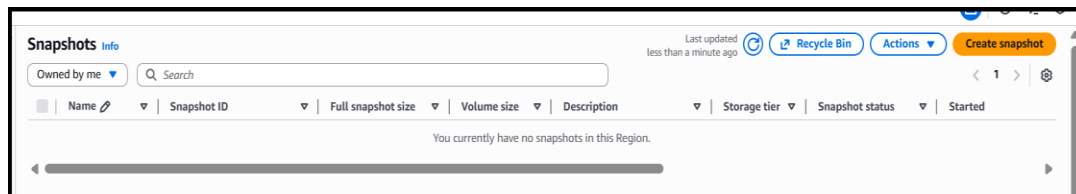


## Cleanup — Remove resources to avoid charges

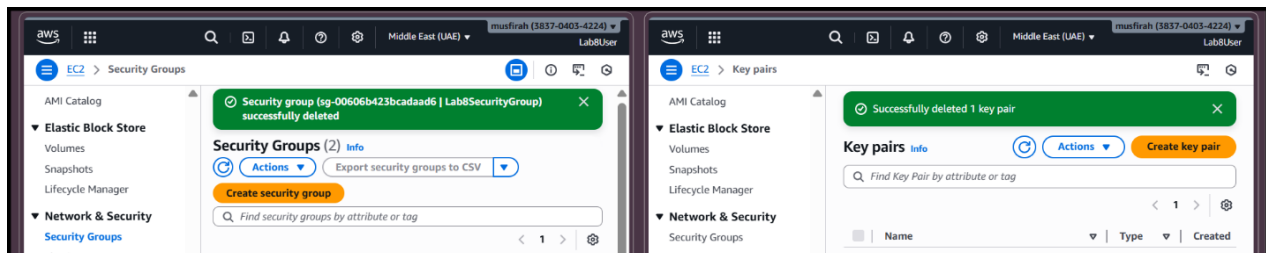
- `cleanup_terminate_instance`



- `cleanup_delete_volumes_snapshots`



- `cleanup_delete_security_group_and_keypair`



- `cleanup_iam_users_deleted`

