

# CLOUD COMPUTING LAB

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Reg No: 2023-BSE-076

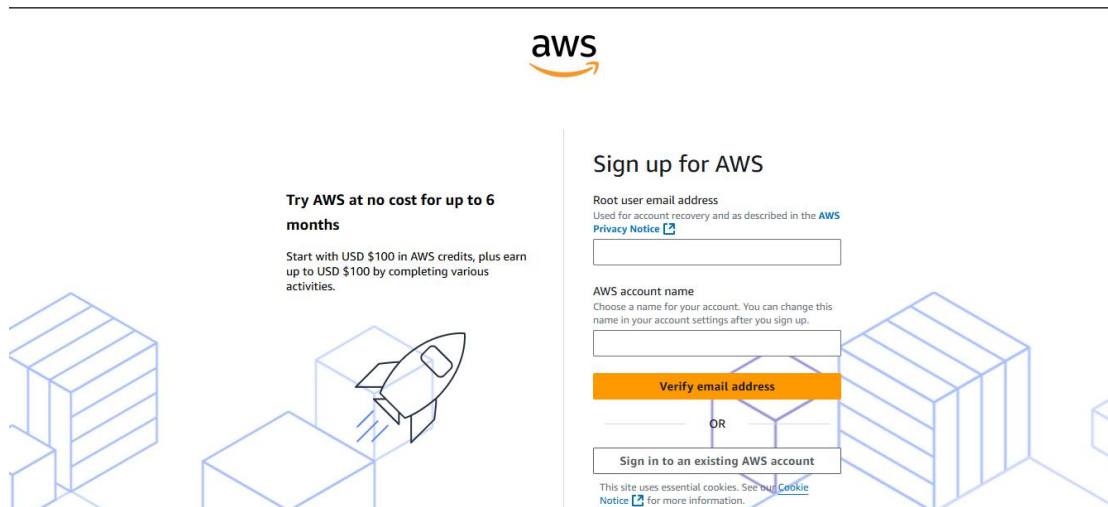
Submitted to: Sir Muhammad Shoaib

Class: 5B

## LAB #08

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

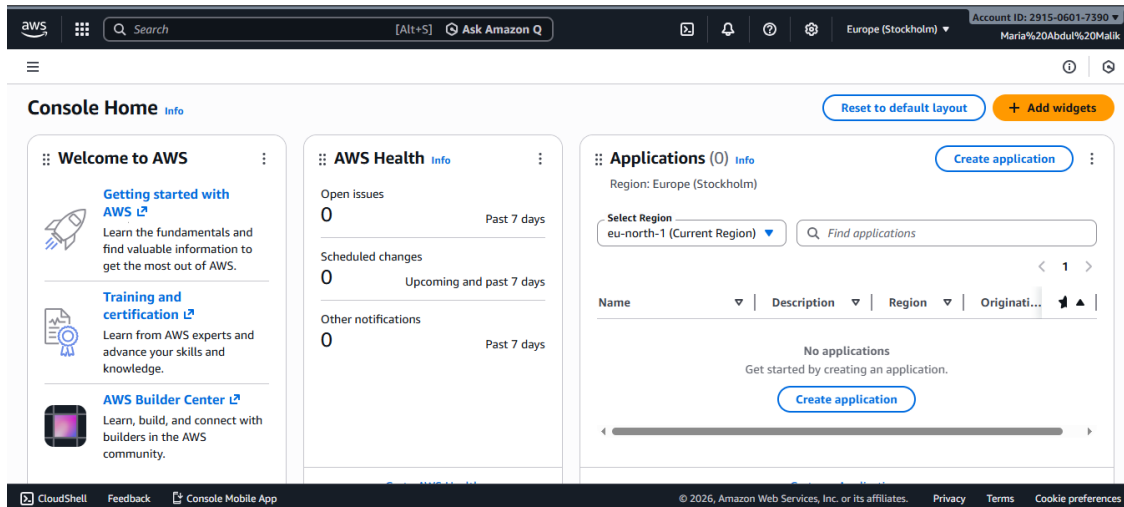
task1\_open\_signup\_page.png



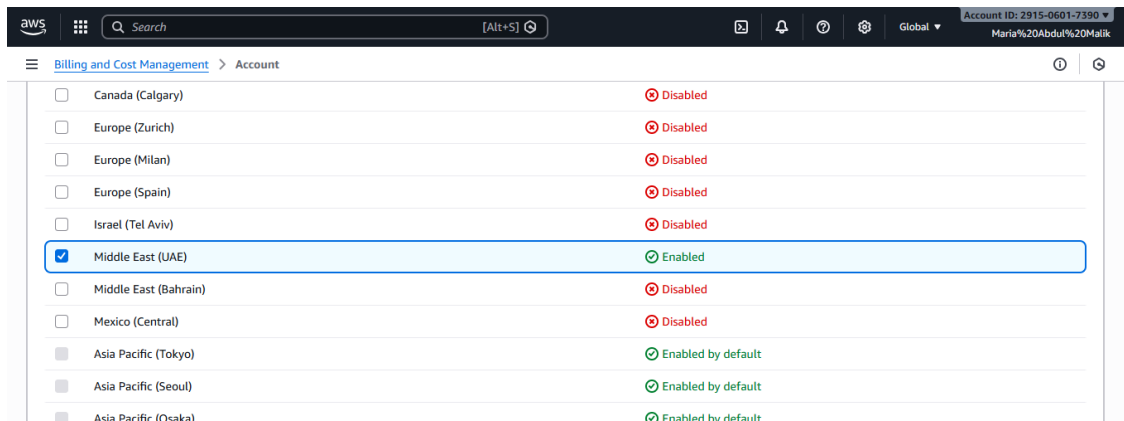
The screenshot shows the AWS sign-up page. At the top is the AWS logo. Below it, on the left, is a promotional banner for 'Try AWS at no cost for up to 6 months' with a rocket icon. On the right, the 'Sign up for AWS' section contains a form with the following fields and options:

- Root user email address:** A text input field with a link to the 'Privacy Notice'.
- AWS account name:** A text input field with a note that the name can be changed in account settings.
- Verify email address:** An orange button.
- OR**
- Sign in to an existing AWS account:** A button.
- Footer:** A note about essential cookies and a link to the 'Cookie Notice'.

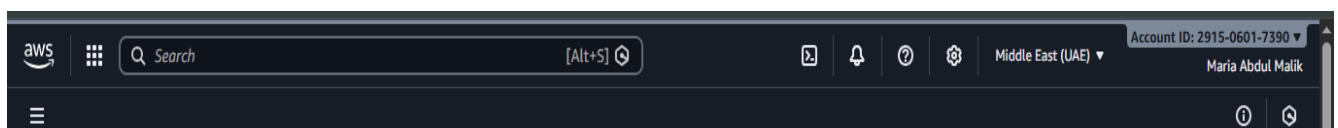
task1\_root\_signed\_in.png



task1\_enable\_region\_me-central-1.png

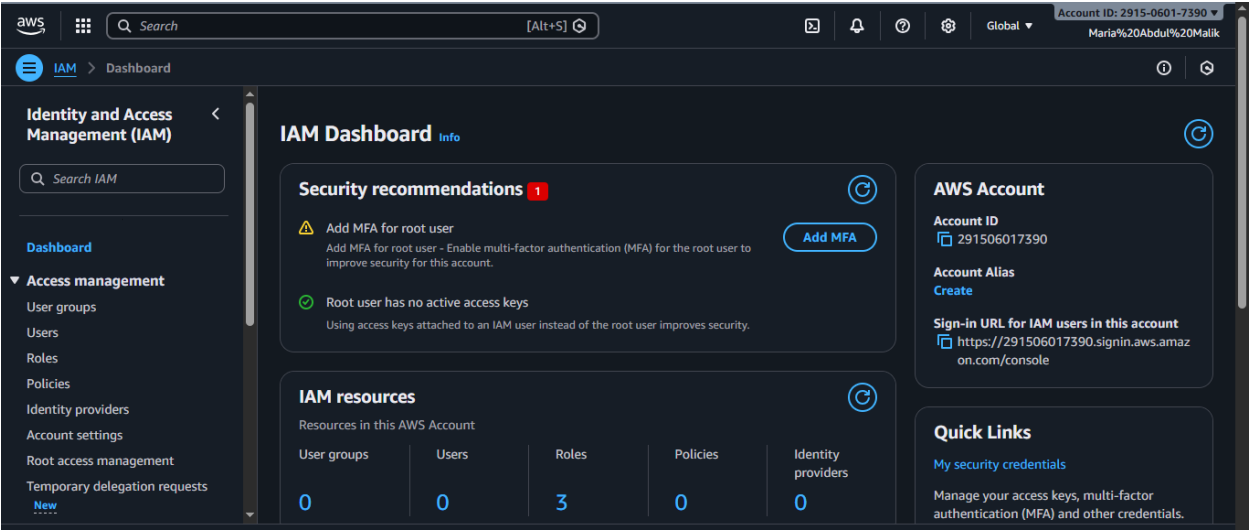


task1\_summary.png

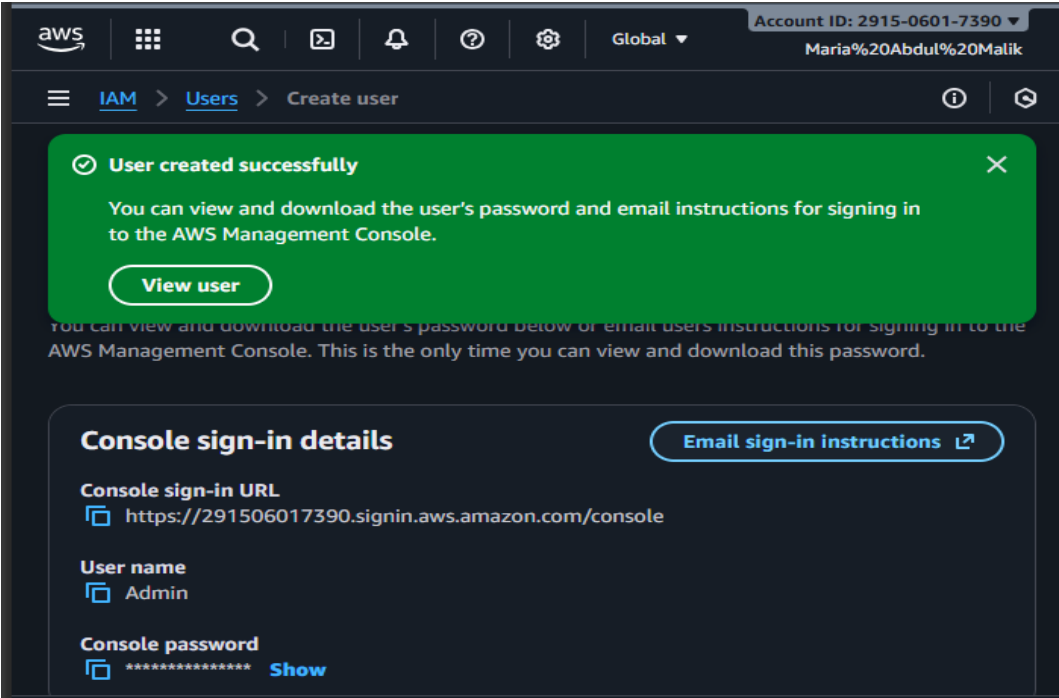


## Task 2 — Create IAM Admin and Lab8User with console access

task2\_open\_iam\_console.png



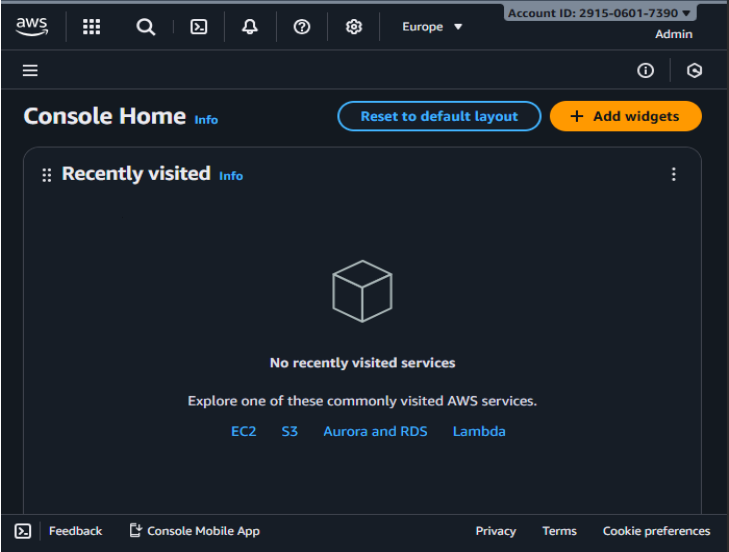
task2\_admin\_create\_confirmation.png



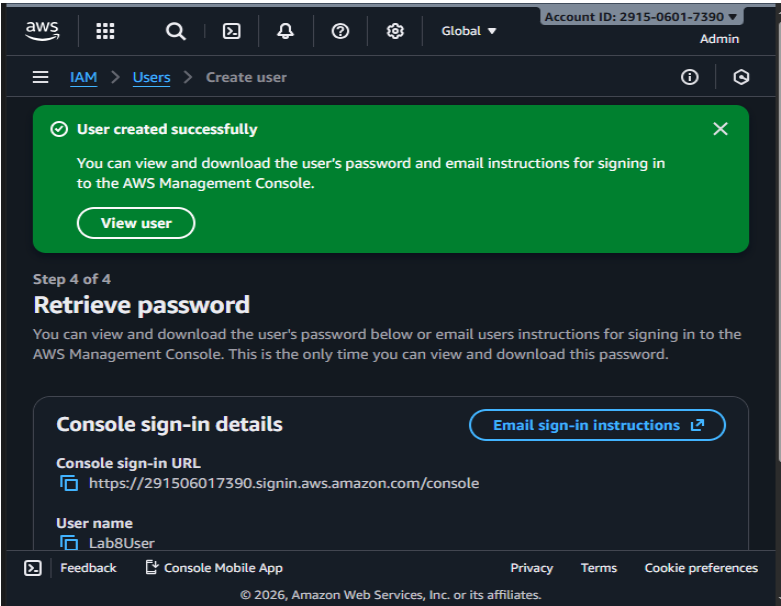
task2\_admin\_csv\_and\_signin\_url.png

	A	B	C	D	E	F	G	H
	User name		Console sign-in URL					
	Admin	In8	https://291506017390.signin.aws.amazon.com/console					

task2\_admin\_console\_after\_login.png



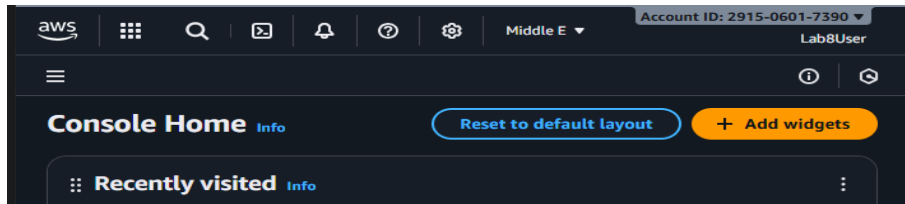
task2\_create\_lab8user\_and\_csv.png



task2\_lab8user\_csv\_saved.png

	A	B	C	D	E	F	G	H
	User name	Passw	Console sign-in URL					
	Lab8User	Hltlf	https://291506017390.signin.aws.amazon.com/console					

task2\_lab8user\_logged\_in.png

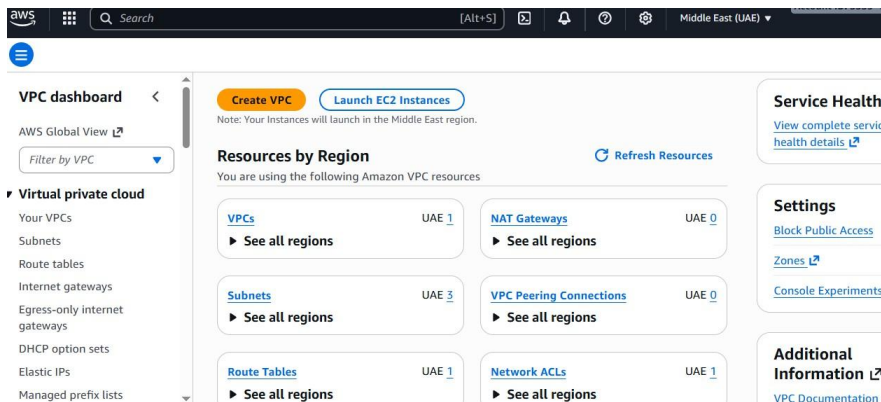


task2\_summary.png

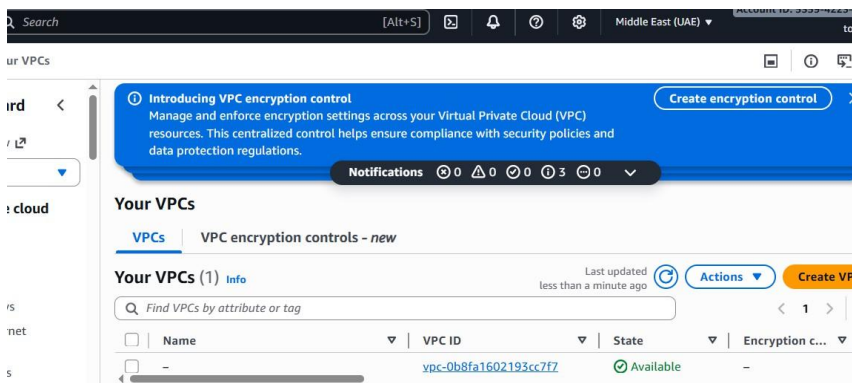


## Task 3 — Inspect VPC resources (in UAE me-central-1)

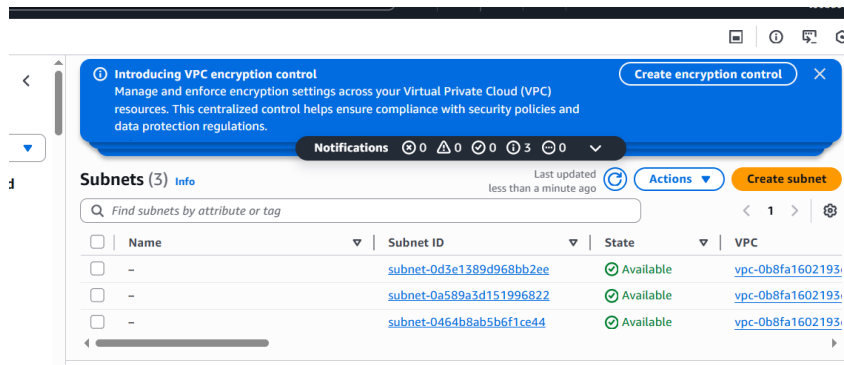
task3\_open\_vpc\_console.png



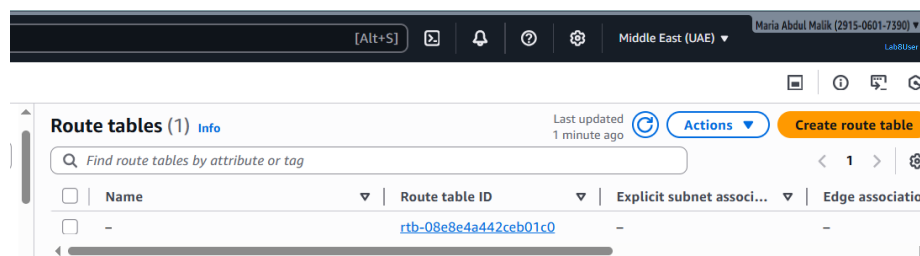
task3\_vpcs\_list.png



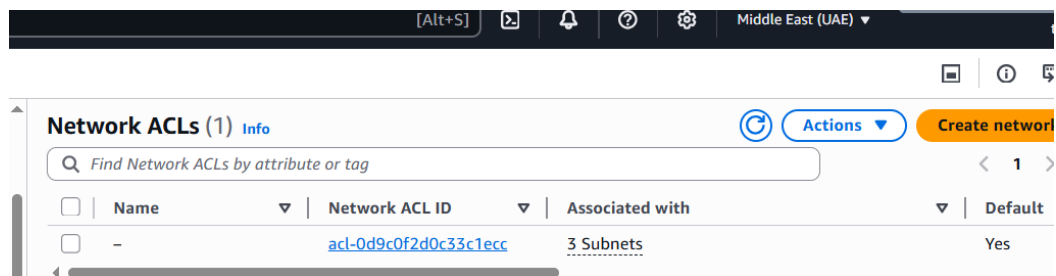
task3\_subnets\_list.png



task3\_route\_tables\_list.png



task3\_network\_acls\_list.png



task3\_summary.png

## Resources by Region

[Refresh Resources](#)

You are using the following Amazon VPC resources

<a href="#">VPCs</a> ▶ See all regions	UAE 1	<a href="#">NAT Gateways</a> ▶ See all regions	UAE 0
<a href="#">Subnets</a> ▶ See all regions	UAE 3	<a href="#">VPC Peering Connections</a> ▶ See all regions	UAE 0
<a href="#">Route Tables</a> ▶ See all regions	UAE 1	<a href="#">Network ACLs</a> ▶ See all regions	UAE 1
<a href="#">Internet Gateways</a> ▶ See all regions	UAE 1	<a href="#">Security Groups</a> ▶ See all regions	UAE 1

### Settings

[Block Public Access](#)  
[Zones](#)  
[Console Experiments](#)

### Additional Information

[VPC Documentation](#)  
[All VPC Resources](#)  
[Forums](#)

## Task 4 — Launch EC2, SSH, install Docker & Docker Compose, deploy Gitea

task4\_open\_ec2\_console.png

The screenshot shows the AWS Management Console interface for the Middle East (UAE) region. The left sidebar contains navigation links for EC2, including Dashboard, EC2 Global View, Events, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, and Dedicated Hosts. The main content area is titled 'Resources' and lists various EC2 resources with their counts: Instances (running) 0, Auto Scaling Groups 0, Capacity Reservations 0, Dedicated Hosts 0, Elastic IPs 0, Instances 0, Key pairs 0, Load balancers 0, Placement groups 0, Security groups 1, Snapshots 0, and Volumes 0. Below the resource list, there is a 'Launch instance' button and a 'Service health' section with an 'AWS Health Dashboard' link.

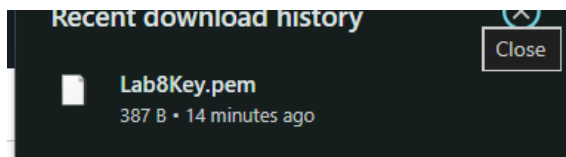
- task4\_launch\_instance\_config.png

[EC2](#) > [Instances](#) > Launch an instance

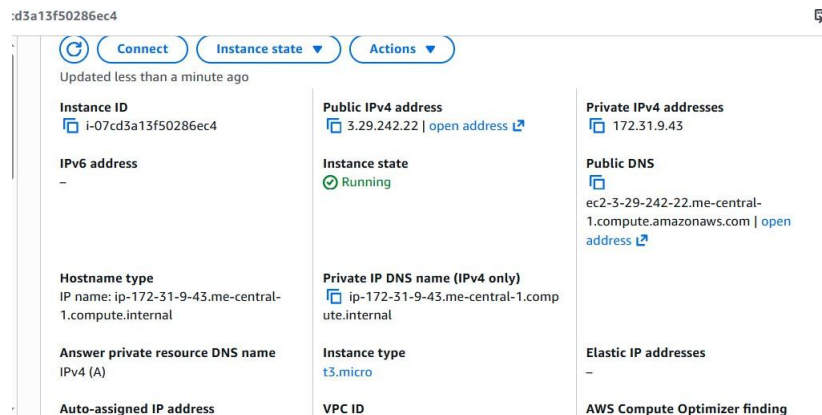
**Success**  
Successfully initiated launch of instance (i-07cd3a13f50286ec4)

▶ **Launch log**

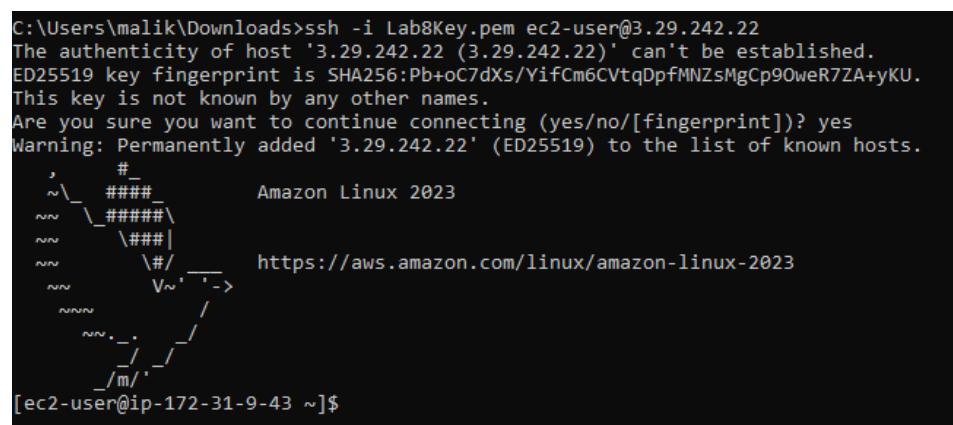
- task4\_keypair\_download.png



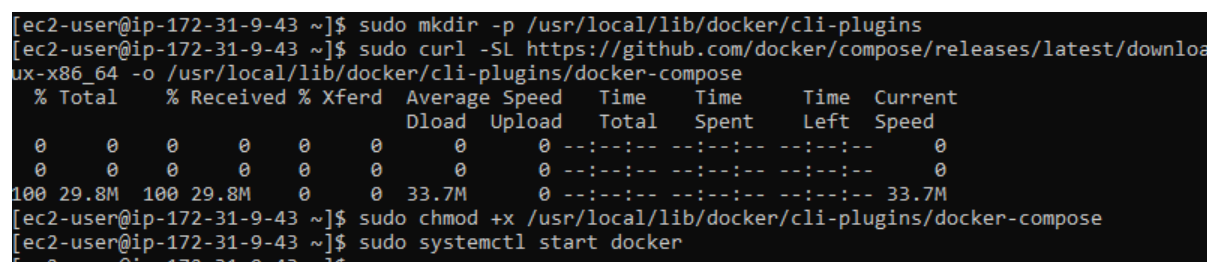
task4\_instance\_running\_console.png



- task4\_ssh\_from\_windows\_to\_ec2.png



- task4\_ec2\_install\_docker\_compose\_started.png



- task4\_vim\_compose\_yaml\_paste.png



```
[ec2-user@ip-192-31-8-40 ~]$ pwd
/home/ec2-user
[ec2-user@ip-192-31-8-40 ~]$ sudo yum update -y
Amazon Linux 2023 Kernel Livepatch repository                292 kB/s | 29 kB    00:00
Dependencies resolved.
Nothing to do.
Complete!
[ec2-user@ip-192-31-8-40 ~]$ sudo yum install -y docker
Last metadata expiration check: 0:00:55 ago on Thu Dec  4 16:14:24 2025.
Dependencies resolved.
=====
Package                                Architecture      Version            Repository          Size
=====
Installing:
docker                                x86_64            25.0.13-1.amzn2023.0.2    amazonlinux         46 M
Installing dependencies:
container-selinux                    noarch            4:2.242.0-1.amzn2023    amazonlinux          58 k
containerd                            x86_64            2.1.4-1.amzn2023.0.2    amazonlinux          23 M
iptables-libs                        x86_64            1.8.8-3.amzn2023.0.2    amazonlinux          401 k
iptables-nft                         x86_64            1.8.8-3.amzn2023.0.2    amazonlinux          183 k
libcgroup                            x86_64            3.0-1.amzn2023.0.1      amazonlinux           75 k
libnetfilter_conntrack               x86_64            1.0.8-2.amzn2023.0.2    amazonlinux           58 k
libnftnl                             x86_64            1.0.1-19.amzn2023.0.2   amazonlinux           30 k
libnftnl                             x86_64            1.2.2-2.amzn2023.0.2    amazonlinux           84 k
pigz                                 x86_64            2.5-1.amzn2023.0.3      amazonlinux           83 k
=====
```

- task4\_compose\_yaml\_saved\_ls.png

```

- 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

networks:
  webnet:
    name: webnet
#   external: true

# Gitea is not allowed to webhook to Jenkins folow these steps
# 1) Go to Gitea Container
# 2) cat /data/gitea/conf/app.ini
```

- task4\_compose\_yaml\_saved\_ls.png

```
[ec2-user@ip-192-31-8-40 ~]$ [ec2-user@ip-172-31-9-43 ~]$ ls -l
total 4
-rw-r--r--. 1 root root 1126 Dec  4 16:35 compose.yaml
[ec2-user@ip-192-31-8-40 ~]$ cat compose.yaml
services:
  gitea:
    image: gitea/gitea:latest
    container_name: gitea
    environment:
      - DB_TYPE=postgres
      - DB_HOST=db:5432
      - DB_NAME=gitea
      - DB_USER=gitea
      - DB_PASSWORD=gitea
    restart: always
    volumes:
      - gitea:/data
    ports:
      - 3000:3000
    extra_hosts:
      - "www.jenkins.com:host-gateway"
    networks:
      - webnet
```

- task4\_usermod\_and\_groups\_before\_after.png

```
[ec2-user@ip-192-31-8-40 ~]$ exit
logout
Connection to 3.29.242.22 closed.
```

C:\Users\malik\Downloads>ssh -i Lab8Key.pem ec2-user@3.29.242.22

```
      #_
     ##_##          Amazon Linux 2023
    #####\
   #####|
  #####| \##_|
  #####| \#/_ https://aws.amazon.com/linux/amazon-linux-2023
  ##### V~'-'>
        NNN
        NNN _.'
            / \
           /m/'
Last login: Thu Dec  4 16:26:18 2025 from 175.107.227.5
[ec2-user@ip-192-31-8-40 ~]$ pwd
/home/ec2-user
[ec2-user@ip-192-31-8-40 ~]$ groups
ec2-user adm wheel systemd-journal docker
```

- task4\_docker\_compose\_up.png

```
[+] up 22/22-172-31-9-43 ~]$ docker compose up -d
📦 Image postgres:alpine Pulled
📦 Image gitea/gitea:latest Pulled
📦 Network webnet Created
📦 Volume gitea Created
📦 Volume gitea_postgres Created
📦 Container gitea_db Created
📦 Container gitea Created
[ec2-user@ip-192-31-8-40 ~]$
```

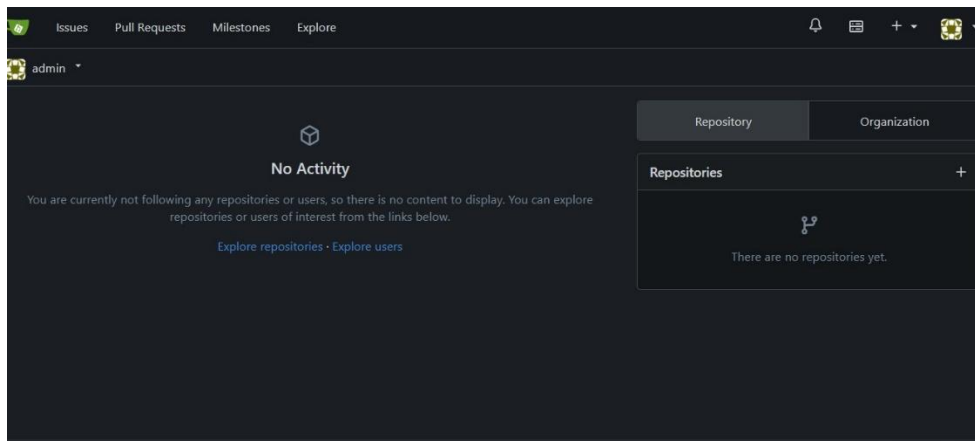
- task4\_security\_group\_allow\_3000.png

**Inbound rules** [Info](#)

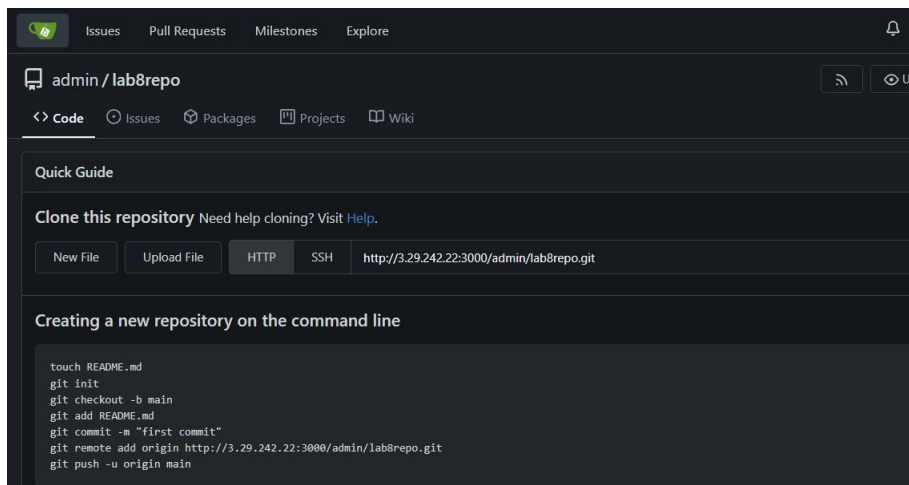
Security group rule ID	Type <a href="#">Info</a>	Protocol <a href="#">Info</a>	Port range <a href="#">Info</a>	Source <a href="#">Info</a>	Description - optional <a href="#">Info</a>	
sgr-0dca78b11d4ee06b1	SSH	TCP	22	C... <input type="text" value="175.107.227.5/32"/>		Delete
-	Custom TCP	TCP	3000	A... <input type="text" value="0.0.0.0/0"/>		Delete

[Add rule](#)

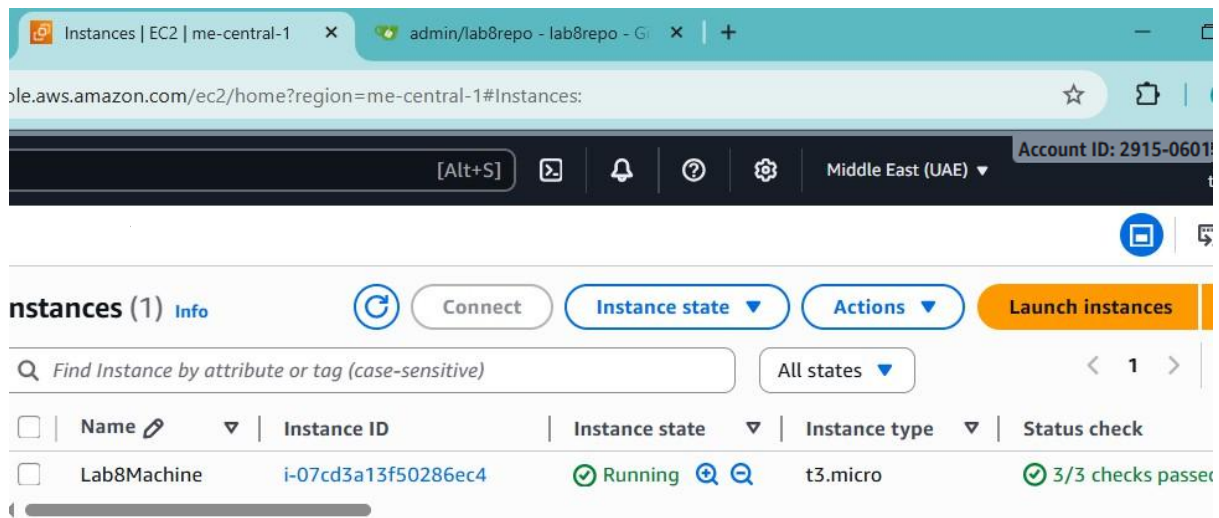
- task4\_gitea\_install\_page.png



task4\_gitea\_create\_repo.png

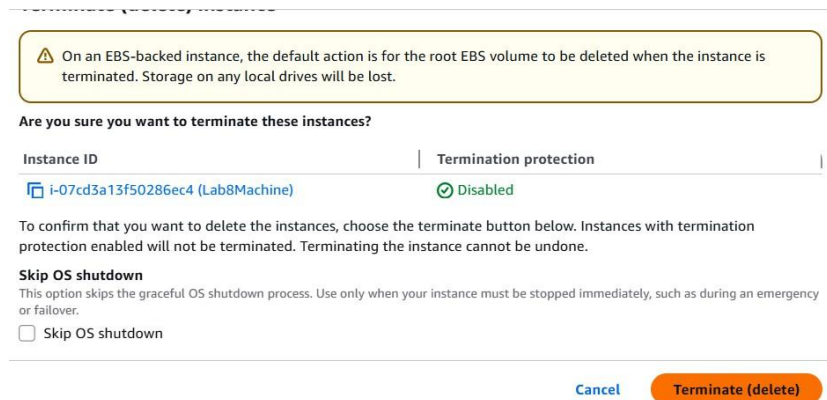


- task4\_summary.png

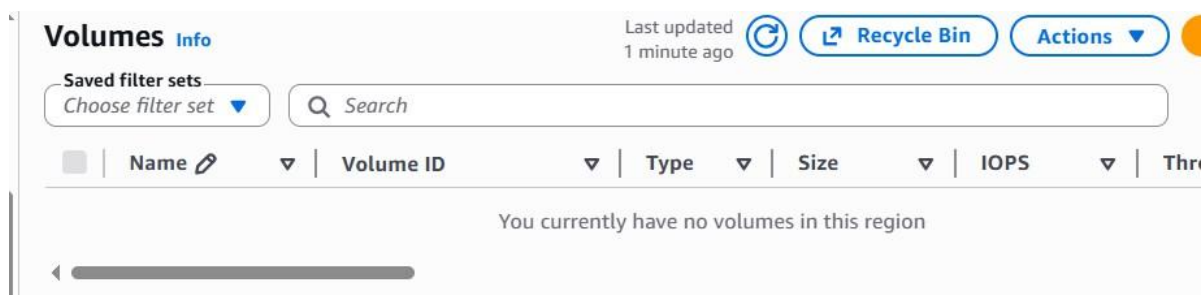


## Cleanup — Remove resources to avoid charges


cleanup\_terminate\_instance.png





- cleanup\_delete\_volumes\_snapshots.png






### Snapshots Info

Last updated less than a minute ago  [Recycle Bin](#) [Actions](#) [Cr](#)


Owned by me 







	Name 	Snapshot ID	Full snapshot size	Volume size	Descr
---	--	-------------	--------------------	-------------	-------


You currently have no snapshots in this Region.






- cleanup\_delete\_security\_group\_and\_keypair.png


 Successfully deleted 1 key pairs 

### Key pairs Info

 [Actions](#) [Create key pair](#)





 1 


	Name	Type	Created	Fingerprint	ID
---	------	------	---------	-------------	----


No key pairs to display



- cleanup\_iam\_users\_deleted.png


 Users deleted. 

### Users (0) Info



 [Delete](#) [Create user](#)




 1 

	User name	Path	Group	Last activity	MFA	F
---	-----------	------	-------	---------------	-----	---


- cleanup\_summary.png

 Users deleted. 

Add MFA for root user - Enable multi-factor authentication (MFA) for the root user to improve security for this account.

 Root user has no active access keys  
Using access keys attached to an IAM user instead of the root user improves security.

### IAM resources

Resources in this AWS Account 

User groups	Users	Roles	Policies	Identity providers
0	0	3	0	0