DEPARTMENT OF SOFTWARE ENGINEERING

LAB#8

SUBMITTED TO:

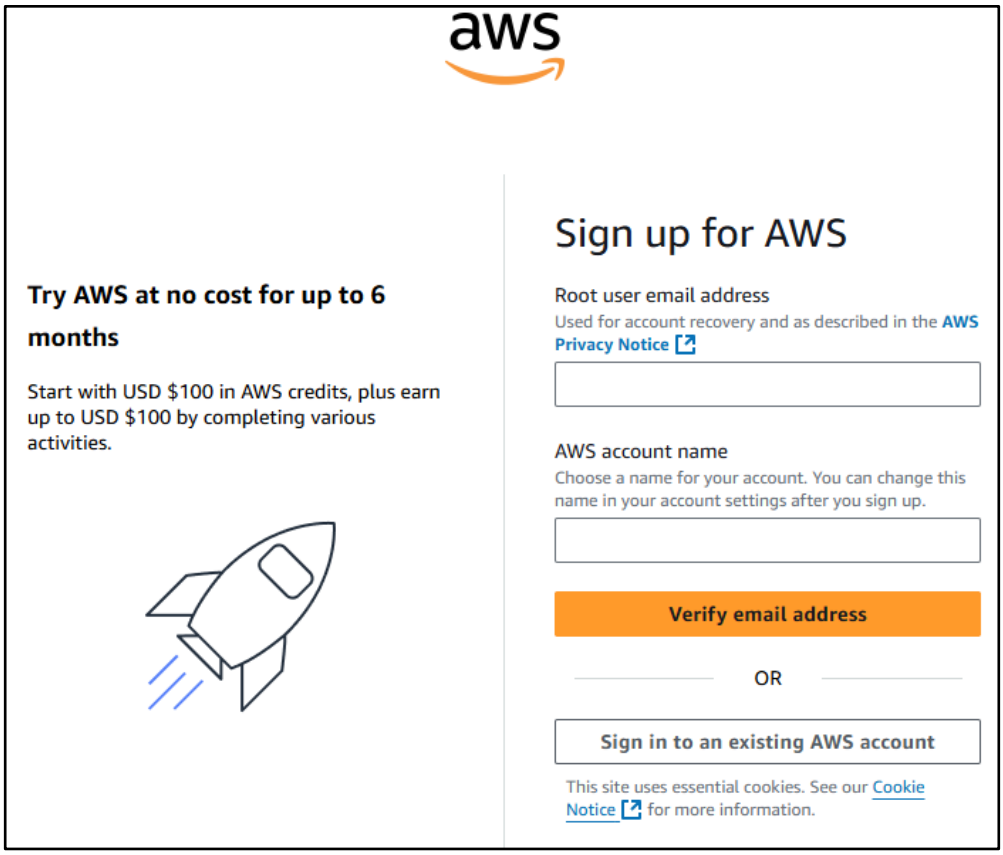
ENGR. MUHAMMAD SHOAIB

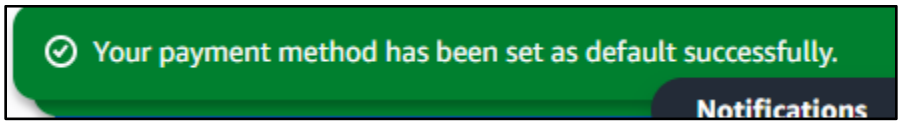
ENGR. WAQAS SALEEM

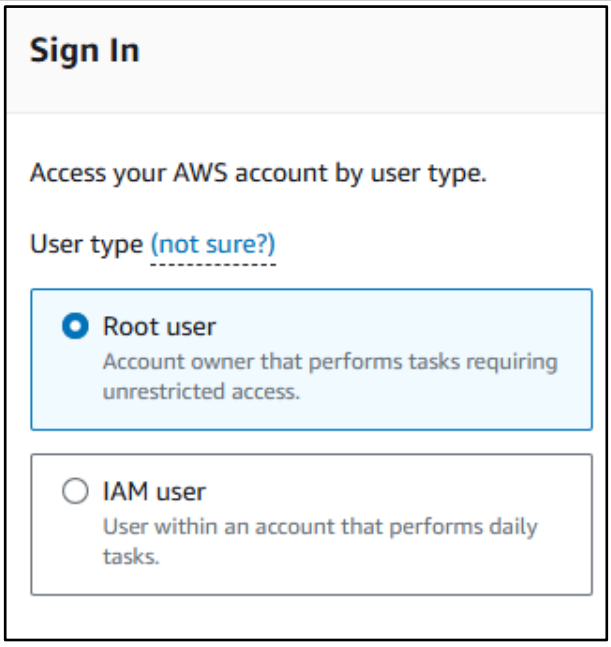
SUBMITTED BY: NEHA AMJAD

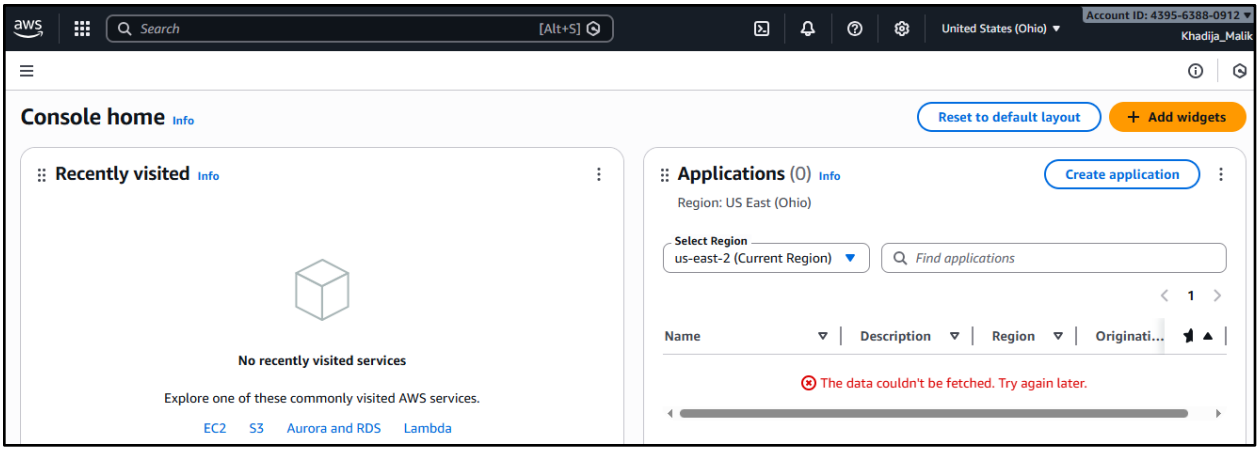
REG NO: 2021-BSE-024

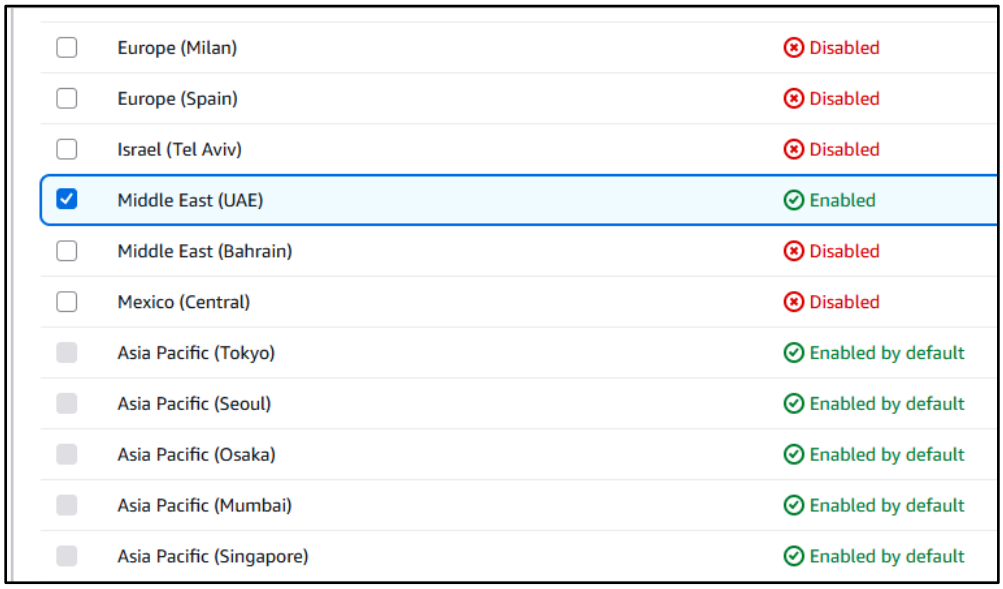
Task 1 – Create an AWS account and enable UAE (me-central-1)



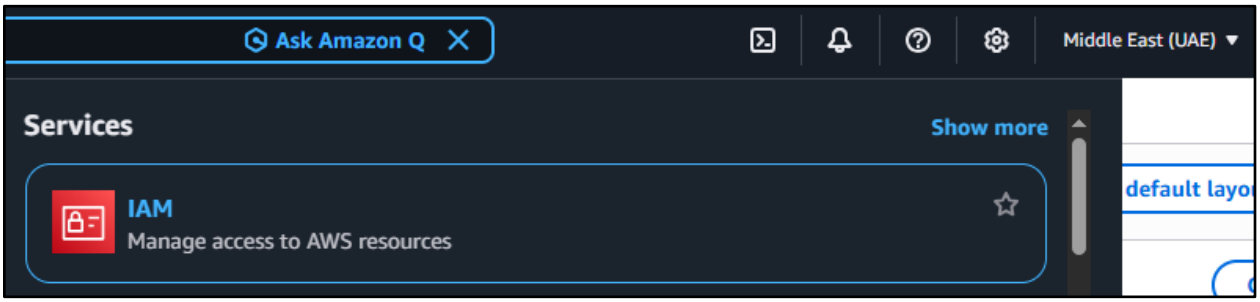


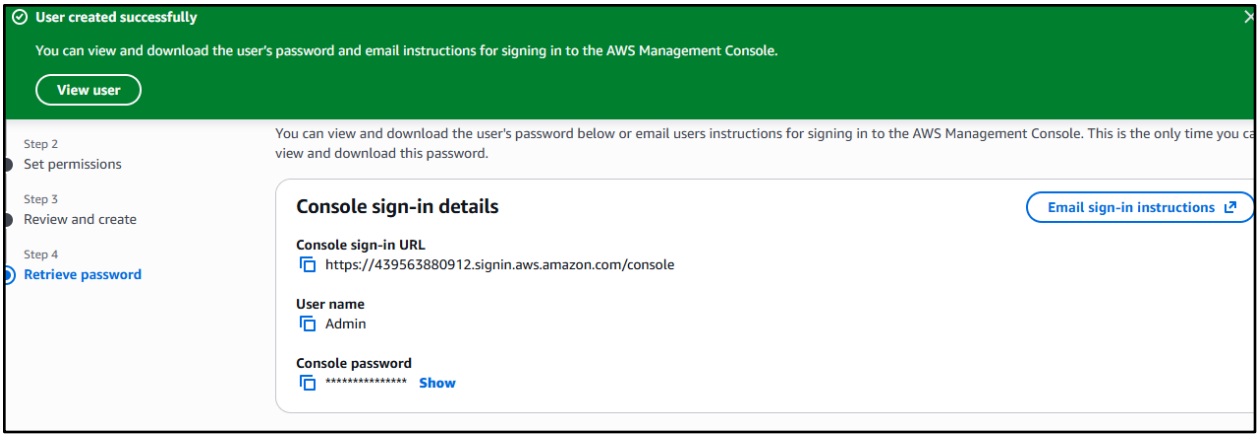


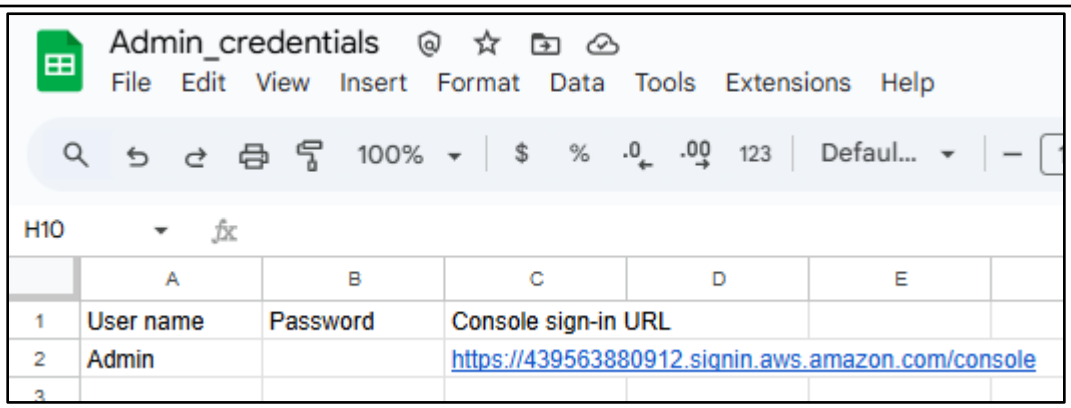


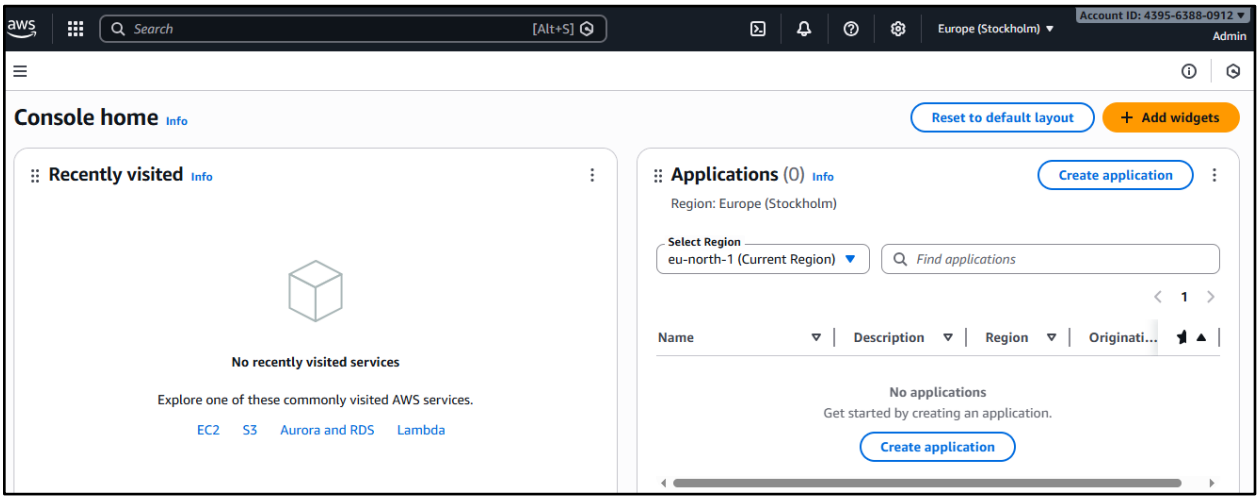


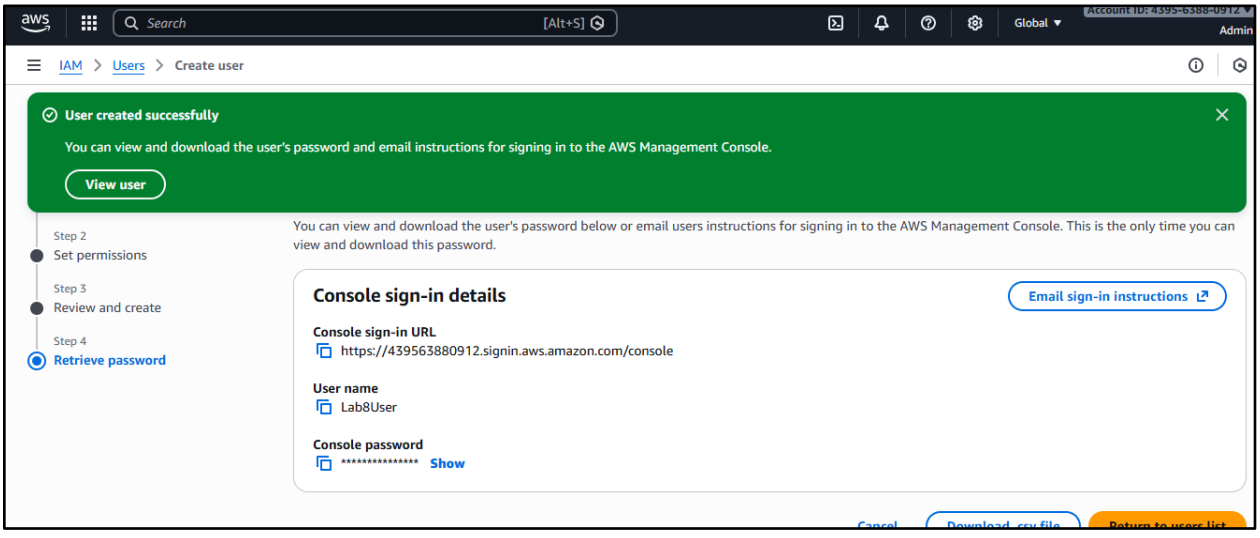
Task 2 – Create IAM Admin and Lab8User with console access

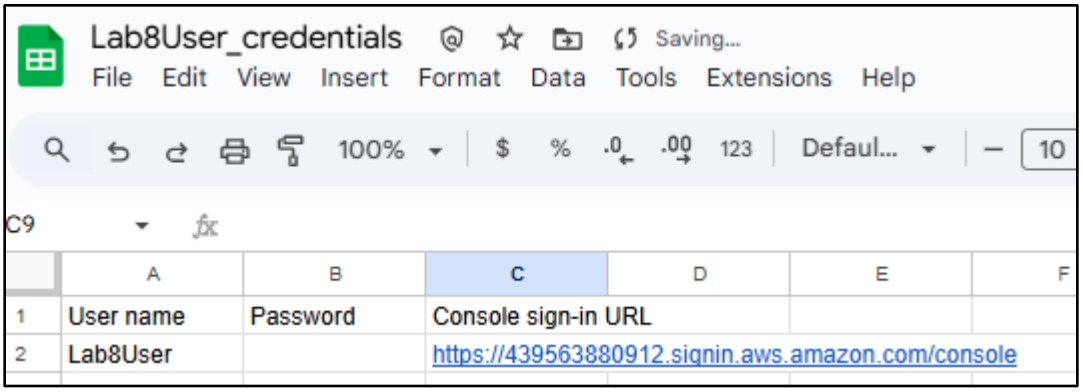


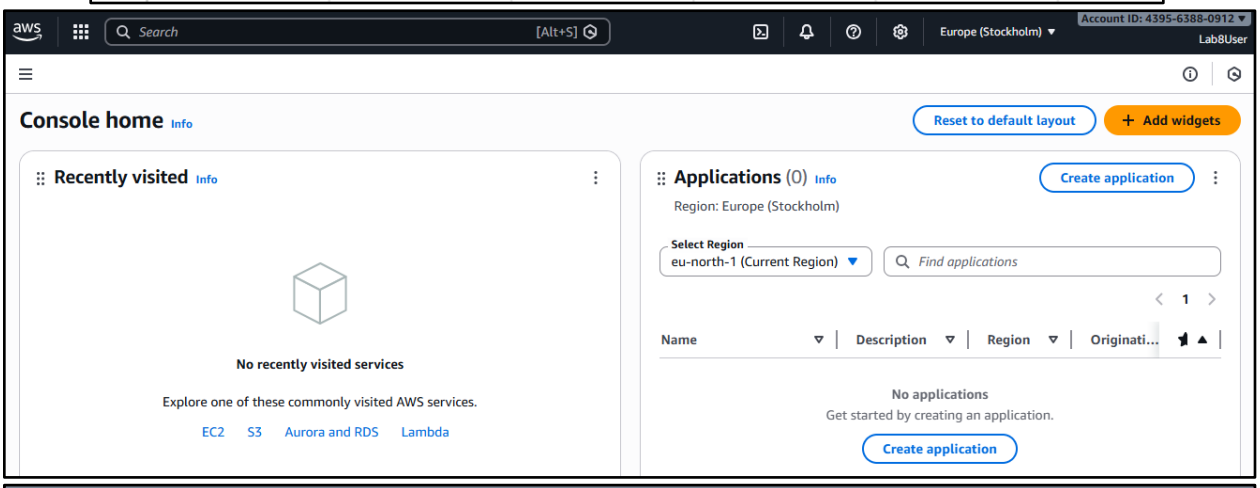

User created successfully
You can view and download the user's password and email instructions for signing in to the AWS Management Console.
View user
Step 2
Set permissions
Step 3
Review and create
Step 4
Retrieve password
You can view and download the user's password below or email users instructions for signing in to the AWS Management Console. This is the only time you ca
view and download this password.
Console sign-in details
Email sign-in instructions
Console sign-in URL
https://439563880912.signin.aws.amazon.com/console
User name
Admin
Console password
********** Show

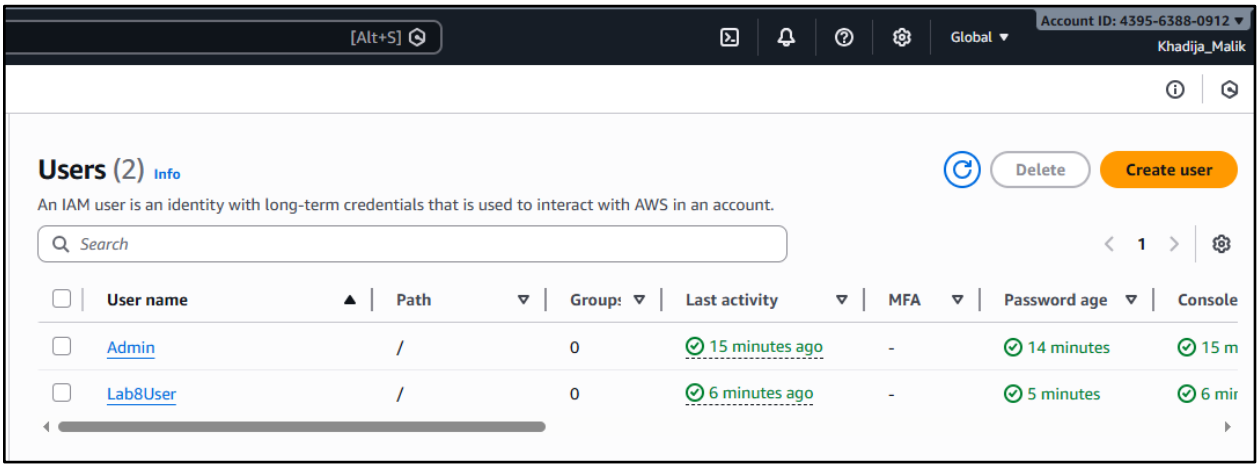

Admin_credentials
File Edit View Insert Format Data Tools Extensions Help
100% $ % .0 .00 123 Defaul...
H10
A B C D E
1 User name Password Console sign-in URL
2 Admin https://439563880912.signin.aws.amazon.com/console
3


aws
Search [Alt+S]
Europe (Stockholm)
Account ID: 4395-6388-0912
Admin
Console home Info
Reset to default layout
+ Add widgets
Recently visited Info
No recently visited services
Explore one of these commonly visited AWS services.
EC2 S3 Aurora and RDS Lambda
Applications (0) Info
Create application
Region: Europe (Stockholm)
Select Region
eu-north-1 (Current Region)
Find applications
Name Description Region Originati...
No applications
Get started by creating an application.
Create application

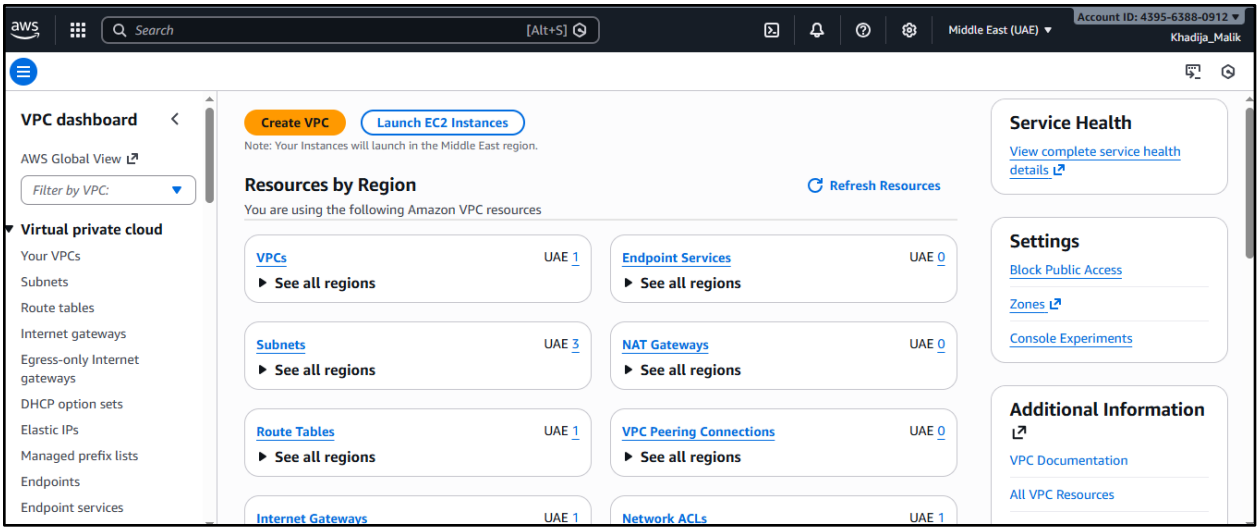

aws
Search [Alt+S]
Global
Account ID: 4395-6388-0912
Admin
IAM > Users > Create user
User created successfully
You can view and download the user's password and email instructions for signing in to the AWS Management Console.
View user
Step 2
Set permissions
Step 3
Review and create
Step 4
Retrieve password
You can view and download the user's password below or email users instructions for signing in to the AWS Management Console. This is the only time you can
view and download this password.
Console sign-in details
Email sign-in instructions
Console sign-in URL
https://439563880912.signin.aws.amazon.com/console
User name
Lab8User
Console password
********** Show

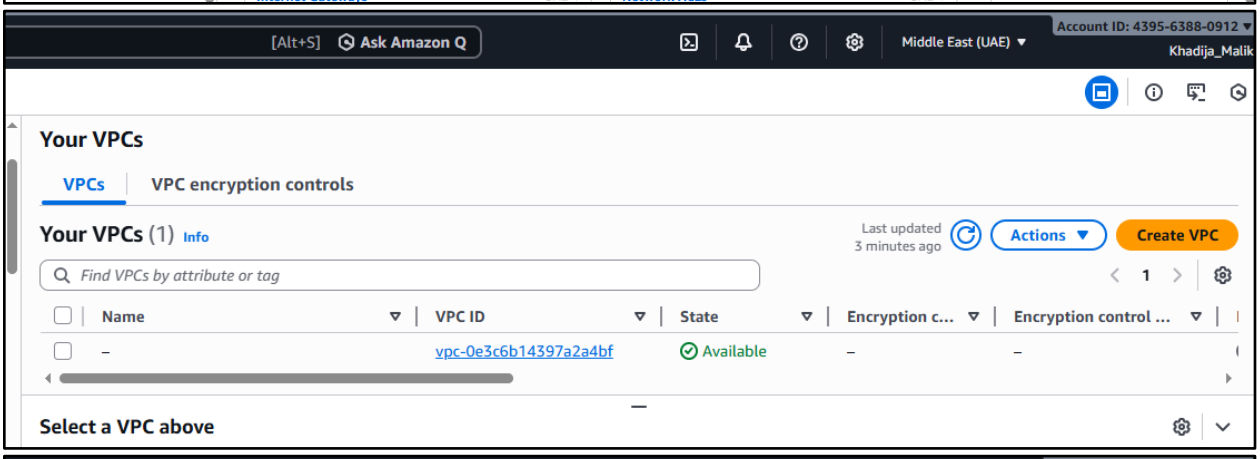


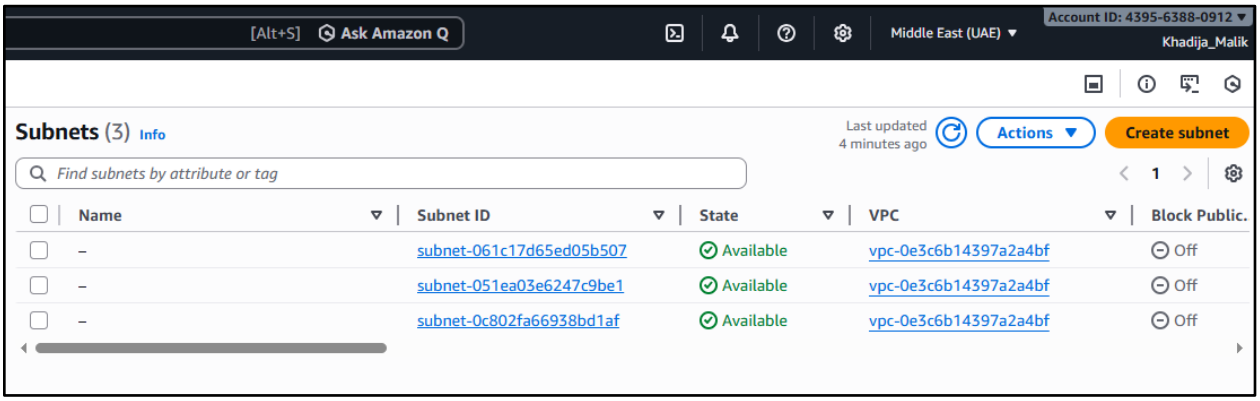


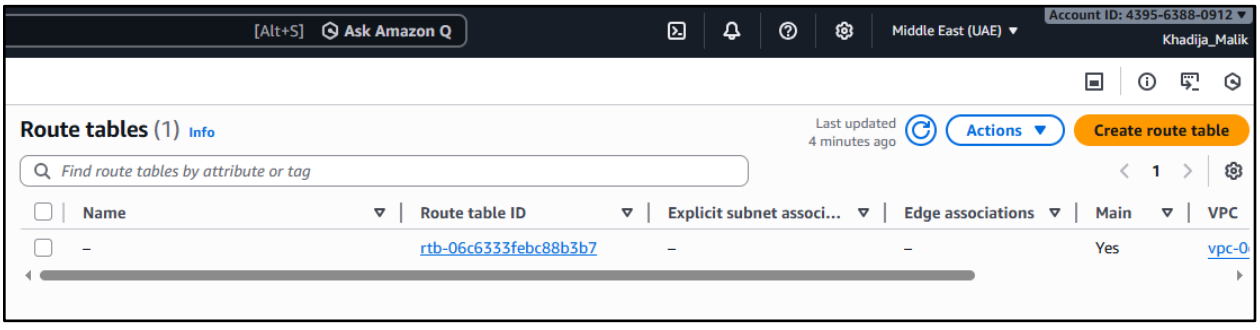


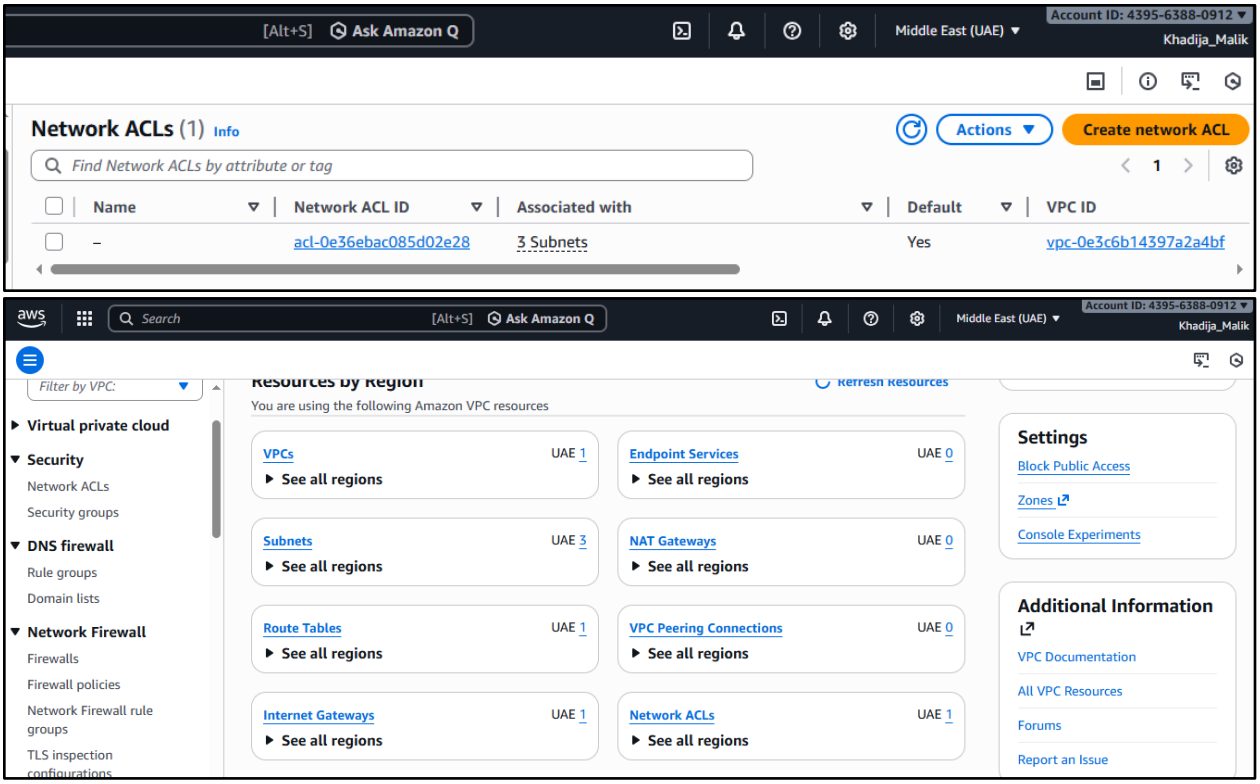
Task 3 - Inspect VPC resources (in UAE me-central-1)


Search
[Alt+S]
Middle East (UAE)
Account ID: 4395-6388-0912
Khadija_Malik
VPC dashboard
AWS Global View
Filter by VPC:
Virtual private cloud
Your VPCs
Subnets
Route tables
Internet gateways
Egress-only Internet gateways
DHCP option sets
Elastic IPs
Managed prefix lists
Endpoints
Endpoint services
Create VPC
Launch EC2 Instances
Note: Your Instances will launch in the Middle East region.
Resources by Region
Refresh Resources
You are using the following Amazon VPC resources
VPCs UAE 1
See all regions
Endpoint Services UAE 0
See all regions
Subnets UAE 3
See all regions
NAT Gateways UAE 0
See all regions
Route Tables UAE 1
See all regions
VPC Peering Connections UAE 0
See all regions
Internet Gateways UAE 1
Network ACLs UAE 1
Service Health
View complete service health details
Settings
Block Public Access
Zones
Console Experiments
Additional Information
VPC Documentation
All VPC Resources

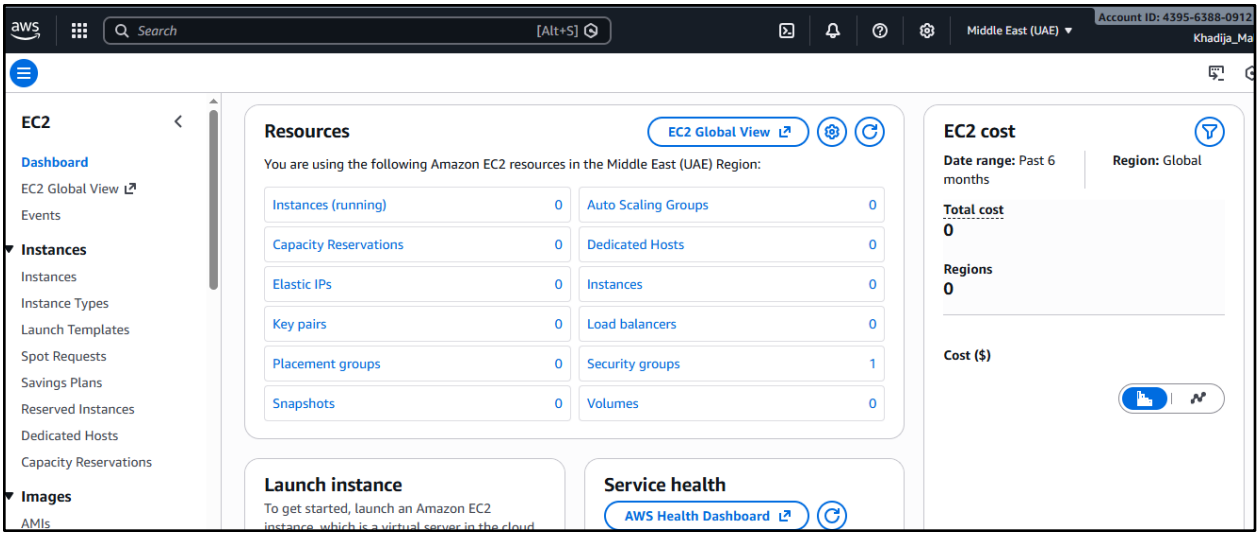

[Alt+S]
Ask Amazon Q
Middle East (UAE)
Account ID: 4395-6388-0912
Khadija_Malik
Your VPCs
VPCs
VPC encryption controls
Your VPCs (1) Info
Last updated 3 minutes ago
Actions
Create VPC
Find VPCs by attribute or tag
Name
VPC ID
State
Encryption c...
Encryption control ...
vpc-0e3c6b14397a2a4bf
Available
Select a VPC above

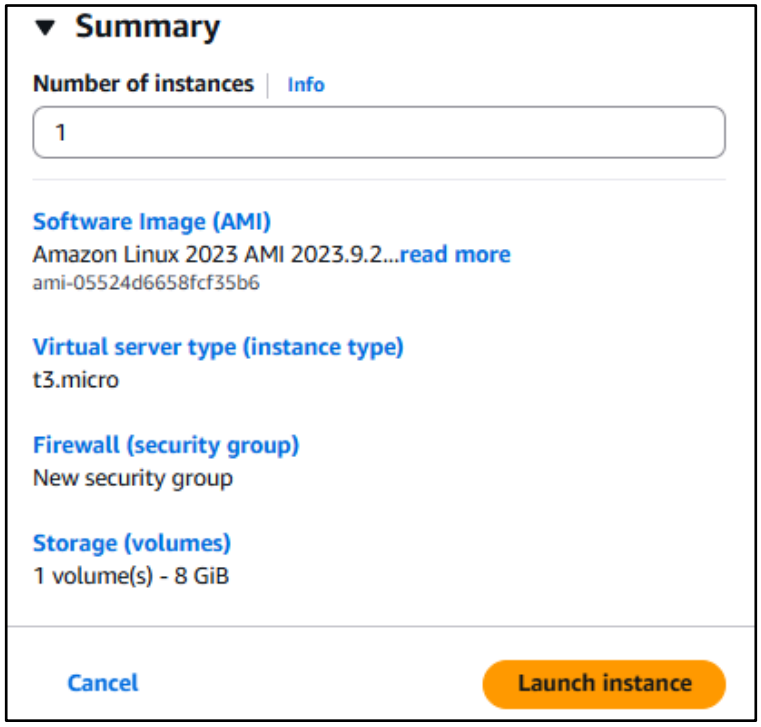

[Alt+S]
Ask Amazon Q
Middle East (UAE)
Account ID: 4395-6388-0912
Khadija_Malik
Subnets (3) Info
Last updated 4 minutes ago
Actions
Create subnet
Find subnets by attribute or tag
Name
Subnet ID
State
VPC
Block Public...
subnet-061c17d65ed05b507
subnet-051ea03e6247c9be1
subnet-0c802fa66938bd1af
Available
vpc-0e3c6b14397a2a4bf
Off

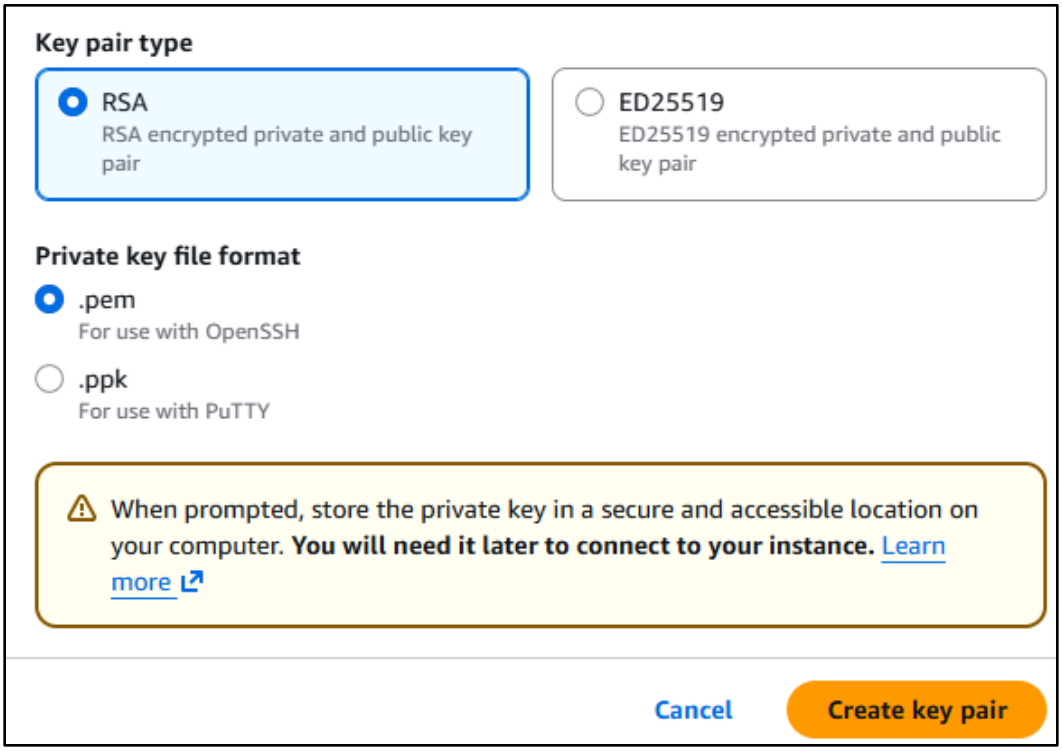

[Alt+S]
Ask Amazon Q
Middle East (UAE)
Account ID: 4395-6388-0912
Khadija_Malik
Route tables (1) Info
Last updated 4 minutes ago
Actions
Create route table
Find route tables by attribute or tag
Name
Route table ID
Explicit subnet associ...
Edge associations
Main
VPC
rtb-06c6333febc88b3b7
Yes

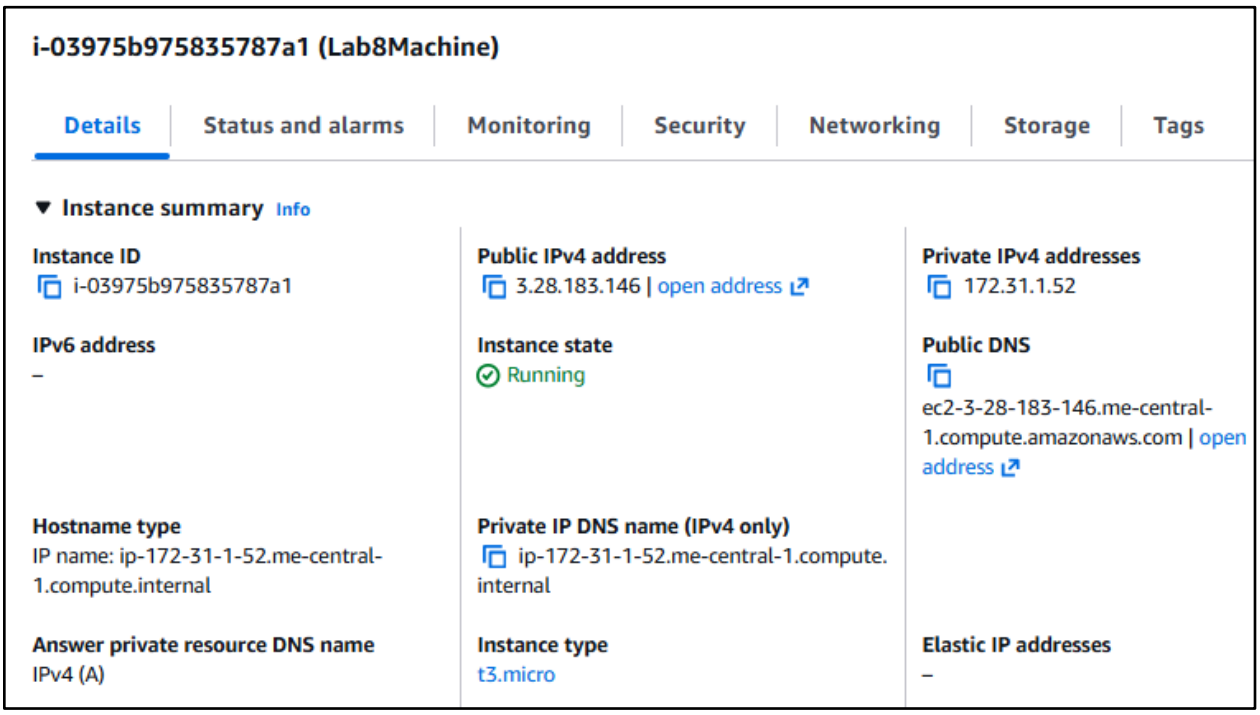


Task 4— Launch EC2, SSH, install Docker & Docker Compose, deploy Gitea


aws
Search
[Alt+S]
Middle East (UAE)
Account ID: 4395-6388-0912
Khadija_Ma
EC2
Dashboard
EC2 Global View
Events
Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations
Images
AMIs
Resources
EC2 Global View
You are using the following Amazon EC2 resources in the Middle East (UAE) Region:
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
Volumes 0
EC2 cost
Date range: Past 6 months
Region: Global
Total cost
0
Regions
0
Cost ($)
Launch instance
To get started, launch an Amazon EC2
Service health
AWS Health Dashboard


Summary
Number of instances
Info
1
Software Image (AMI)
Amazon Linux 2023 AMI 2023.9.2...read more
ami-05524d6658fcf35b6
Virtual server type (instance type)
t3.micro
Firewall (security group)
New security group
Storage (volumes)
1 volume(s) - 8 GiB
Cancel
Launch instance


Key pair type
RSA
RSA encrypted private and public key pair
ED25519
ED25519 encrypted private and public key pair
Private key file format
.pem
For use with OpenSSH
.ppk
For use with PuTTY
When prompted, store the private key in a secure and accessible location on your computer. You will need it later to connect to your instance. Learn more
Cancel
Create key pair


i-03975b975835787a1 (Lab8Machine)
Details
Status and alarms
Monitoring
Security
Networking
Storage
Tags
Instance summary Info
Instance ID
i-03975b975835787a1
Public IPv4 address
3.28.183.146 | open address
Private IPv4 addresses
172.31.1.52
IPv6 address
–
Instance state
Running
Public DNS
ec2-3-28-183-146.me-central-1.compute.amazonaws.com | open address
Hostname type
IP name: ip-172-31-1-52.me-central-1.compute.internal
Private IP DNS name (IPv4 only)
ip-172-31-1-52.me-central-1.compute.internal
Answer private resource DNS name
IPv4 (A)
Instance type
t3.micro
Elastic IP addresses
–

```
ec2-user@ip-172-31-1-52:~
Microsoft Windows [Version 10.0.19045.6466]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Dell>ssh -i Downloads/Lab8Key.pem ec2-user@3.28.183.146
The authenticity of host '3.28.183.146 (3.28.183.146)' can't be established.
ED25519 key fingerprint is SHA256:3RaL9espXyznMnQ7VHytlw/BZtciQC4aT78JutmpDjo.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? y
Please type 'yes', 'no' or the fingerprint: yes
Warning: Permanently added '3.28.183.146' (ED25519) to the list of known hosts.
   ,     #_
   ~\_  ####_        Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _/m/'
[ec2-user@ip-172-31-1-52 ~]$
```

```
[ec2-user@ip-172-31-1-52 ~]$ sudo yum update -y
Amazon Linux 2023 Kernel Livepatch repository                    252 kB/s |  29 kB     00:00
Dependencies resolved.
Nothing to do.
Complete!
[ec2-user@ip-172-31-1-52 ~]$ sudo yum install -y docker
```

```
[ec2-user@ip-172-31-1-52 ~]$ sudo yum install -y docker
Last metadata expiration check: 0:00:18 ago on Fri Dec 26 05:17:50 2025.
Dependencies resolved.
================================================================================ Package
      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           2.1.5-1.amzn2023.0.1            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
 libnfnetlink                    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
 runc                            x86_64           1.3.3-2.amzn2023.0.1            amazonlinux          3.9 M

Installed:
  container-selinux-4:2.242.0-1.amzn2023.noarch                containerd-2.1.5-1.amzn2023.0.1.x86_64
  docker-25.0.13-1.amzn2023.0.2.x86_64                         iptables-libs-1.8.8-3.amzn2023.0.2.x86_64
  iptables-nft-1.8.8-3.amzn2023.0.2.x86_64                     libcgroup-3.0-1.amzn2023.0.1.x86_64
  libnetfilter_conntrack-1.0.8-2.amzn2023.0.2.x86_64           libnfnetlink-1.0.1-19.amzn2023.0.2.x86_64
  libnftnl-1.2.2-2.amzn2023.0.2.x86_64                         pigz-2.5-1.amzn2023.0.3.x86_64
  runc-1.3.3-2.amzn2023.0.1.x86_64

Complete!
[ec2-user@ip-172-31-1-52 ~]$ sudo mkdir -p /usr/local/lib/docker/cli-plugins
[ec2-user@ip-172-31-1-52 ~]$ sudo curl -SL https://github.com/docker/compose/releases/latest/download/docker-compose
ocker-compose
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
  0     0    0     0    0     0      0      0 --:--:-- --:--:-- --:--:--     0
  0     0    0     0    0     0      0      0 --:--:-- --:--:-- --:--:--     0
100 29.8M  100 29.8M    0     0  45.9M      0 --:--:-- --:--:-- --:--:-- 45.9M
[ec2-user@ip-172-31-1-52 ~]$ sudo chmod +x /usr/local/lib/docker/cli-plugins/docker-compose
[ec2-user@ip-172-31-1-52 ~]$ sudo systemctl start docker
[ec2-user@ip-172-31-1-52 ~]$
```

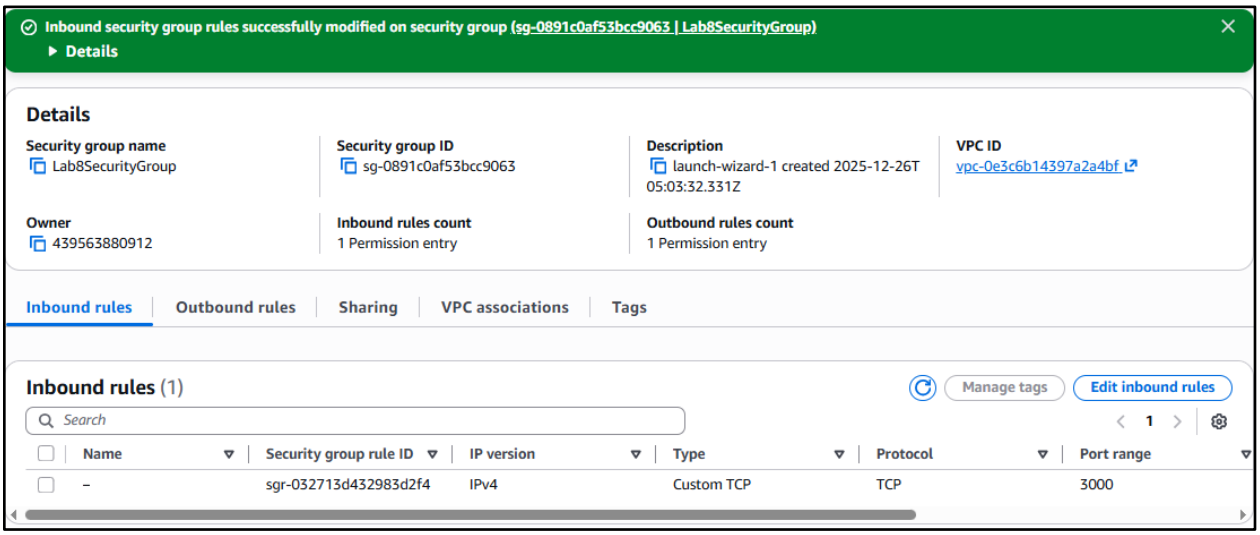
ec2-user@ip-172-31-1-52:~

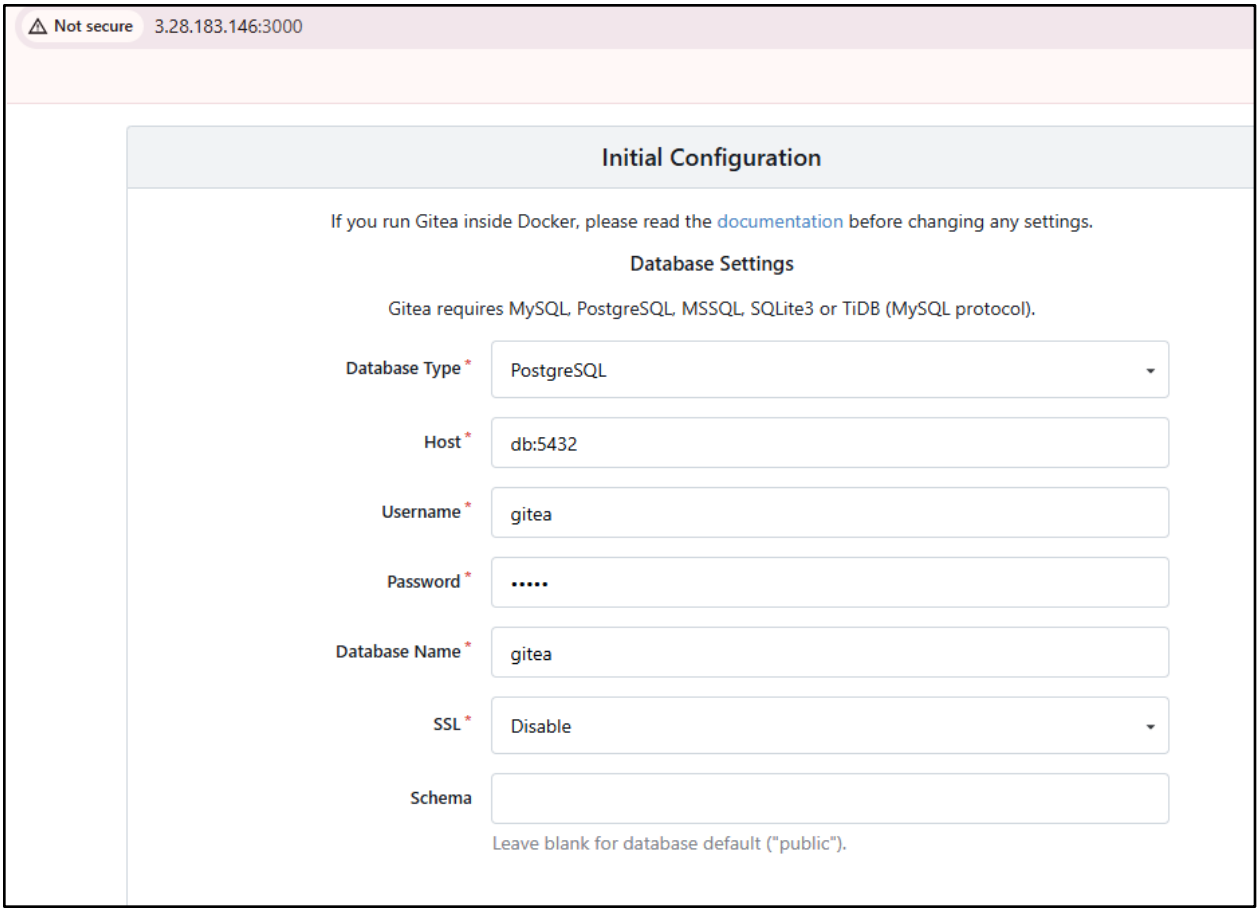
```
services:
    gitea:
        image: gitea/gitea:latest
        container_name: gitea
        environment:
            - DB_TYPE=postgres
            - DB_HOST=db:5432
            - DB_NAME=gitea
            - DB_USER=gitea
            - DB_PASSWD=gitea
        restart: always
        volumes:
            - gitea:/data
        ports:
            - 3000:3000
        extra_hosts:
            - "www.jenkins.com:host-gateway"
        networks:
```

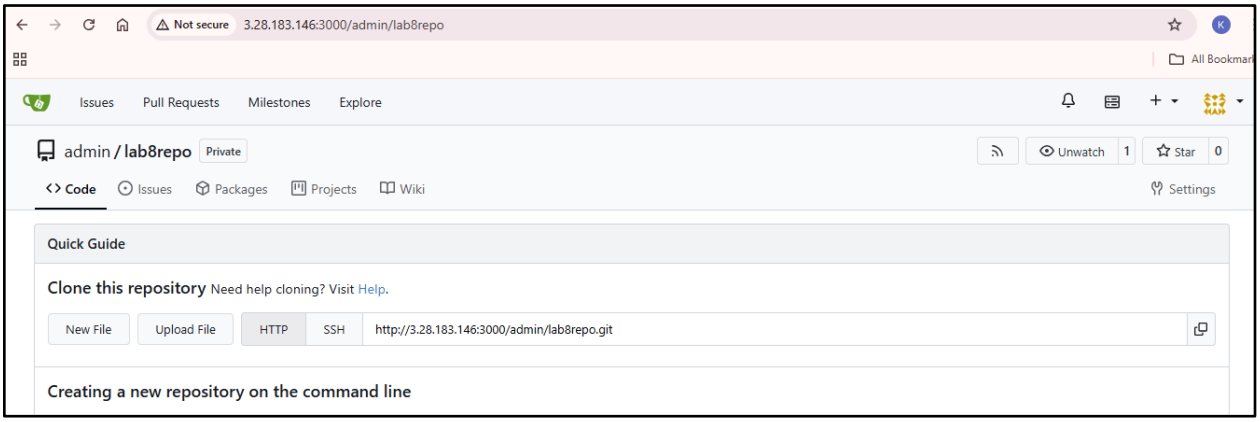
```
[ec2-user@ip-172-31-1-52 ~]$ sudo vim compose.yaml
[ec2-user@ip-172-31-1-52 ~]$ ls -l
total 4
-rw-r--r--. 1 root root 2980 Dec 26 05:33 compose.yaml
[ec2-user@ip-172-31-1-52 ~]$
```

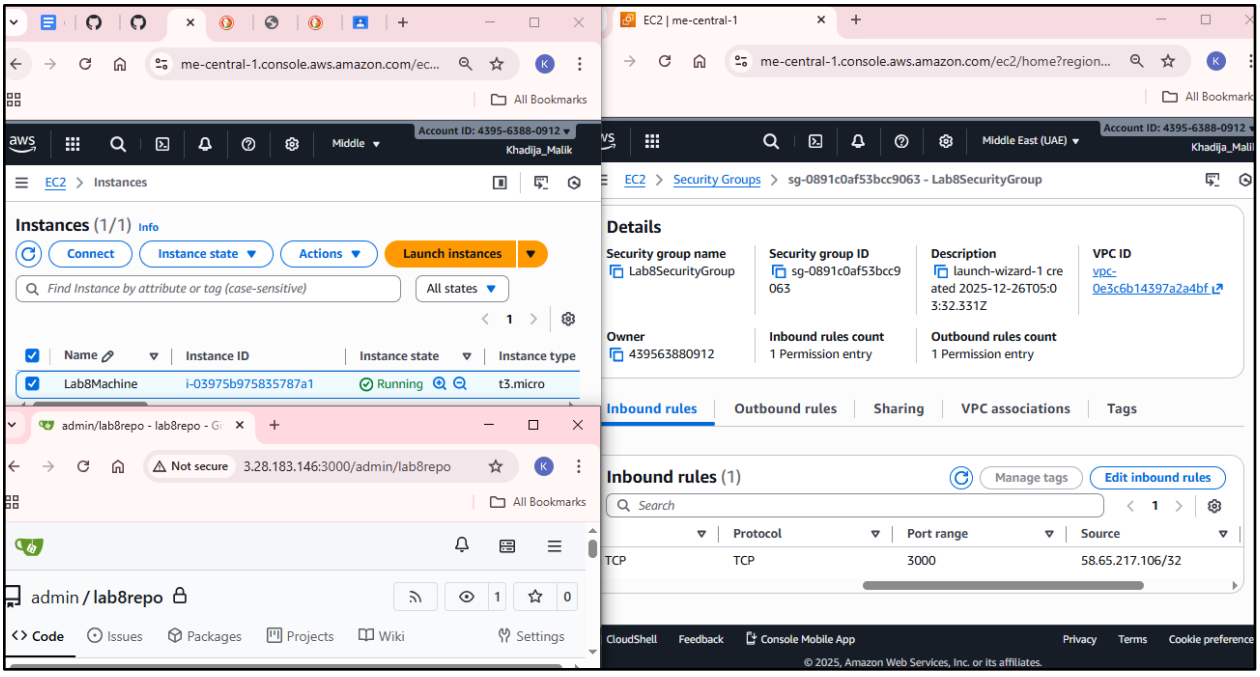
```
[ec2-user@ip-172-31-1-52 ~]$ sudo chmod +x /usr/local/lib/docker/cli-plugins/docker-compose
[ec2-user@ip-172-31-1-52 ~]$ sudo systemctl start docker
[ec2-user@ip-172-31-1-52 ~]$ sudo vim compose.yaml
[ec2-user@ip-172-31-1-52 ~]$ ls -l
total 4
-rw-r--r--. 1 root root 2980 Dec 26 05:33 compose.yaml
[ec2-user@ip-172-31-1-52 ~]$ groups
ec2-user adm wheel systemd-journal
[ec2-user@ip-172-31-1-52 ~]$ sudo usermod -aG docker $USER
[ec2-user@ip-172-31-1-52 ~]$ groups
ec2-user adm wheel systemd-journal
[ec2-user@ip-172-31-1-52 ~]$ exit
logout
Connection to 3.28.183.146 closed.

C:\Users\Dell>ssh -i Downloads/Lab8Key.pem ec2-user@3.28.183.146
   ,     #_
   ~\_  ####_        Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _/m/'
Last login: Fri Dec 26 05:16:30 2025 from 58.65.217.106
[ec2-user@ip-172-31-1-52 ~]$ groups
ec2-user adm wheel systemd-journal docker
[ec2-user@ip-172-31-1-52 ~]$
```

```
[ec2-user@ip-172-31-1-52 ~]$ docker compose up -d
[+] up 16/18
[+] up 23/23tgres:alpine [▮▮▮▮▮▮▮▮▮▮]   112MB / 112MB   Pulling
 ▮ 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
   ▮ 0dfd86289dd1           Pull complete
   ▮ 98eecc0da868           Pull complete
   ▮ b747867e61cb           Pull complete
 ▮ Image gitea/gitea:latest Pulled
   ▮ 2d35ebdb57d9           Pull complete
   ▮ 9f4e672c1f34           Pull complete
   ▮ 4da94b3cc809           Pull complete
   ▮ 8e016ece0bd3           Pull complete
   ▮ 346e493cb6cb           Pull complete
   ▮ 95215379f1d1           Pull complete
 ▮ Network webnet           Created
 ▮ Volume gitea             Created
 ▮ Volume gitea_postgres    Created
 ▮ Container gitea_db       Created
 ▮ Container gitea          Created
[ec2-user@ip-172-31-1-52 ~]$
```

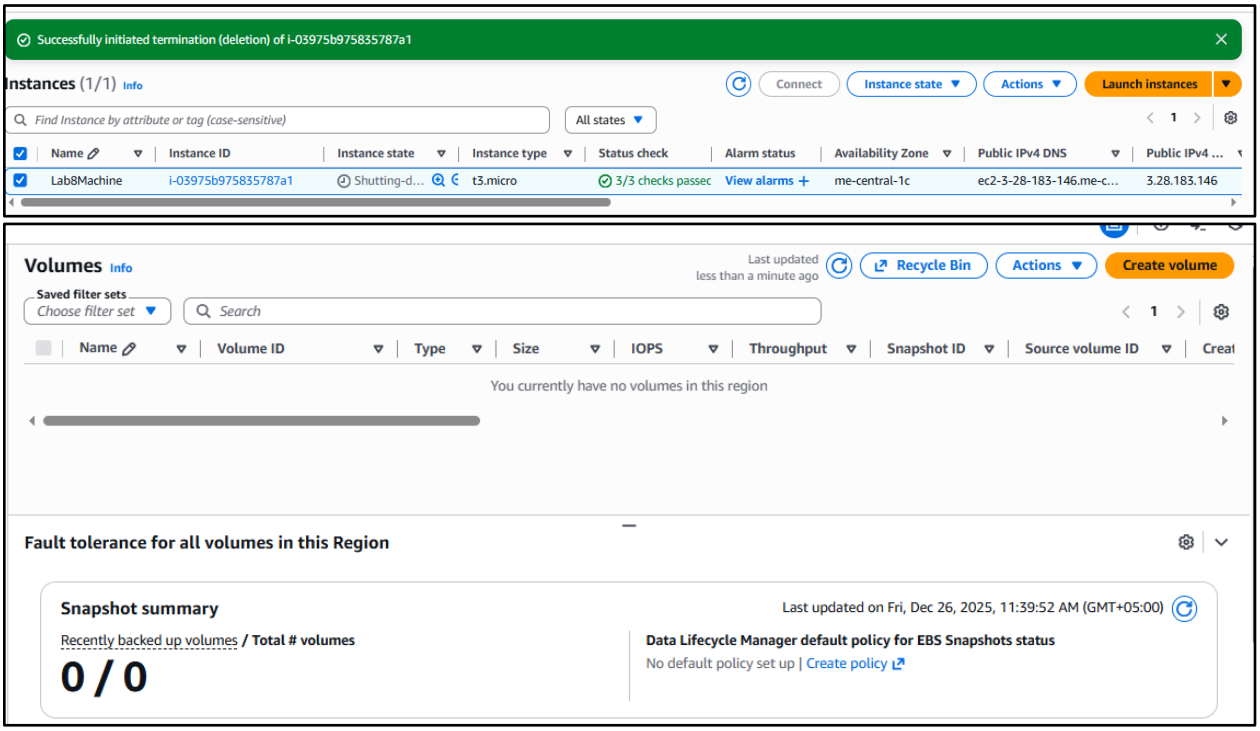


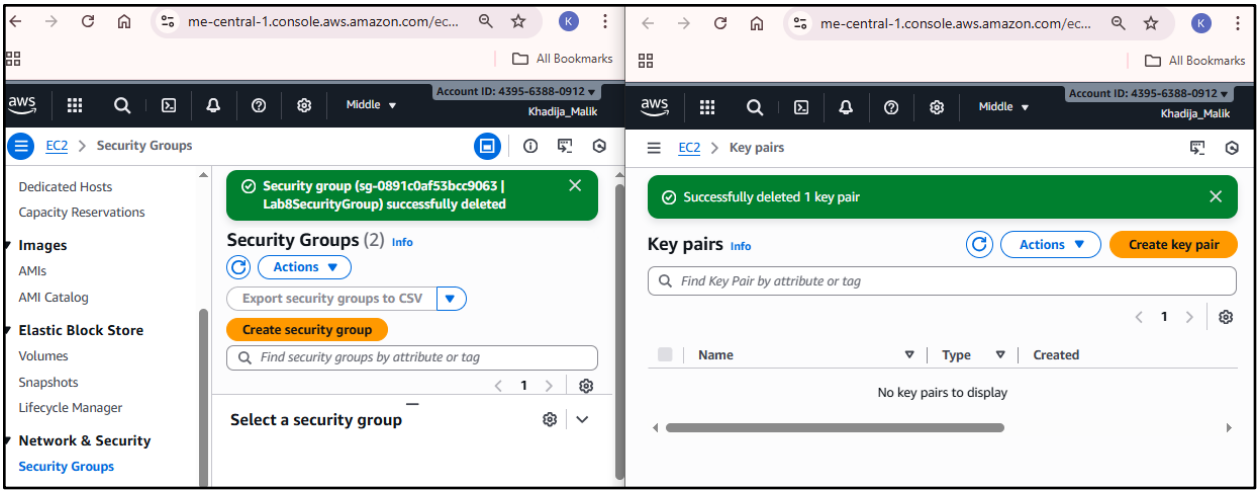

Not secure
3.28.183.146:3000
Initial Configuration
If you run Gitea inside Docker, please read the documentation before changing any settings.
Database Settings
Gitea requires MySQL, PostgreSQL, MSSQL, SQLite3 or TiDB (MySQL protocol).
Database Type *
PostgreSQL
Host *
db:5432
Username *
gitea
Password *
Database Name *
gitea
SSL *
Disable
Schema
Leave blank for database default ("public").

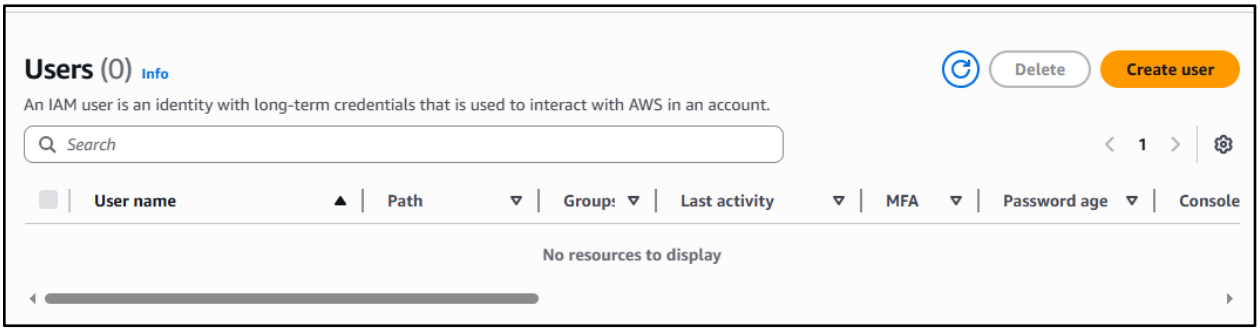

Not secure
3.28.183.146:3000/admin/lab8repo
Issues
Pull Requests
Milestones
Explore
admin / lab8repo
Private
Unwatch 1
Star 0
Code
Issues
Packages
Projects
Wiki
Settings
Quick Guide
Clone this repository Need help cloning? Visit Help.
New File
Upload File
HTTP
SSH
http://3.28.183.146:3000/admin/lab8repo.git
Creating a new repository on the command line

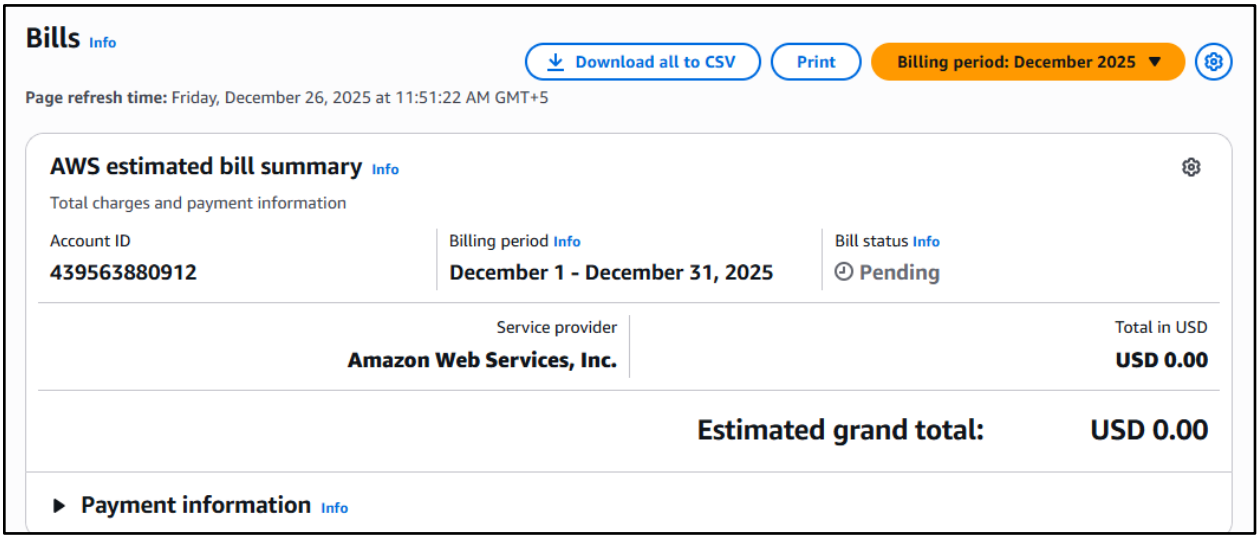


Cleanup — Remove resources to avoid charges




me-central-1.console.aws.amazon.com/ec...
All Bookmarks
Account ID: 4395-6388-0912
Khadija_Malik
EC2 > Security Groups
Dedicated Hosts
Capacity Reservations
Images
AMIs
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Security Groups
Security group (sg-0891c0af53bcc9063 | Lab8SecurityGroup) successfully deleted
Security Groups (2) Info
Actions
Export security groups to CSV
Create security group
Find security groups by attribute or tag
Select a security group
EC2 > Key pairs
Successfully deleted 1 key pair
Key pairs Info
Actions
Create key pair
Find Key Pair by attribute or tag
Name
Type
Created
No key pairs to display


Users (0) Info
An IAM user is an identity with long-term credentials that is used to interact with AWS in an account.
Delete
Create user
Search
User name
Path
Groups
Last activity
MFA
Password age
Console
No resources to display


Bills Info
Download all to CSV
Print
Billing period: December 2025
Page refresh time: Friday, December 26, 2025 at 11:51:22 AM GMT+5
AWS estimated bill summary Info
Total charges and payment information
Account ID
439563880912
Billing period Info
December 1 - December 31, 2025
Bill status Info
Pending
Service provider
Amazon Web Services, Inc.
Total in USD
USD 0.00
Estimated grand total:
USD 0.00
Payment information Info

END