

CLOUD COMPUTING
LAB 08



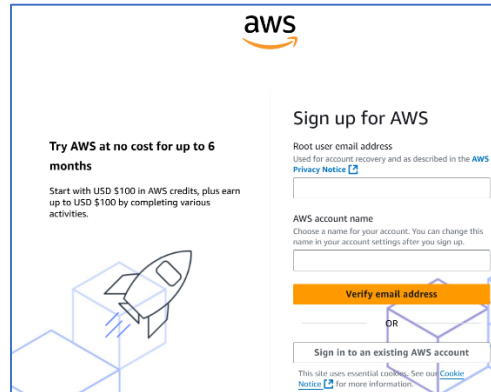
Submitted To:
Engr. Shoaib

Submitted By:
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BSE V-A
2023-BSE-031

Task 1 — Create an AWS account and enable UAE

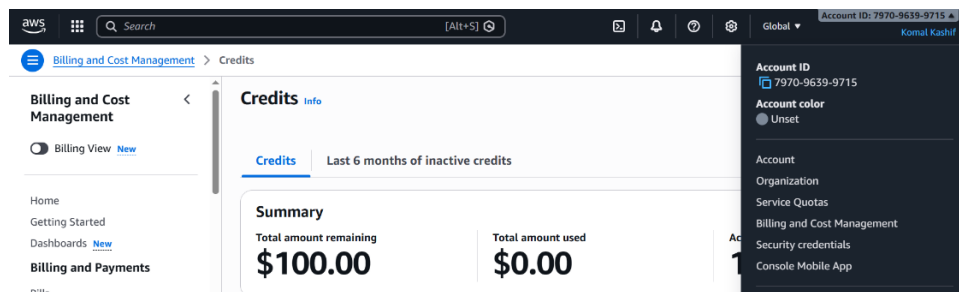
Steps

1. Open your browser and go to: [AWS Signup](#)



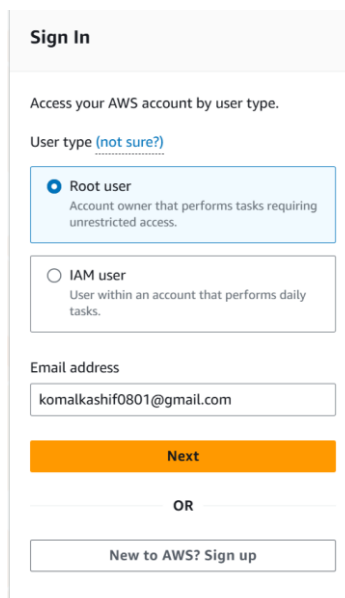
The image shows the AWS Signup page. On the left, there is a promotional banner for "Try AWS at no cost for up to 6 months" with a rocket icon. On the right, the "Sign up for AWS" form is visible. It includes fields for "Root user email address" and "AWS account name". Below these fields is a "Verify email address" button. There are also links for "Privacy Notice" and "Sign in to an existing AWS account".

2. Complete registration (Account type: Personal, Plan: AWS Paid Plan), fill contact, billing (credit card) and phone details, complete verification



The image shows the AWS Billing and Cost Management console. The left sidebar contains navigation links for "Billing and Cost Management", "Home", "Getting Started", "Dashboards", "Billing and Payments", and "Risks". The main content area displays the "Credits" page, showing a "Summary" with "Total amount remaining" of \$100.00 and "Total amount used" of \$0.00. A right-hand menu is open, showing account details such as "Account ID: 7970-9639-9715", "Account color: Unset", and links to "Account", "Organization", "Service Quotas", "Billing and Cost Management", "Security credentials", and "Console Mobile App".

3. Sign in as the root user (root email).



The image shows the AWS Sign In page. It has a "Sign In" header and a sub-header "Access your AWS account by user type." Below this, there is a "User type" section with two options: "Root user" (selected) and "IAM user". The "Root user" option is described as "Account owner that performs tasks requiring unrestricted access." Below the user type selection, there is an "Email address" field with the value "komalkashif0801@gmail.com". At the bottom, there is a "Next" button, an "OR" separator, and a "New to AWS? Sign up" button.

- From the Console, open the region selector and enable UAE (me-central-1), then switch to me-central-1.

<input type="checkbox"/>	Israel (Tel Aviv)	⛔ Disabled
<input type="checkbox"/>	Middle East (UAE)	✅ Enabled

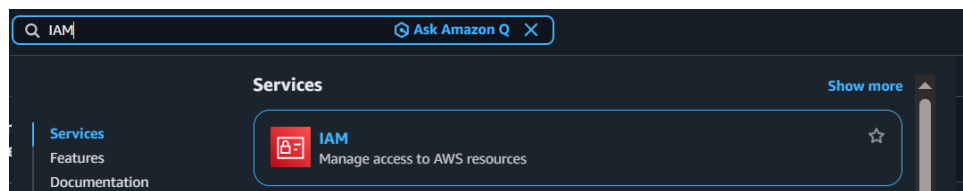
- Task 1 summary screenshot:



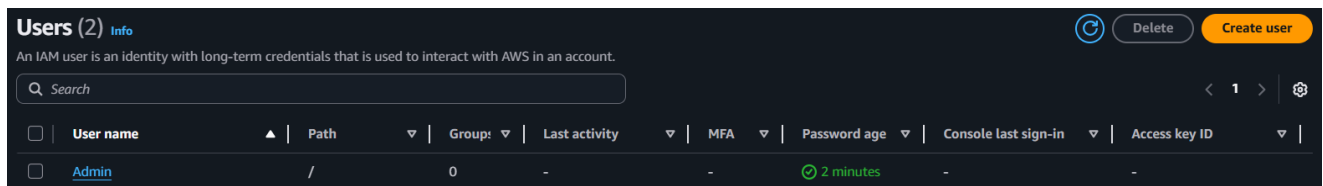
Task 2 — Create IAM Admin and Lab8User with console access

Steps

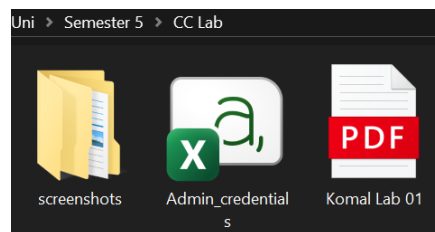
- Open IAM via Console search (Alt+S → "IAM").



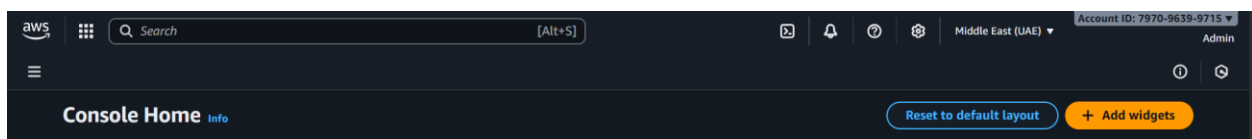
- Create the Admin user: IAM → Users → Create user.



- Download the Admin .csv and show its presence on your Windows host (do not display the password text)



- Sign out of root, then sign in using the Admin account (use the signin URL from the .csv).
Capture after successful Admin login:



5. While logged in as Admin, create Lab8User:

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://797096399715.signin.aws.amazon.com/console

User name
Lab8User

Console password
***** [Show](#)

[Cancel](#) [Download .csv file](#) [Return to users list](#)

6. Download/save the Lab8User CSV on your Windows host (do not show password).

User name	Console sign-in URL					
Lab8User	https://797096399715.signin.aws.amazon.com/console					

7. Logout Admin and login as Lab8User (use the Lab8User signin URL and credentials).

aws [Alt+S] Middle East (UAE) Account ID: 7970-9639-9715 Lab8User

[Console Home](#) [Reset to default layout](#) [+ Add widgets](#)

8. Task 2 summary

Users (3) [Info](#) [Delete](#) [Create user](#)

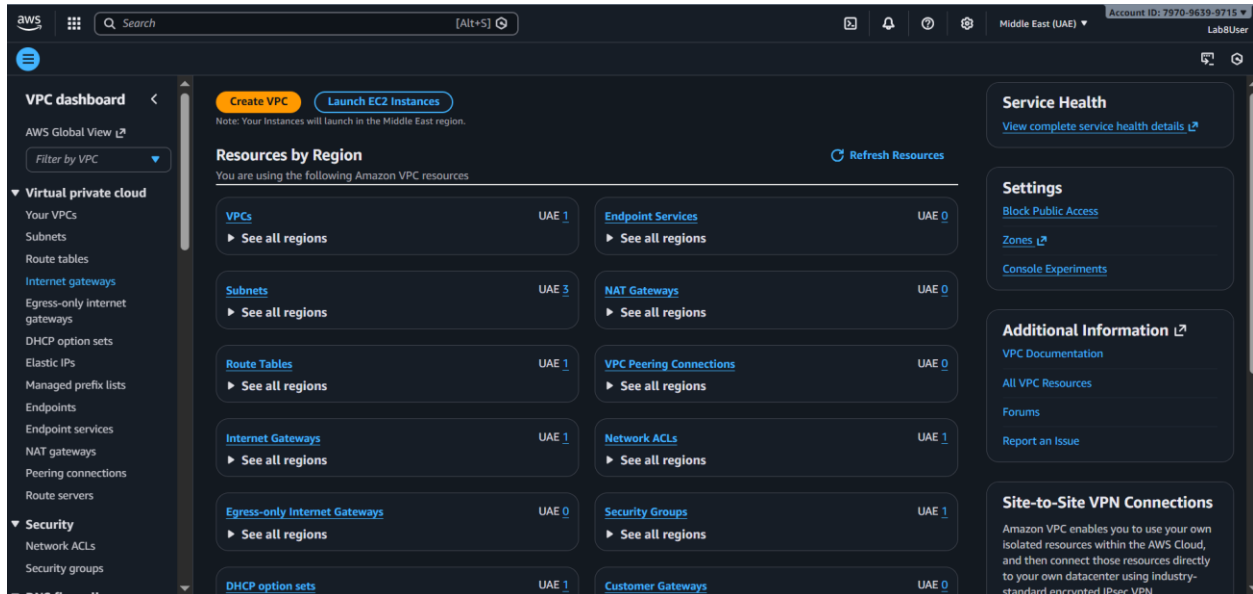
An IAM user is an identity with long-term credentials that is used to interact with AWS in an account.

<input type="checkbox"/>	User name	Path	Group	Last activity	MFA	Password age	Console last sign-in	Access key ID
<input type="checkbox"/>	Admin	/	0	4 minutes ago	-	4 minutes	4 minutes ago	-
<input type="checkbox"/>	Assignment-2	/	0	6 days ago	-	7 days	-	Active - AKIA3TFVF2N...
<input type="checkbox"/>	Lab8User	/	0	7 minutes ago	-	6 minutes	7 minutes ago	-

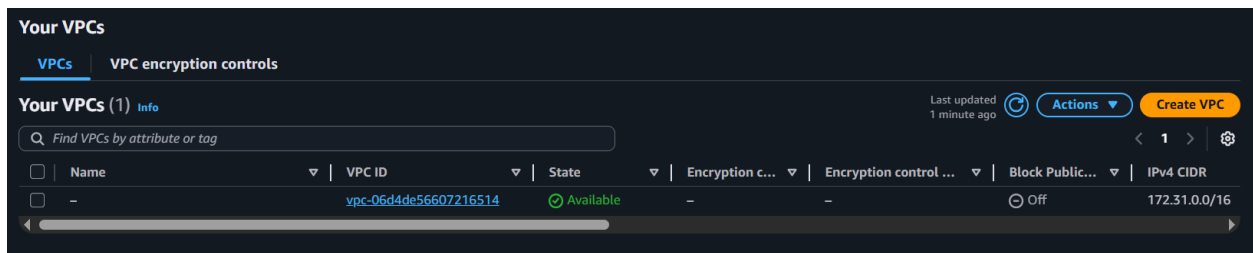
Task 3 — Inspect VPC resources

Steps

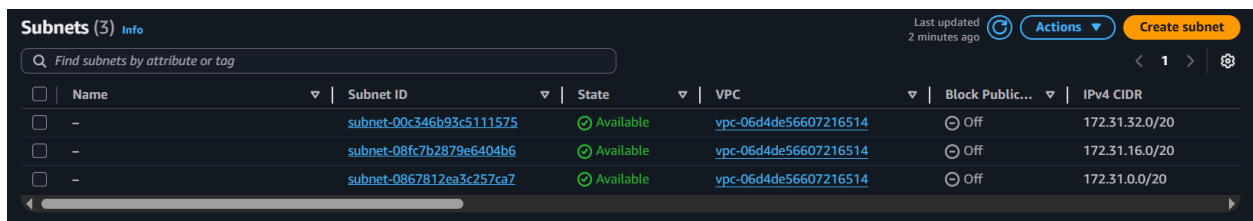
1. Open VPC console (Alt+S → "VPC") while region is me-central-1.



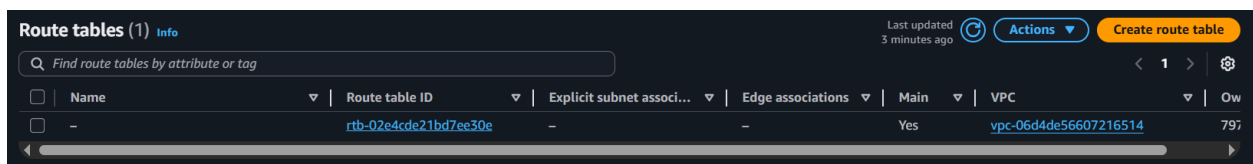
2. View VPCs list.



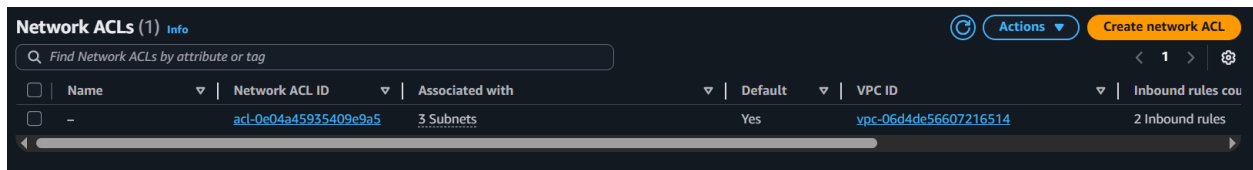
3. View Subnets list.



4. View Route Tables list.



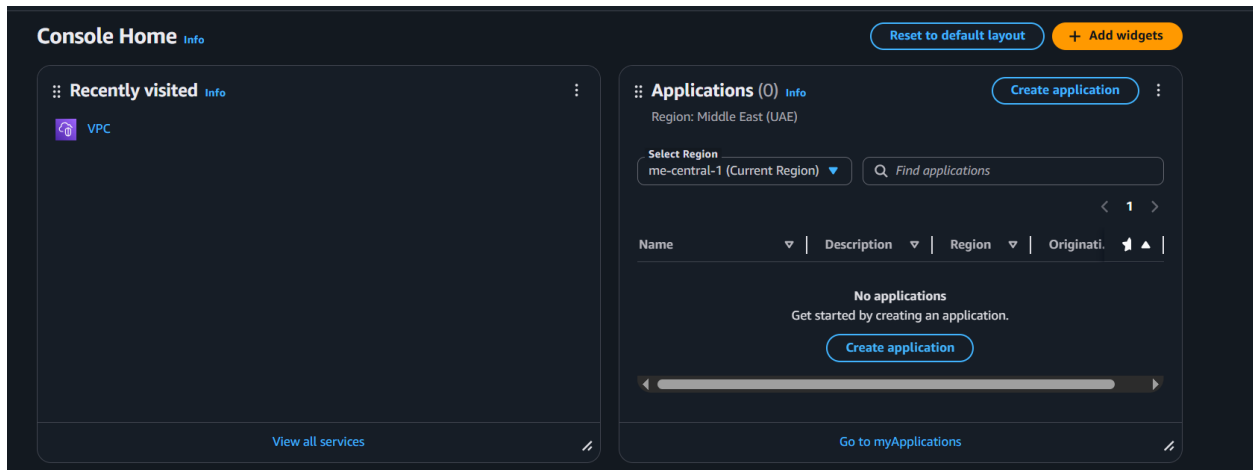
5. View Network ACLs list.



The screenshot shows the AWS Network ACLs console. At the top, there's a header "Network ACLs (1) Info" with a search bar and a "Create network ACL" button. Below the header is a table with columns: Name, Network ACL ID, Associated with, Default, VPC ID, and Inbound rules. The table contains one entry with the following details:

Name	Network ACL ID	Associated with	Default	VPC ID	Inbound rules
-	acl-0e04a45935409e9a5	3 Subnets	Yes	vpc-06d4de56607216514	2 Inbound rules

6. Task 3 summary

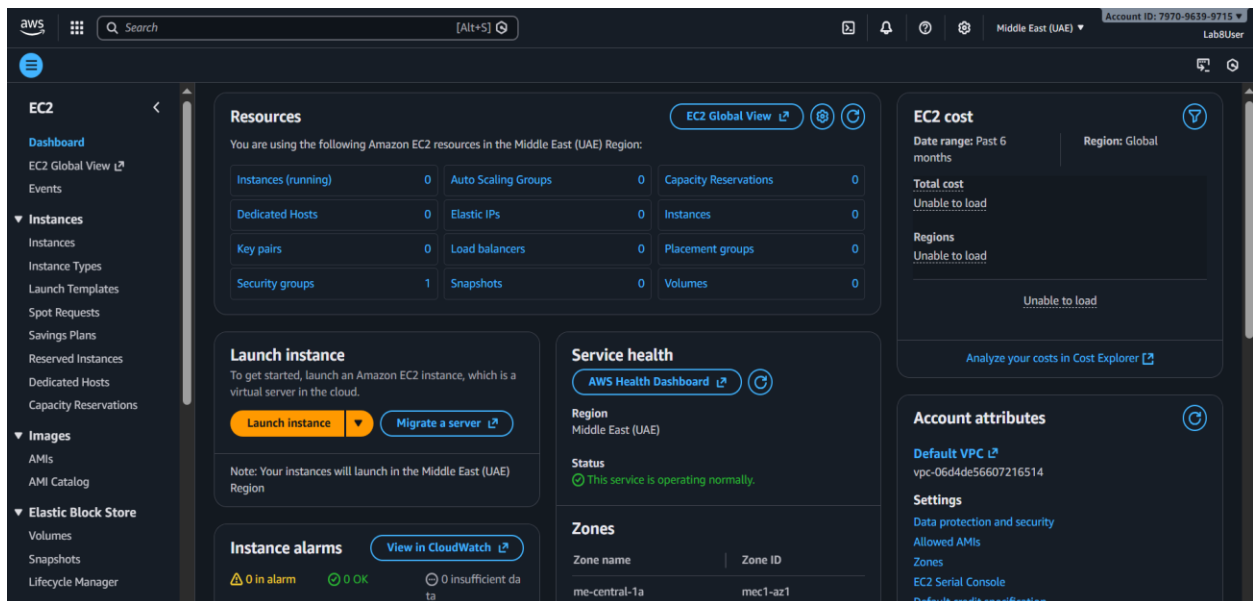


The screenshot shows the AWS Console Home dashboard. It features a "Recently visited" section with a link to "VPC". The "Applications (0) Info" section shows the region "Middle East (UAE)" and a "Create application" button. The "No applications" message states: "Get started by creating an application." and includes a "Create application" button. The "Go to myApplications" link is also visible.

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

Steps

1. Open EC2 Console (Alt+S → "EC2") (me-central-1).



The screenshot shows the AWS EC2 console dashboard. The left sidebar contains navigation links for "EC2", "Dashboard", "EC2 Global View", "Events", "Instances", "Instance Types", "Launch Templates", "Spot Requests", "Savings Plans", "Reserved Instances", "Dedicated Hosts", "Capacity Reservations", "Images", "AMIs", "AMI Catalog", "Elastic Block Store", "Volumes", "Snapshots", and "Lifecycle Manager". The main content area displays the "Resources" section, which lists various EC2 resources in the Middle East (UAE) region. The "Launch instance" section provides a "Launch instance" button and a "Migrate a server" button. The "Service health" section shows the "AWS Health Dashboard" and the status "This service is operating normally." The "Zones" section lists the "me-central-1a" zone. The "EC2 cost" section shows the "Total cost" as "Unable to load". The "Account attributes" section shows the "Default VPC" as "vpc-06d4de56607216514".

2. Instance Launch configuration (during review before launching).

Launch an instance Info

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags Info

Name

Lab8Machin

Add additional tags

Application and OS Images (Amazon Machine Image) Info

An AMI contains the operating system, application server, and applications for your instance. If you don't see a suitable AMI below, use the search field or choose [Browse more AMIs](#).

Search our full catalog including 1000s of application and OS images

Recents

Quick Start

Amazon Linux

aws

Ubuntu

ubuntu

Windows

Microsoft

Red Hat

Red Hat

SUSE Linux

Debian

Debian

Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

Summary

Number of instances Info

1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.9.2...read more
ami-05524d6658f35b6

Virtual server type (instance type)

t3.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Cancel

Launch instance

Preview code

Lab8Key - Notepad

File Edit Format View Help

-----BEGIN OPENSSH PRIVATE KEY-----

3. After launch, EC2 Instances list showing Lab8Machine in "running" state and public IPv4 visible.

Instances (1/1) Info

Last updated 1 minute ago

Connect

Instance state

Actions

Launch instances

Find Instance by attribute or tag (case-sensitive)

All states

1

1

<input checked="" type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
<input checked="" type="checkbox"/>	Lab8Machine	i-079d288d637ce6591	Running	t3.micro	3/3 checks passed	View alarms	me-central-1c	ec2-3-28-188-116.m...

i-079d288d637ce6591 (Lab8Machine)

Details

Status and alarms

Monitoring

Security

Networking

Storage

Tags

Instance summary Info

Instance ID

i-079d288d637ce6591

IPv6 address

-

Hostname type

IP name: ip-172-31-9-213.me-central-1.compute.internal

Public IPv4 address

3.28.188.116 | open address

Instance state

Running

Private IP DNS name (IPv4 only)

ip-172-31-9-213.me-central-1.compute.internal

Private IPv4 addresses

172.31.9.213

Public DNS

ec2-3-28-188-116.me-central-1.compute.amazonaws.com | open address

4. On Windows host, run SSH using the downloaded .pem (PowerShell/Git Bash/Windows Terminal):

[illegible]

5. Run the docker install commands on the EC2 shell:

```
sudo yum update -y
```

```
sudo yum install -y docker
```

```
sudo mkdir -p /usr/local/lib/docker/cli-plugins
```

```
sudo curl -SL https://github.com/docker/compose/releases/latest/download/docker-compose-linux-x86_64 -o /usr/local/lib/docker/cli-plugins/docker-compose
```

```
sudo chmod +x /usr/local/lib/docker/cli-plugins/docker-compose
```

```
sudo systemctl start docker
```

```
Complete!
Last metadata expiration check: 0:00:02 ago on Sat Jan 17 14:10:33 2026.
Dependencies resolved.
=====
Package                Arch      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
libnftlink             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
=====

Transaction Summary
=====
Install 11 Packages

Total download size: 74 M
Installed size: 280 M
Downloading Packages:
(1/11): container-selinux-2.242.0-1.amzn2023.no 1.5 MB/s | 58 kB  00:00
(2/11): iptables-libs-1.8.8-3.amzn2023.0.2.x86_ 10 MB/s | 401 kB 00:00
(3/11): iptables-nft-1.8.8-3.amzn2023.0.2.x86_6 6.7 MB/s | 183 kB 00:00
(4/11): libcgroup-3.0-1.amzn2023.0.1.x86_64.rpm 2.2 MB/s | 75 kB  00:00
(5/11): libnetfilter_conntrack-1.0.8-2.amzn2023 1.9 MB/s | 58 kB  00:00
(6/11): libnftlink-1.0.1-19.amzn2023.0.2.x86_ 1.0 MB/s | 30 kB  00:00
(7/11): libnftnl-1.2.2-2.amzn2023.0.2.x86_64.rp 2.4 MB/s | 84 kB  00:00
(8/11): containerd-2.1.5-1.amzn2023.0.1.x86_64. 65 MB/s | 23 MB  00:00
(9/11): pigz-2.5-1.amzn2023.0.3.x86_64.rpm      680 kB/s | 83 kB  00:00
(10/11): runc-1.3.3-2.amzn2023.0.1.x86_64.rpm   51 MB/s | 3.9 MB 00:00
(11/11): docker-25.0.13-1.amzn2023.0.2.x86_64.r 68 MB/s | 46 MB  00:00
```


6. Create/edit `compose.yaml` on the EC2 instance (`sudo vim compose.yaml`) and paste content from the repo: [Gitea](#) . While pasting, capture the editor content:

```
ec2-user@ip-172-31-9-213:~  
version: "3"  
  
services:  
  gitea:  
    image: gitea/gitea:latest  
    container_name: gitea  
    environment:  
      - USER_UID=1000  
      - USER_GID=1000  
    restart: always  
    ports:  
      - "3000:3000"  
      - "222:22"  
    volumes:  
      - gitea-data:/data  
  
volumes:  
  gitea-data:
```

7. Save and verify file exists:

```
[ec2-user@ip-172-31-9-213 ~]$ sudo vim compose.yaml
[ec2-user@ip-172-31-9-213 ~]$ ls -l
total 4
-rw-r--r--. 1 root root 281 Jan 17 14:15 compose.yaml
```

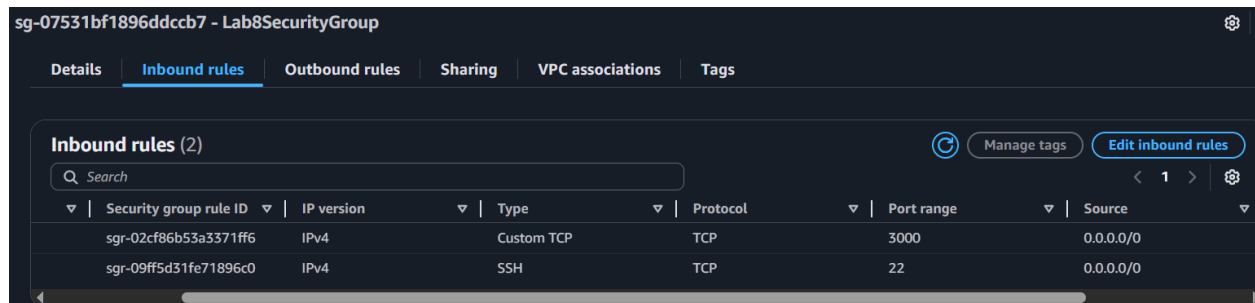
8. Add ec2-user to docker group, show groups before re-login, exit and reconnect, show groups after reconnect:

[illegible]

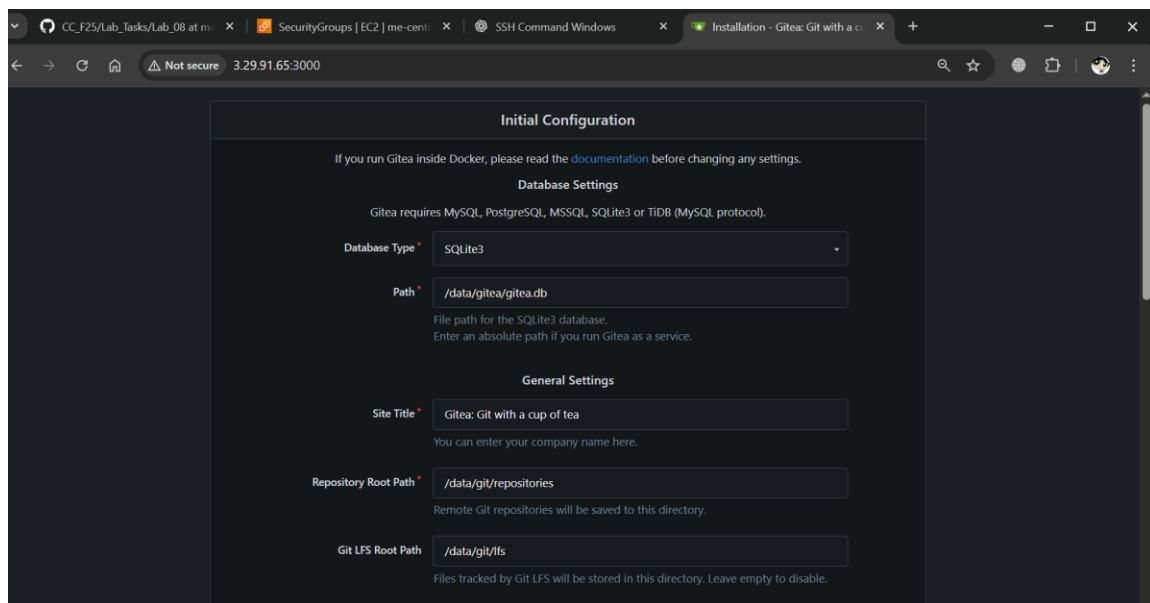
9. Run `docker compose up -d` from the directory with `compose.yaml`:

[illegible]

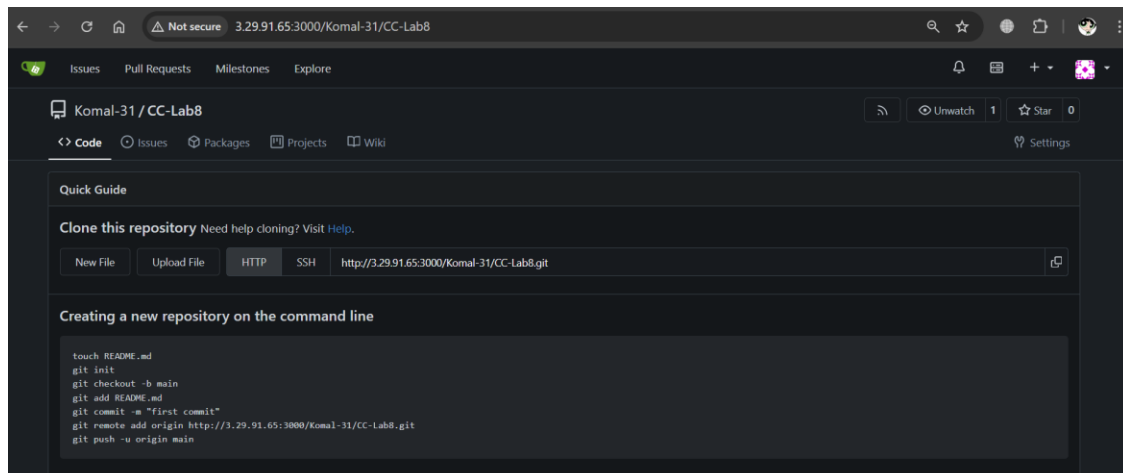
10. Edit the security group Lab8SecurityGroup inbound rules in the EC2 console: add Custom TCP rule port 3000 source 0.0.0.0/0 and save. Capture the inbound rules after saving:



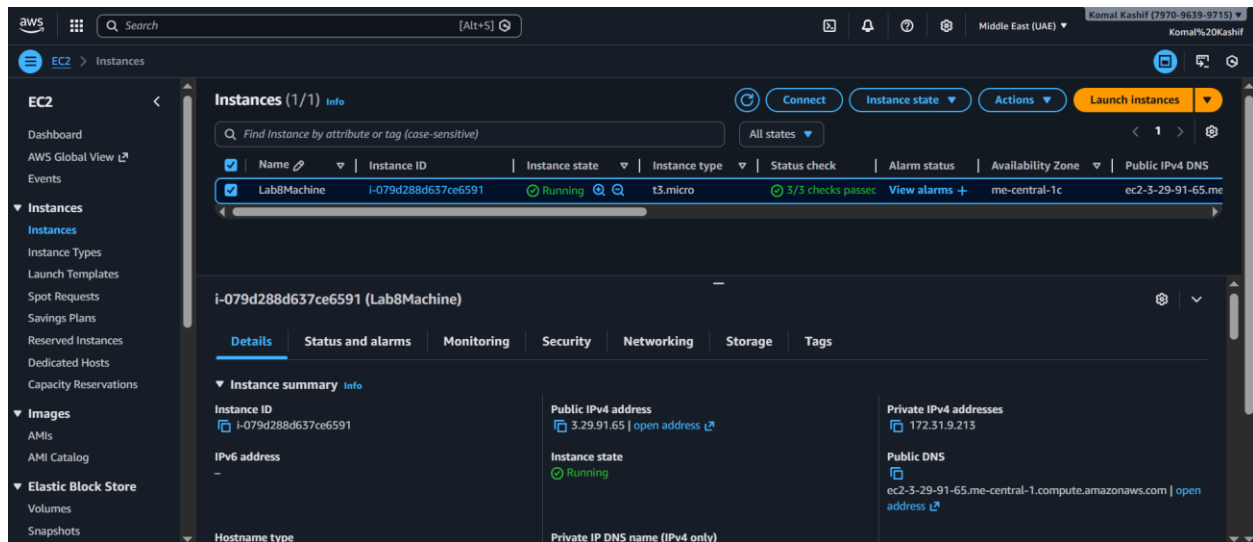
11. From your Windows browser navigate to: <http://Public-IP:3000> — capture the Gitea setup/install page:



12. Complete initial Gitea setup (create admin user, create a repo) and capture Gitea showing the created repository:

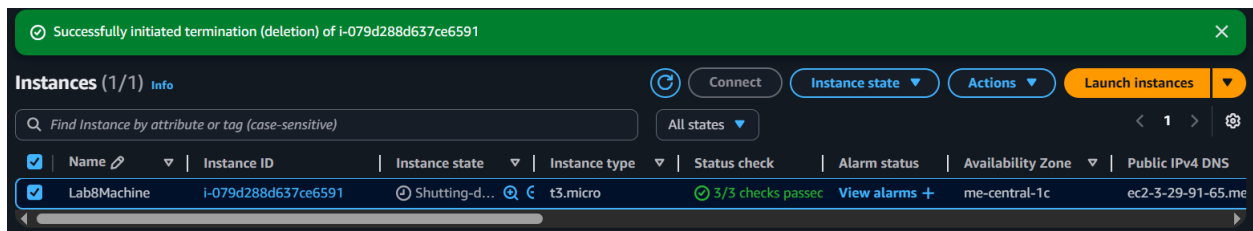


13. Task 4 summary

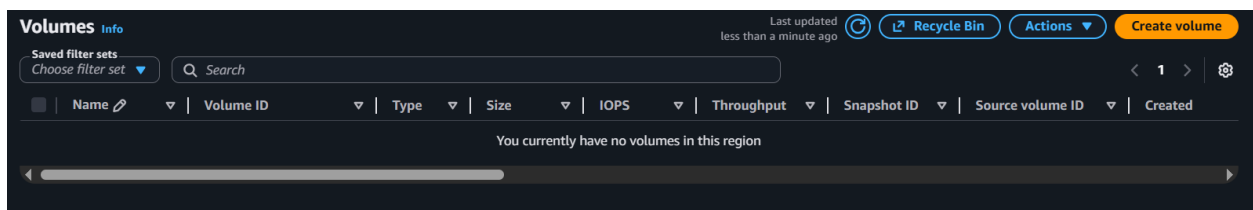


Cleanup — Remove resources to avoid charges

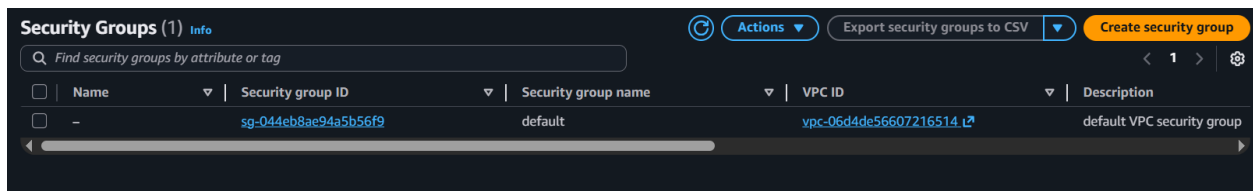
1. Terminate the EC2 instance Lab8Machine.



2. Delete associated EBS volumes and snapshots



3. Delete security group Lab8SecurityGroup and key pair Lab8Key from the EC2 console



4. Delete IAM users Lab8User and any access keys.

Users (3) Info Refresh Delete Create user

An IAM user is an identity with long-term credentials that is used to interact with AWS in an account.

Search

<input type="checkbox"/>	User name	Path	Groups	Last activity	MFA	Password age	Console last sign-in	Access key ID
<input type="checkbox"/>	Admin	/	0	10 days ago	-	10 days	10 days ago	-
<input type="checkbox"/>	Assignment-2	/	0	17 days ago	-	18 days	-	Active - AKIA3TFVF2N...
<input type="checkbox"/>	Lab15	/	0	3 hours ago	-	4 hours	-	Active - AKIA3TFVF2N...

5. Final cleanup summary

Console Home Info Reset to default layout + Add widgets

Recently visited Info

- Billing and Cost Management
- AWS Billing Conductor
- IAM
- EC2
- VPC
- Systems Manager
- CloudShell
- CloudWatch

[View all services](#)

Applications (0) Info Create application

Region: Middle East (UAE)

Select Region: me-central-1 (Current Region) Find applications

Name	Description	Region	Originati.
No applications			
Get started by creating an application.			
Create application			

[Go to myApplications](#)