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Roll no: 2023-BSE-034
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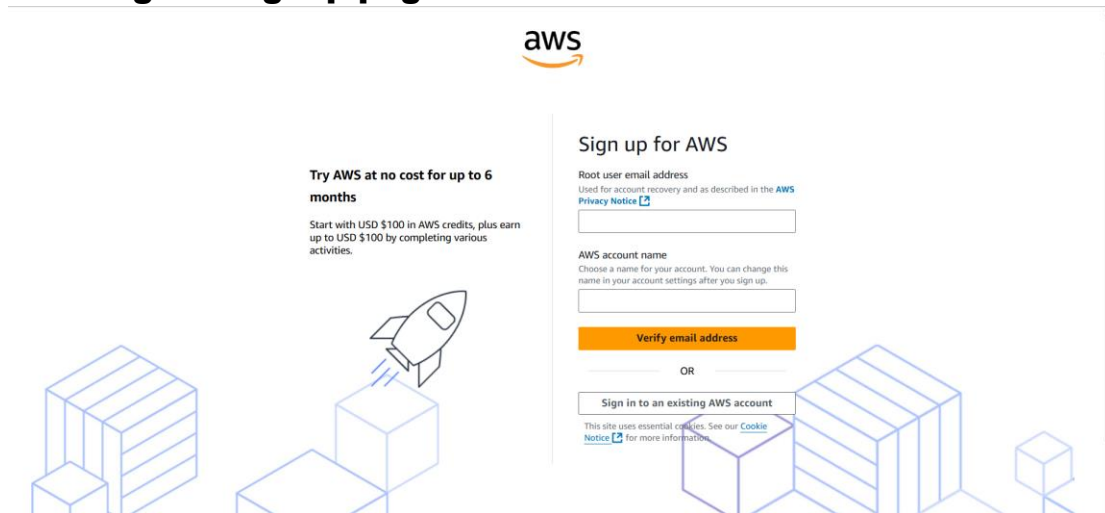


Lab 8

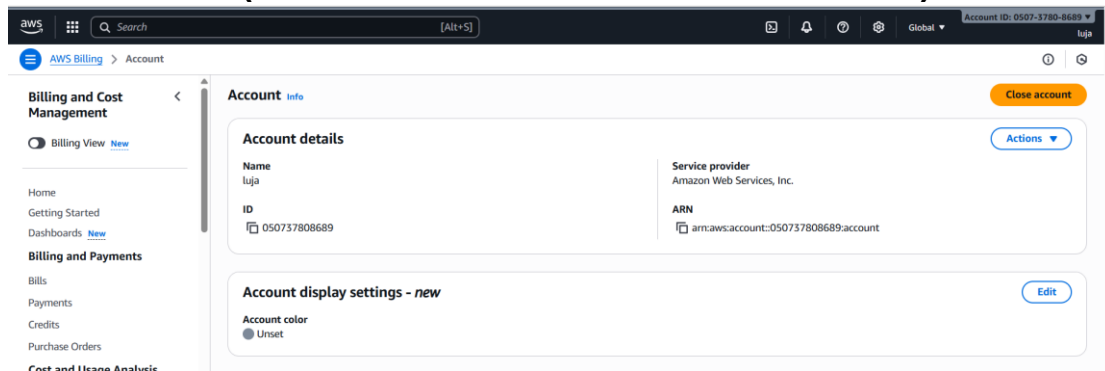
Task 1 — Create an AWS account and enable UAE (me-central-1)

1. Open your browser and go to: AWS Signup

Save screenshot as: task1_open_signup_page.png — browser showing the signup page.

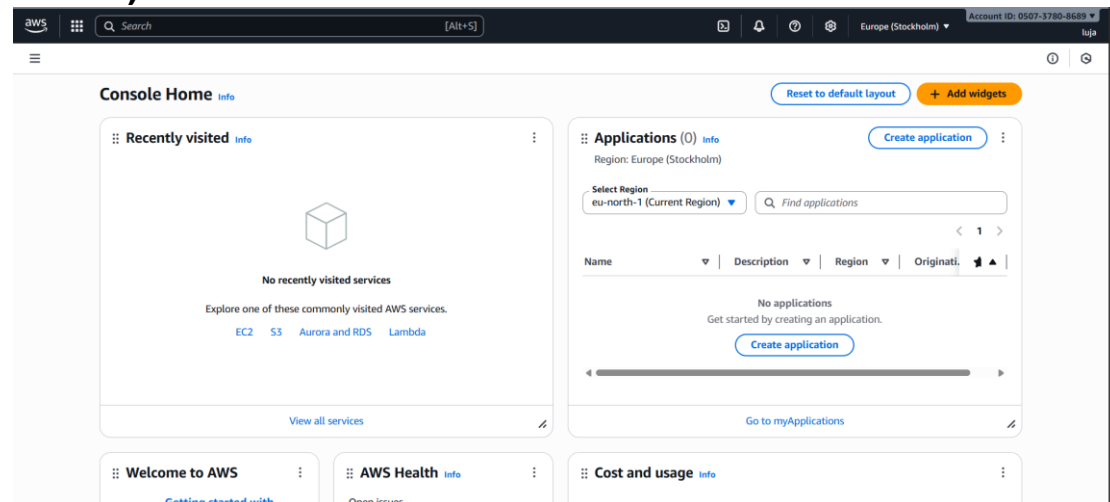


2. Complete registration (Account type: Personal, Plan: AWS Paid Plan), fill contact, billing (credit card) and phone details, complete verification. After successful registration capture: Save screenshot as: task1_signed_up_confirmation.png — registration success/confirmation page or payment confirmation (do NOT include credit card full details).



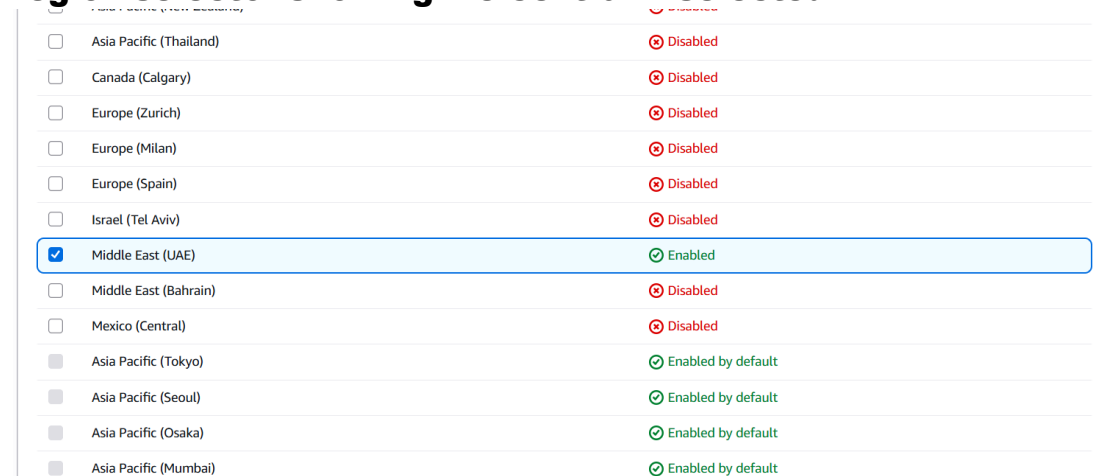
3. Sign in as the root user (root email). Immediately capture:

Save screenshot as: task1_root_signed_in.png — AWS Console Home after root login (top bar with root email/account alias visible).



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

Save screenshot as: task1_enable_region_me-central-1.png — region selector showing me-central-1 selected.



5. Task 1 summary screenshot (combine evidence):

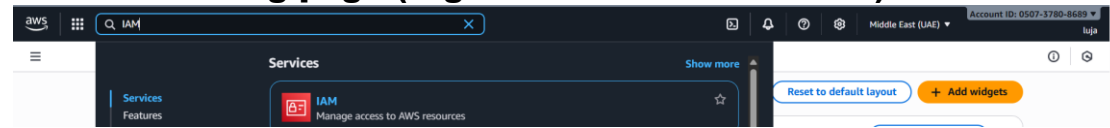
Save screenshot as: task1_summary.png — single screenshot showing root console header (root email/account alias) and region set to me-central-1.



Task 2 — Create IAM Admin and Lab8User with console access

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

Save screenshot as: task2_open_iam_console.png — IAM console landing page (region me-central-1 visible).



2. Create the Admin user: IAM → Users → Create user. Fill:

Username: Admin

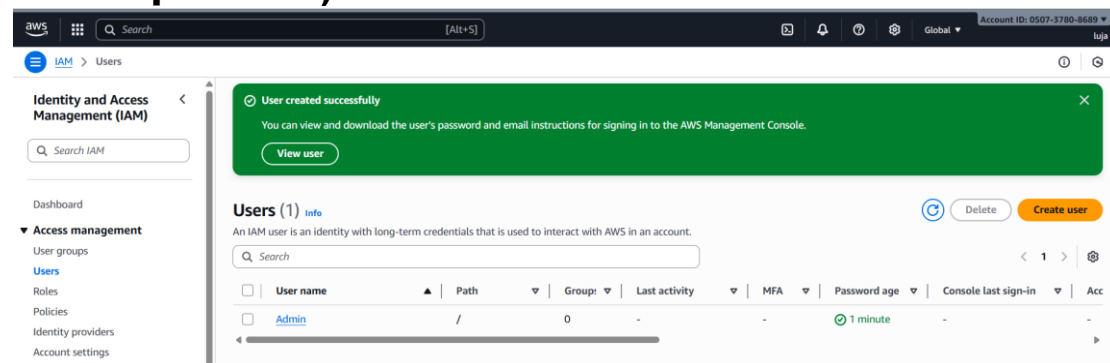
Provide user access to the AWS Management Console

Set console password (autogenerate or set)

Attach policies directly → AdministratorAccess

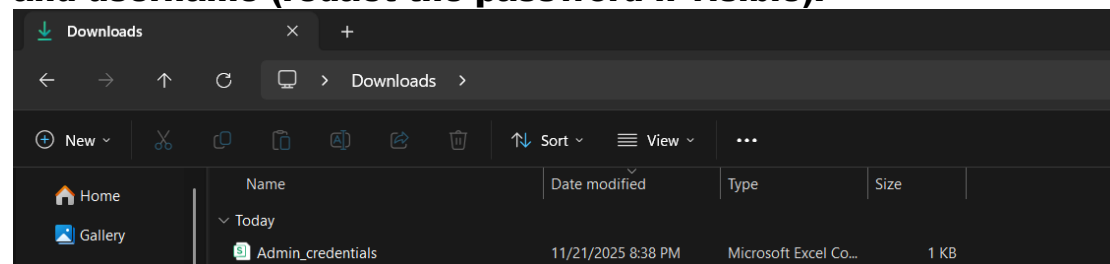
Capture the completion screen when user is created:

Save screenshot as: task2_admin_create_confirmation.png — IAM "Create user" success screen showing Admin (do NOT include password).



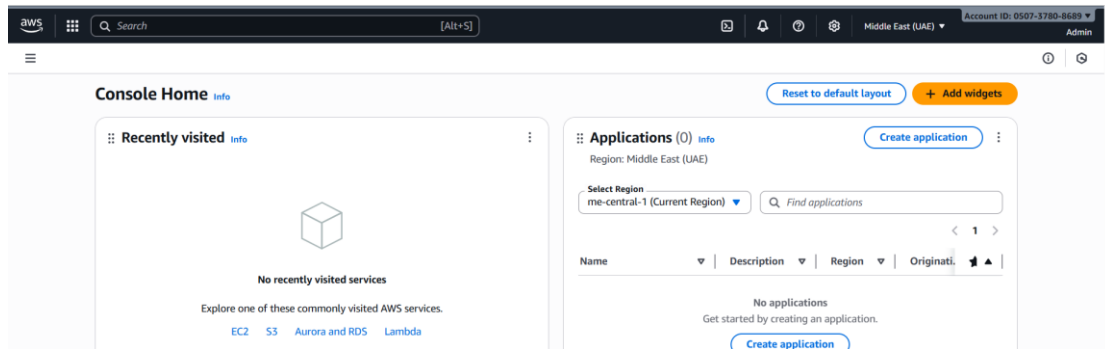
3. Download the Admin .csv and show its presence on your Windows host (do not display the password text):

Save screenshot as: task2_admin_csv_and_signin_url.png — Windows File Explorer showing the downloaded CSV filename and/or a cropped view of the CSV showing only the Sign-in URL and username (redact the password if visible).



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

Save screenshot as: task2_admin_console_after_login.png — Admin user console home.



5. While logged in as Admin, create Lab8User:

IAM → Users → Create user

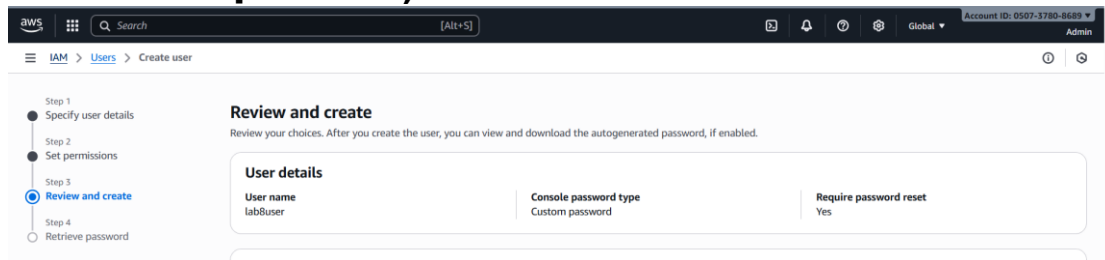
Username: Lab8User

Provide user access to the AWS Management Console

Attach AdministratorAccess policy

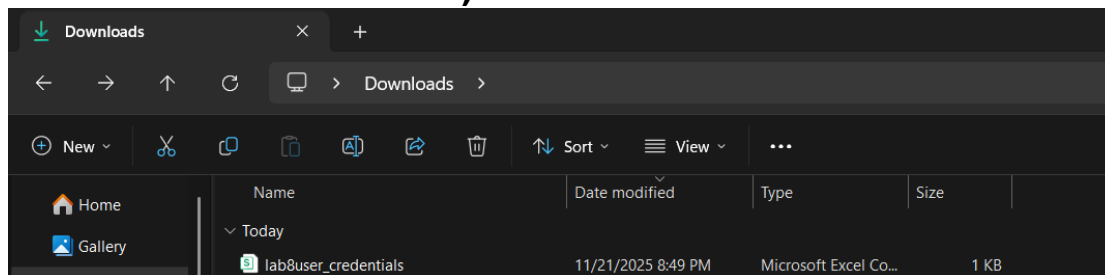
Capture the create-user success screen:

Save screenshot as: task2_create_lab8user_and_csv.png — Lab8User create confirmation and CSV download prompt (do NOT include password).



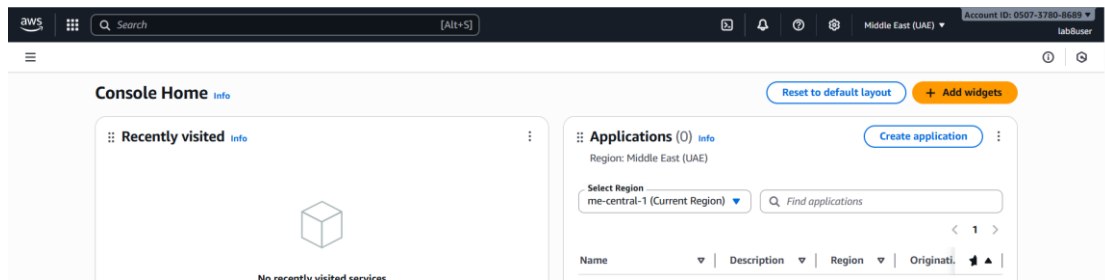
6. Download/save the Lab8User CSV on your Windows host (do not show password).

Save screenshot as: task2_lab8user_csv_saved.png — File Explorer showing the Lab8User CSV filename (cropped to exclude sensitive content).



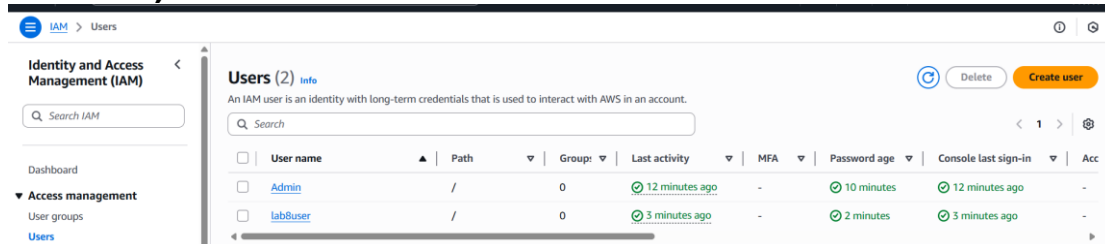
7. Logout Admin and login as Lab8User (use the Lab8User signin URL and credentials). Capture after login:

Save screenshot as: task2_lab8user_logged_in.png — Lab8User console home.



8. Task 2 summary (combine evidence):

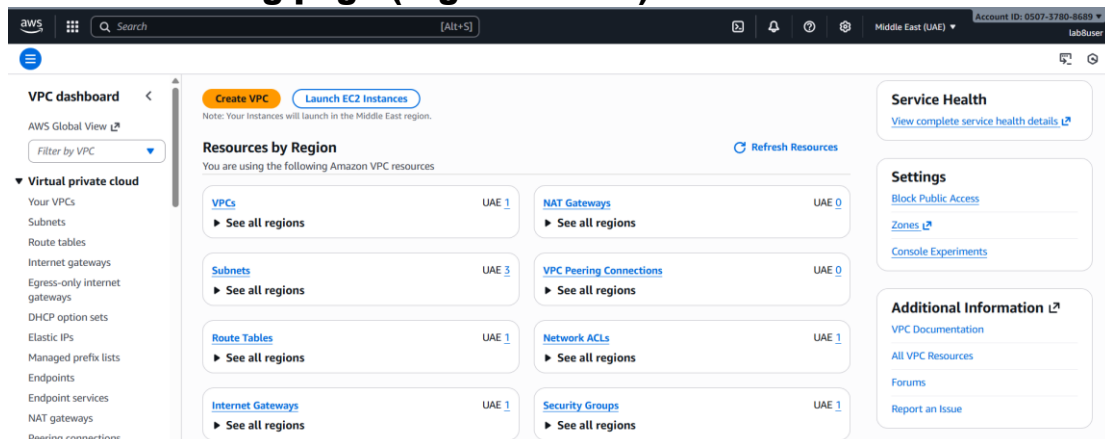
Save screenshot as: task2_summary.png — IAM Users list showing both Admin and Lab8User present (region me-central-1 visible).



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

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

Save screenshot as: task3_open_vpc_console.png — VPC console landing page (region visible).



2. View VPCs list. Capture:

Save screenshot as: task3_vpcs_list.png — VPCs list view (show default VPC if present).

VPC dashboard

Create VPC Launch EC2 Instances

Note: Your Instances will launch in the Middle East region.

Resources by Region

You are using the following Amazon VPC resources

Resource	UAE
VPCs	1
NAT Gateways	0
Subnets	3
VPC Peering Connections	0
Route Tables	1
Network ACLs	1
Internet Gateways	1
Security Groups	1
Egress-only Internet Gateways	0
Customer Gateways	0

3. View Subnets list. Capture:
Save screenshot as: task3_subnets_list.png — Subnets list view (show at least 3 default subnets if present).

VPC dashboard

Subnets (3) info

Name	Subnet ID	State	VPC	Block Public...	IPv4 CIDR
-	subnet-0b11cd485731a00f7	Available	vpc-01b7d554ea60c902d	Off	172.31.32.0/20
-	subnet-09a23e3b14a74df6e	Available	vpc-01b7d554ea60c902d	Off	172.31.0.0/20
-	subnet-06e5d96b7c34d750f	Available	vpc-01b7d554ea60c902d	Off	172.31.16.0/20

4. View Route Tables list. Capture:
Save screenshot as: task3_route_tables_list.png — Route Tables list view.

VPC dashboard

Route tables (1) info

Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC
-	rtb-0d9c9635ce1fa816e	-	-	Yes	vpc-01b7d554ea60c902d

5. View Network ACLs list. Capture:
Save screenshot as: task3_network_acls_list.png — Network ACLs list view.

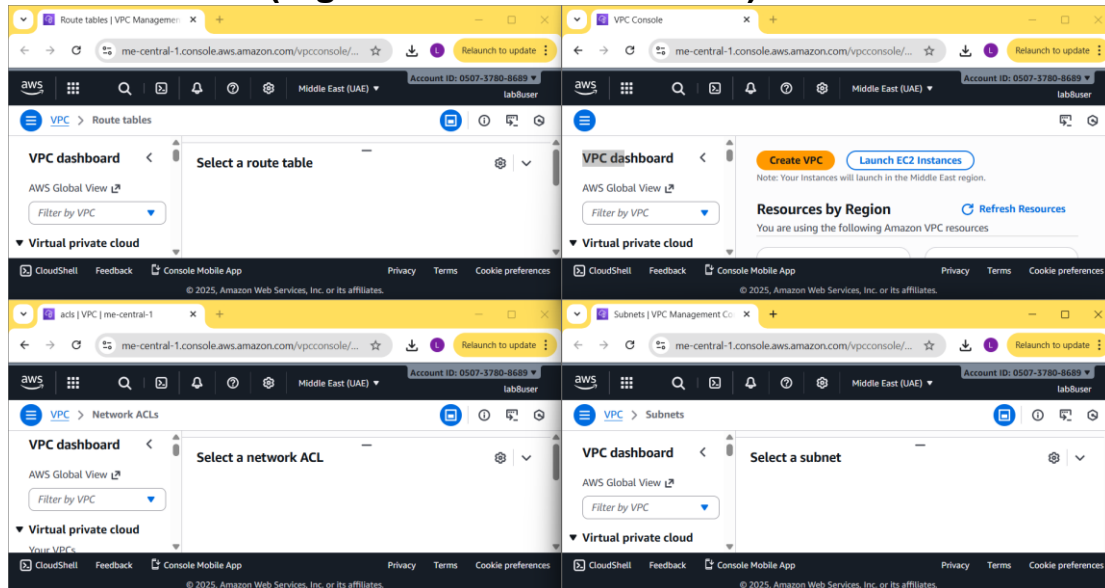
VPC dashboard

Network ACLs (1) info

Name	Network ACL ID	Associated with	Default	VPC ID	Inbound
-	acl-038a129a9714fa9b5	3 Subnets	Yes	vpc-01b7d554ea60c902d	2 Inbound

6. Task 3 summary (combine evidence):

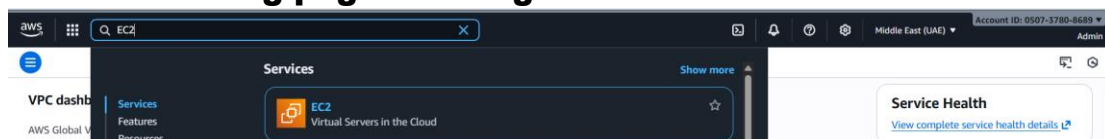
Save screenshot as: task3_summary.png — a single screenshot showing the VPC console left navigation and counts or multiple open tabs/windows tiled to show each resource's list (region me-central-1 visible).



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

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

Save screenshot as: task4_open_ec2_console.png — EC2 console landing page with region visible.



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

Name: Lab8Machine

AMI: Amazon Linux 2

Instance type: t2.micro

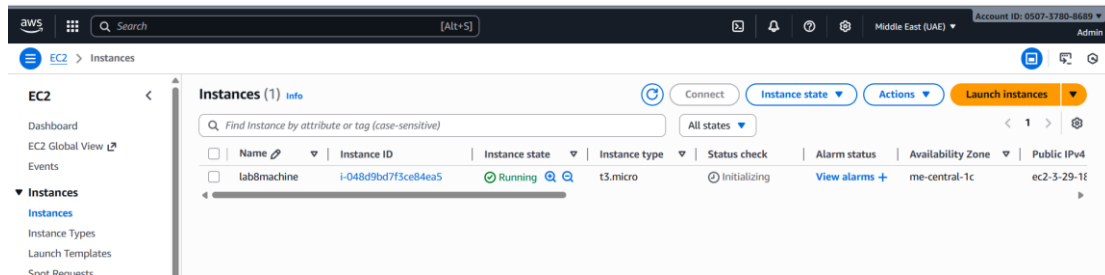
Security group: Create Lab8SecurityGroup with SSH from My IP

Storage: default

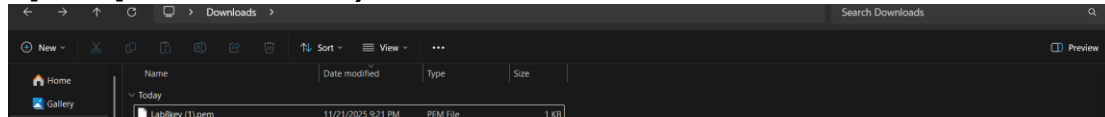
Key pair: Create Lab8Key (ED25519, .pem) and download the .pem file to your Windows host

Capture the final review page and the key download prompt:

Save screenshot as: task4_launch_instance_config.png — final review page showing instance name, AMI, type, security group, key pair.

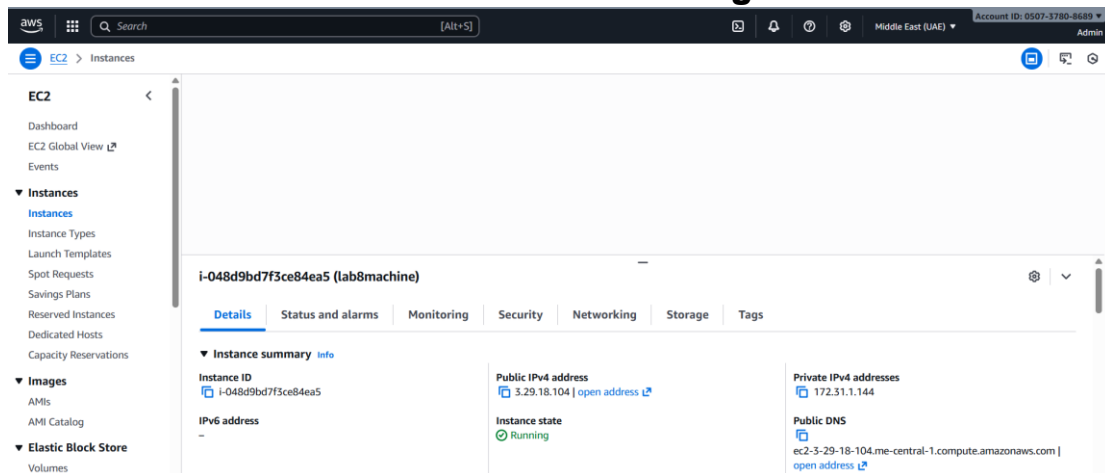


Save screenshot as: task4_keypair_download.png — Windows File Explorer showing Lab8Key.pem downloaded (do NOT open .pem contents).



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

Save screenshot as: task4_instance_running_console.png — Instances table with Lab8Machine running and Public IPv4.



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

`ssh -i <path>/Lab8Key.pem ec2-user@<public-IP>`

Capture the SSH command and successful shell prompt on the EC2 instance:

Save screenshot as: task4_ssh_from_windows_to_ec2.png — PowerShell showing ssh command and EC2 shell (do NOT show private key contents).


```
PS C:\Users\user> ssh -i "C:\Users\user\Downloads\Lab8Key.pem" ec2-user@3.29.18.104
```

```
#_
~ \##### Amazon Linux 2023
~~ \####|
~~ \|###|
~~ \|#/ https://aws.amazon.com/linux/amazon-linux-2023
   V# | _-->
     ~~~~~
      ~~-.-
        -/_/-/_/-/_/-/_/-/_/-/_/-/_/-/_/-_-
         /m/i
```

```
[ec2-user@ip-172-31-1-144 ~]$
```

5. Run the 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
```

Capture the terminal showing these commands run and successful outputs:

Save screenshot

as: task4_ec2_install_docker_compose_started.png — outputs of update/install and systemctl start.

```

Running scriptlet: container-selinux-4:2.242.0-1.amzn2023.noarch 11/11
Running scriptlet: docker-25.0.13-1.amzn2023.0.2.x86_64 11/11
Verifying : container-selinux-4:2.242.0-1.amzn2023.noarch 1/11
Verifying : containerd-2.1.4-1.amzn2023.0.2.x86_64 2/11
Verifying : docker-25.0.13-1.amzn2023.0.2.x86_64 3/11
Verifying : iptables-libs-1.8.8-3.amzn2023.0.2.x86_64 4/11
Verifying : iptables-nft-1.8.8-3.amzn2023.0.2.x86_64 5/11
Verifying : libcgroupp-3.0-1.amzn2023.0.1.x86_64 6/11
Verifying : libnetfilter_conntrack-1.0.8-2.amzn2023.0.2.x86_64 7/11
Verifying : libnftnl-1.0.1-19.amzn2023.0.2.x86_64 8/11
Verifying : libnftnl-1.2.2-2.amzn2023.0.2.x86_64 9/11
Verifying : pigz-2.5-1.amzn2023.0.3.x86_64 10/11
Verifying : runc-1.3.3-2.amzn2023.0.1.x86_64 11/11

Installed:
container-selinux-4:2.242.0-1.amzn2023.noarch
docker-25.0.13-1.amzn2023.0.2.x86_64
iptables-1.8.8-3.amzn2023.0.2.x86_64
libnetfilter_conntrack-1.0.8-2.amzn2023.0.2.x86_64
libnftnl-1.2.2-2.amzn2023.0.2.x86_64
runc-1.3.3-2.amzn2023.0.1.x86_64
containerd-2.1.4-1.amzn2023.0.2.x86_64
iptables-libs-1.8.8-3.amzn2023.0.2.x86_64
libcgroup-3.0-1.amzn2023.0.1.x86_64
libnftnl-1.0.1-19.amzn2023.0.2.x86_64
pigz-2.5-1.amzn2023.0.3.x86_64

Complete!
% Total    % Received % Xferd    Average Speed   Time    Time     Time  Current
             Dload  Upload   Total      Spent      Left     Speed

  0    0    0    0    0    0    0  0  0  0:00:00  0:00:00  0:00:00  0
  0    0    0    0    0    0    0  0  0  0:00:00  0:00:00  0:00:00  0
100 73.0M 100 73.0M    0    0  48.0M    0  0 0:00:01 0:00:01  0:00:00 79.7M

[ec2-user@ip-172-31-1-144 ~]$

```

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:

Save screenshot as: task4_vim_compose_yaml_paste.png — vim editor showing compose.yaml contents while pasted.

```
ec2-user@ip-172-31-1-144:~$ cat compose.yml
- 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 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=daw2CqH8TUA
```

7. Save and verify file exists:

Save screenshot as: task4_compose_yaml_saved_ls.png — ls -l showing compose.yaml present.

```
[ec2-user@ip-172-31-1-144 ~]$ ls -l
total 4
-rw-r--r--. 1 root root 1126 Nov 21 16:36 compose.yaml
[ec2-user@ip-172-31-1-144 ~]$
```

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

```
groups    # user does not docker permission
sudo usermod -aG docker $USER
groups    # before re-login
exit# Reconnect
ssh -i <path>/Lab8Key.pem ec2-user@<public-IP>
groups    # after re-login (should include docker)
```

Save screenshot

as: task4_usermod_and_groups_before_after.png — show usermod command, groups output before exit, reconnect sequence, and groups output after (docker included).

```

[ec2-user@ip-172-31-1-144 ~]$ groups
sudo usermod -aG docker $USER
groups
exit
ec2-user adm wheel systemd-journal
ec2-user adm wheel systemd-journal
logout
Connection to 3.29.18.104 closed.
PS C:\Users\user> ssh -i "C:\Users\user\Downloads\Lab8Key.pem" ec2-user@3.29.18.104

#_
~\_#####_ Amazon Linux 2023
~~\_#####\_
~~\_###|
~~\_#/--- https://aws.amazon.com/linux/amazon-linux-2023
~~\_V~'--->
~~~\_/_/
~~\_/_/
~~\_/_/

Last login: Fri Nov 21 16:31:48 2025 from 154.192.18.62
[ec2-user@ip-172-31-1-144 ~]$ groups
ec2-user adm wheel systemd-journal docker
[ec2-user@ip-172-31-1-144 ~]$

```

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

docker compose up -d

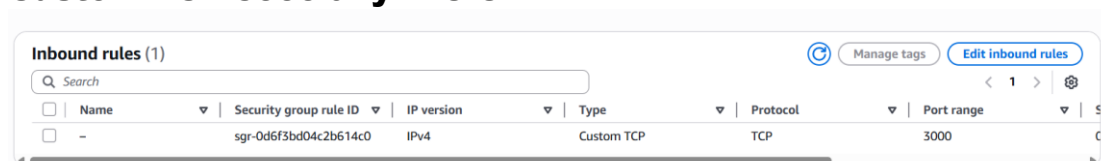
Save screenshot as: task4_docker_compose_up.png — output of docker compose up -d showing containers starting.

```

[ec2-user@ip-172-31-1-144 ~]$ docker compose up -d
[+] Running 17/17
 ✓ db Pulled                                17.5s
 ✓ 87aaf2c1f39b Pull complete                3.4s
 ✓ 84ae6d252b40 Pull complete                5.1s
 ✓ 7dd90d8c5ae5 Pull complete                5.1s
 ✓ d58703585b9c Pull complete              14.0s
 ✓ 3174f2a40dc7 Pull complete              14.0s
 ✓ 9e4eaf63327c Pull complete              14.0s
 ✓ 4b67a2fbf223 Pull complete              14.1s
 ✓ f6c5971200e2 Pull complete              14.1s
 ✓ 9c312a93b89a Pull complete              14.1s
 ✓ gitea Pulled                             9.6s
 ✓ 2d35ebdb57d9 Pull complete                2.0s
 ✓ 7b628712e36f Pull complete                3.1s
 ✓ 84e260a08d42 Pull complete                3.1s
 ✓ ed62dfaf4e32 Pull complete                3.1s
 ✓ b0e526e23464 Pull complete                6.3s
 ✓ 3ca2f02afd57 Pull complete                6.5s
[+] Running 5/5
 ✓ Network webnet Created                   0.2s
 ✓ Volume gitea Created                     0.0s
 ✓ Volume gitea_postgres Created            0.0s
 ✓ Container gitea Started                   0.9s
 ✓ Container gitea_db Started                0.9s
[ec2-user@ip-172-31-1-144 ~]$

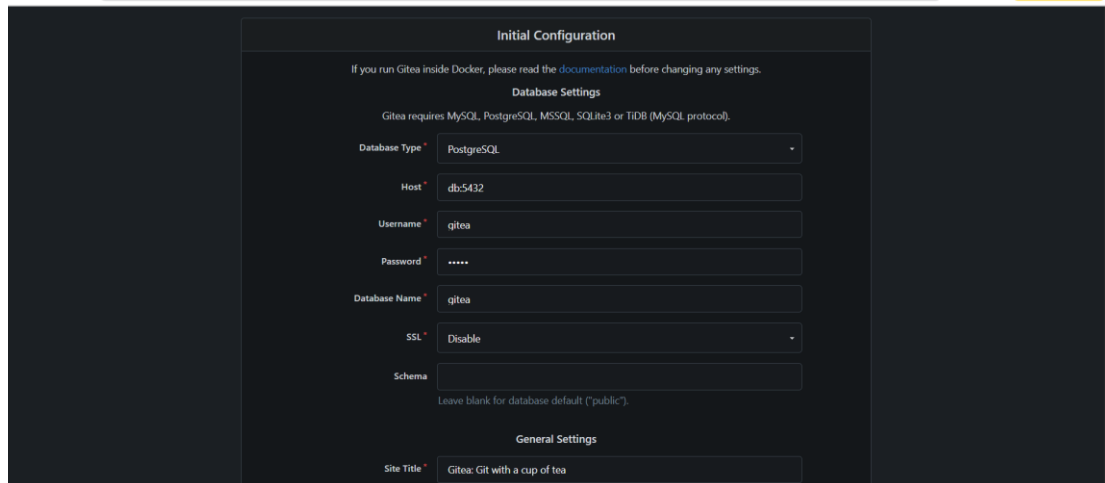
```

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: Save screenshot as: task4_security_group_allow_3000.png — security group inbound rules list showing SSH from My IP and Custom TCP 3000 anywhere.



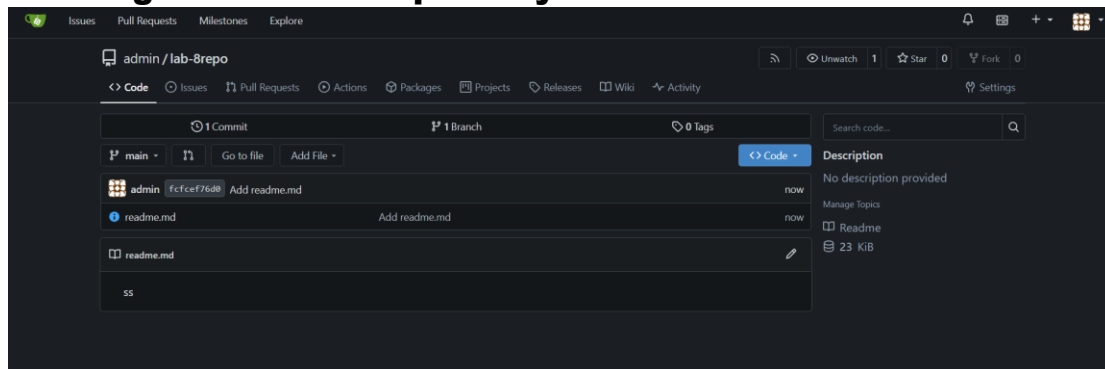
11. From your Windows browser navigate to: http://Public-IP:3000 — capture the Gitea setup/install page:

Save screenshot as: task4_gitea_install_page.png — Gitea installation page in browser.

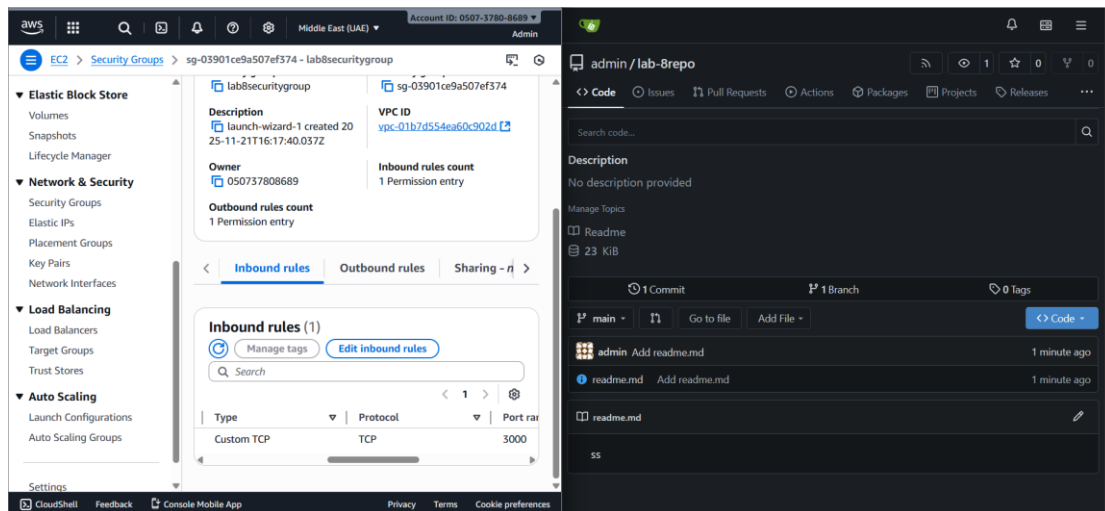


The screenshot shows the 'Initial Configuration' page of Gitea. It has a dark theme. At the top, it says 'Initial Configuration'. Below that, a note says 'If you run Gitea inside Docker, please read the documentation before changing any settings.' The 'Database Settings' section is active, showing fields for 'Database Type' (PostgreSQL), 'Host' (db:5432), 'Username' (gitea), 'Password' (masked with dots), 'Database Name' (gitea), 'SSL' (Disable), and 'Schema' (blank). A note below the schema field says 'Leave blank for database default ("public").' The 'General Settings' section is partially visible at the bottom, showing 'Site Title' (Gitea: Git with a cup of tea).

**12. Complete initial Gitea setup (create admin user, create a repo) and capture Gitea showing the created repository:
Save screenshot as: task4_gitea_create_repo.png — Gitea UI showing the created repository.**



**13. Task 4 summary (combine evidence)
Save screenshot as: task4_summary.png — single screenshot (or tiled screenshot) showing: EC2 Instances list with Lab8Machine running and public IP, security group inbound rules showing SSH and port 3000, and browser tab open to Gitea UI or repo list.
task4_summary.png**



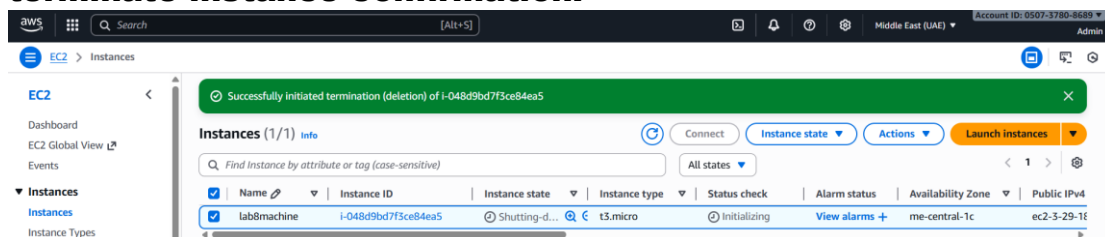
Cleanup — Remove resources to avoid charges

After verification, terminate and delete everything you created. Capture screenshots immediately after each cleanup step.

Cleanup steps and required screenshots:

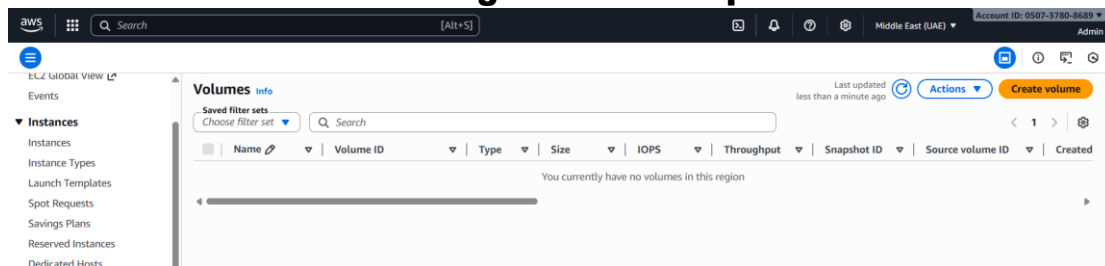
1. Terminate the EC2 instance Lab8Machine.

Save screenshot as: cleanup_terminate_instance.png — EC2 terminate instance confirmation.



2. Delete associated EBS volumes and snapshots (if any).

Save screenshot as: cleanup_delete_volumes_snapshots.png — confirmation or list showing volumes/snapshots deleted.



3. Delete security group Lab8SecurityGroup and key pair Lab8Key from the EC2 console (after instances terminated).

Save screenshot

as: cleanup_delete_security_group_and_keypair.png — deletion confirmation(s) (show key pair list and security group list after deletion).

The screenshot shows two panels from the AWS Management Console. The top panel is the 'Security Groups' page, displaying a table with two security groups: 'sg-0851e2a278e0ffid34' (default) and 'sg-03901ce9a507ef374' (lab8securitygroup). A green notification bar at the top indicates 'Security group (sg-03901ce9a507ef374 | lab8securitygroup) successfully deleted'. The bottom panel is the 'Key Pairs' page, showing a table with one key pair, 'lab8keypair'. A green notification bar at the top indicates 'Successfully deleted 1 key pairs'.

Name	Security group ID	Security group name	VPC ID	Description
-	sg-0851e2a278e0ffid34	default	vpc-01b7d554ea60c902d	default VPC security
-	sg-03901ce9a507ef374	lab8securitygroup	vpc-01b7d554ea60c902d	launch-wizard-1 cre

User name	Path	Group	Last activity	MFA	Password age	Console last sign-in	Acc
-	-	-	-	-	-	-	-

4. Delete IAM users Lab8User and any access keys.
Save screenshot as: cleanup_iam_users_deleted.png — IAM Users list showing Admin and Lab8User no longer present (or a deletion confirmation).

The screenshot shows the 'IAM Users' page in the AWS Management Console. The page title is 'Users (0)'. Below the title, it says 'An IAM user is an identity with long-term credentials that is used to interact with AWS in an account.' The table below shows 'No resources to display'.

User name	Path	Group	Last activity	MFA	Password age	Console last sign-in	Acc
No resources to display							

5. Final cleanup summary (show billing or resource groups with no active resources if possible).
Save screenshot as: cleanup_summary.png — AWS console Billing/Resource Groups showing no active resources or no recent charges (if available).

The screenshot shows the 'Billing and Cost Management' page in the AWS Management Console. The page title is 'Bills'. Below the title, it says 'Page refresh time: Friday, November 21, 2025 at 9:57:41 PM GMT+5'. The 'AWS bill summary' section shows 'Total charges and payment information' for 'Account ID 050737808689' for the 'Billing period November 1 - November 30, 2025'. The 'Estimated grand total' is 'USD 0.00'. The 'Payment information' section shows 'No data' and 'There is no data to display'.

Account ID	Billing period	Estimated grand total
050737808689	November 1 - November 30, 2025	USD 0.00