

## **CLOUD COMPUTING LAB: 08**

**Submitted By:**

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**Registration. No:**

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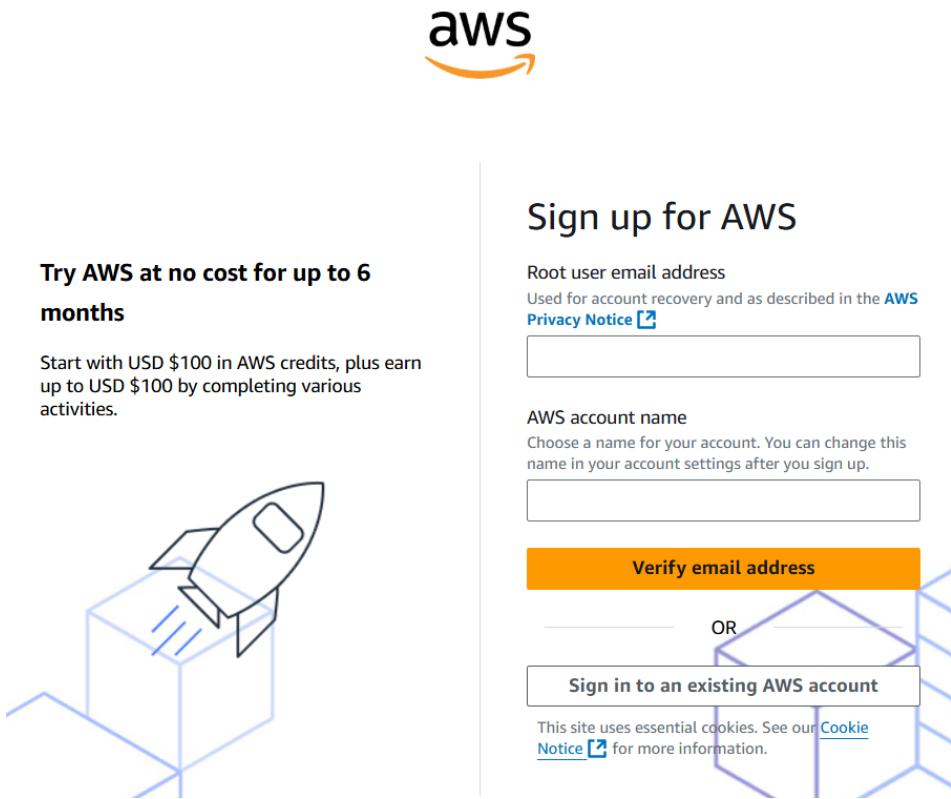
**Submitted To:**

Engr. Shoib

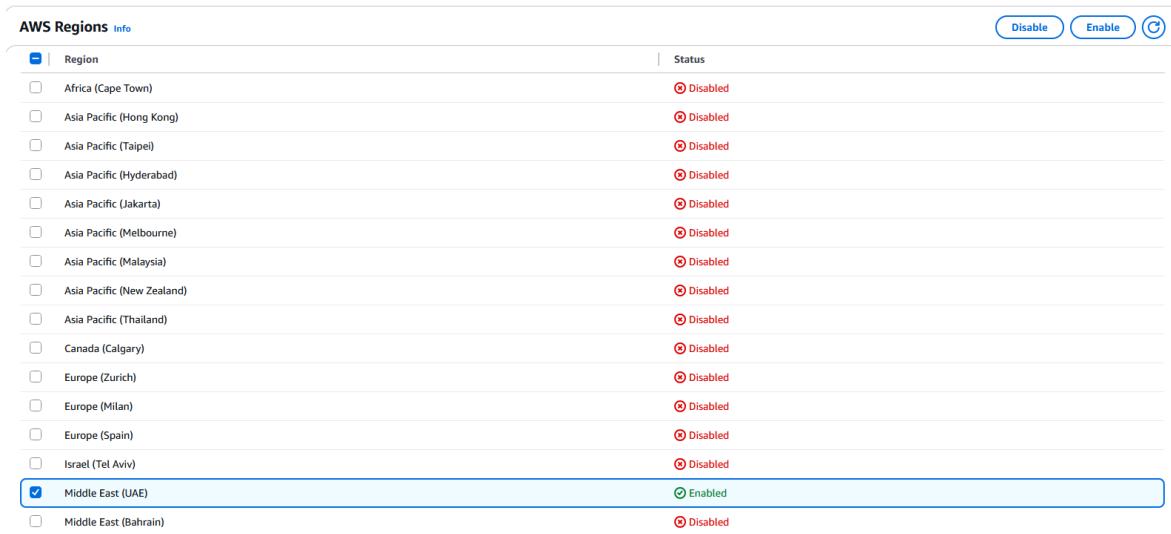
**Section:**

5B

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



The image shows the AWS sign-up page. At the top is the AWS logo. Below it, a large orange button says "Sign up for AWS". To the left of the button is a blue line drawing of a rocket launching from a platform. The text "Try AWS at no cost for up to 6 months" is above the rocket, and "Start with USD \$100 in AWS credits, plus earn up to USD \$100 by completing various activities." is below it. To the right of the rocket, there's a form field for "Root user email address" with a placeholder "Enter email address" and a note about account recovery. Below that is a field for "AWS account name" with a placeholder "Choose a name for your account" and a note about changing it later. There are two main buttons: "Verify email address" in orange and "Sign in to an existing AWS account" in grey. A small note at the bottom states: "This site uses essential cookies. See our [Cookie Notice](#) for more information."



The image shows the AWS Regions configuration page. At the top, there's a header with "AWS Regions" and a "Info" link, followed by "Disable", "Enable", and a refresh icon. Below is a table with two columns: "Region" and "Status". The regions listed are: Africa (Cape Town), Asia Pacific (Hong Kong), Asia Pacific (Taipei), Asia Pacific (Hyderabad), Asia Pacific (Jakarta), Asia Pacific (Melbourne), Asia Pacific (Malaysia), Asia Pacific (New Zealand), Asia Pacific (Thailand), Canada (Calgary), Europe (Zurich), Europe (Milan), Europe (Spain), Israel (Tel Aviv), Middle East (UAE), and Middle East (Bahrain). The "Middle East (UAE)" row has a checked checkbox in the "Region" column and a green "Enabled" status in the "Status" column. All other regions have red "Disabled" status.

Region	Status
Africa (Cape Town)	Disabled
Asia Pacific (Hong Kong)	Disabled
Asia Pacific (Taipei)	Disabled
Asia Pacific (Hyderabad)	Disabled
Asia Pacific (Jakarta)	Disabled
Asia Pacific (Melbourne)	Disabled
Asia Pacific (Malaysia)	Disabled
Asia Pacific (New Zealand)	Disabled
Asia Pacific (Thailand)	Disabled
Canada (Calgary)	Disabled
Europe (Zurich)	Disabled
Europe (Milan)	Disabled
Europe (Spain)	Disabled
Israel (Tel Aviv)	Disabled
Middle East (UAE)	Enabled
Middle East (Bahrain)	Disabled

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

The screenshot shows the AWS IAM console interface. At the top, there's a navigation bar with the AWS logo, a search bar containing 'IAM', and various icons for help and notifications. Below the navigation bar, the main area is titled 'Services' and features a prominent 'IAM' button with the subtext 'Manage access to AWS resources'. On the left, a sidebar has 'Console' selected, with options for 'Services', 'Features', and 'Documentation'. The main content area is divided into two sections: 'Users (0)' and 'Users (1)'. The first section is for creating new users, showing fields for 'User name' (with 'Admin' as the value), 'Path' (empty), 'Group' (empty), 'Last activity' (empty), 'MFA' (empty), 'Password age' (empty), and 'Console' (empty). It also includes a 'Create user' button. The second section shows a single user named 'Admin' with the same details. Below these sections, a large box titled 'Console sign-in details' provides the URL 'https://791666871664.signin.aws.amazon.com/console' and the user name 'Admin'.

**Services**

**IAM** Manage access to AWS resources

**Users (0)** Info

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

**Users (1)** Info

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

**Console sign-in details**

**Console sign-in URL**

<https://791666871664.signin.aws.amazon.com/console>

**User name**

Admin

**Console password**

Screenshot of the AWS Console Home page.

Top navigation bar: Account ID: 7916-6687-1664, Region: Europe (Stockholm), Admin.

Left sidebar: Recently visited services (No recently visited services). Options: EC2, S3, Aurora and RDS, Lambda.

Right sidebar: Applications (0) (Info). Region: Europe (Stockholm). Select Region: eu-north-1 (Current Region). Create application.

Main content area: Users (2) (Info). An IAM user is an identity with long-term credentials that is used to interact with AWS in an account. Create user.

User name	Path	Groups	Last activity	MFA	Password age	Console
Admin	/	0	11 minutes ago	-	4 minutes	11 m
Lab8User	/	0	-	-	Now	-

Bottom section: A CSV file icon labeled "Lab8User\_credentials.csv".

The screenshot shows the AWS CloudWatch Metrics console. At the top, there is a search bar with the placeholder "Search" and a "[Alt+S]" keybinding. Below the search bar are several navigation icons: a magnifying glass, a bell, a question mark, and a gear. To the right of these icons are dropdown menus for "Europe (Stockholm)" and "Account ID: 7916-6687-1664". On the far right, it says "Lab8User".

The main area is titled "Console Home" with a "Info" link. It features two sections: "Recently visited" (with a placeholder icon) and "Applications" (with a placeholder icon). Below these sections are buttons for "Reset to default layout" and "+ Add widgets".

Below the main header, there is another search bar with the placeholder "Search" and a "[Alt+S]" keybinding. To its left is the IAM logo and the text "Identity and Access Management (IAM)". Below this is a "Users" section with a search bar and a table.

The "Users" table has the following columns: User name, Path, Group, Last activity, MFA, Password age, and Console. It contains two entries:

User name	Path	Group	Last activity	MFA	Password age	Console
Admin	/	0	21 minutes ago	-	14 minutes	21 m
Lab8User	/	0	2 minutes ago	-	1 minute	2 min

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

VPC | Ask Amazon Q X

Services Show more

Services Features Resources

Create VPC Launch EC2 Instances

Note: Your Instances will launch in the Europe region.

Resources by Region Refresh Resources

You are using the following Amazon VPC resources

VPCs	Stockholm 1
▶ See all regions	
Subnets	Stockholm 3
▶ See all regions	
Route Tables	Stockholm 1
▶ See all regions	
Internet Gateways	Stockholm 1
▶ See all regions	
Endpoint Services	Stockholm 0
▶ See all regions	
NAT Gateways	Stockholm 0
▶ See all regions	
VPC Peering Connections	Stockholm 0
▶ See all regions	
Network ACLs	Stockholm 1
▶ See all regions	

Service Health View complete service health details ↗

Settings Block Public Access  
Zones ↗  
Console Experiments

Additional Information ↗  
VPC Documentation  
All VPC Resources  
Forums  
Report an Issue

Subnets (3) Info Last updated 2 minutes ago Actions Create subnet

Name	Subnet ID	State	VPC	Block Public.
-	subnet-0c5da435ab3e5b46b	Available	vpc-0be30d1beb39c1848	Off
-	subnet-0bdbb334ba9665dba	Available	vpc-0be30d1beb39c1848	Off
-	subnet-01bdd76844f20e481	Available	vpc-0be30d1beb39c1848	Off

Route tables (1) Info Last updated less than a minute ago Actions Create route table

Name	Route table ID	Explicit subnet assoc...	Edge associations	Main	VPC
-	rtb-0e647fa4ed429fbc3	-	-	Yes	vpc-0

The screenshot shows the AWS VPC dashboard. At the top, there is a table titled "Network ACLs (1) [Info](#)". The table has columns for Name, Network ACL ID, Associated with, Default, and VPC ID. One row is listed: Name is "-", Network ACL ID is "acl-0e6a983cccd7afa58d", Associated with is "3 Subnets", Default is "Yes", and VPC ID is "vpc-0be30d1beb39c1848". Above the table is a search bar with placeholder text "Find Network ACLs by attribute or tag". To the right of the table are "Actions" and "Create network ACL" buttons. Below the table is the main dashboard area with the title "VPC dashboard". On the left, a sidebar lists various VPC components under "Virtual private cloud": Your VPCs, Subnets, Route tables, Internet gateways, Egress-only internet gateways, DHCP option sets, Elastic IPs, Managed prefix lists, NAT gateways, Peering connections, and Route servers. The "Your VPCs" item is currently selected.

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

EC2

Ask Amazon Q

Show more

## Services

**EC2** Virtual Servers in the Cloud

**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: Lab8Machine

**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](#).

**Quick Start**

**Network settings** Info

**VPC – required** Info

vpc-0be30d1beb39c1848 (default)  172.31.0.0/16

**Subnet** Info

No preference

**Availability Zone** Info

No preference

**Auto-assign public IP** Info

Enable

**Firewall (security groups)** Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

Create security group  Select existing security group

**Security group name - required**

Lab8SecurityGroup

This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and \_-/.@#=!&`~\$^\*

**Summary**

Number of instances Info

1

**Software Image (AMI)**  
Amazon Linux 2023 AMI 2023.9.2... [read more](#)  
ami-0b46816ffa1234887

**Virtual server type (instance type)**  
t3.micro

**Firewall (security group)**  
New security group

**Storage (volumes)**  
1 volume(s) - 8 GiB

### Key pair name

Key pairs allow you to connect to your instance securely.

Lab8Key

The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.

### 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 ↗](#)



Lab8Key.pem



```
➤ ec2-user@ip-172-31-46-80:~  
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  
  
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=daw2CqH8IUA
```

```
[ec2-user@ip-172-31-46-80 ~]$ ls -l  
total 4  
-rw-r--r--. 1 root root 1129 Dec 25 18:55 compose.yaml  
[ec2-user@ip-172-31-46-80 ~]$ ■
```

```
[ec2-user@ip-172-31-46-80 ~]$ groups
ec2-user adm wheel systemd-journal
[ec2-user@ip-172-31-46-80 ~]$ sudo usermod -aG docker $USER
[ec2-user@ip-172-31-46-80 ~]$ client_loop: send disconnect: Connection reset
PS C:\Users\Waseem> ssh -i <path>/Lab8Key.pem ec2-user@<public-IP>
At line:1 char:8
+ ssh -i <path>/Lab8Key.pem ec2-user@<public-IP>
+ ~~~~~
The '<' operator is reserved for future use.
+ CategoryInfo          : ParserError: (:) [], ParentContainsErrorRecordException
+ FullyQualifiedErrorId : RedirectionNotSupportedException

PS C:\Users\Waseem> ssh -i C:\Users\Waseem\Downloads\Lab8Key.pem ec2-user@56.228.41.241
ssh: connect to host 56.228.41.241 port 22: Unknown error
PS C:\Users\Waseem> ssh -i C:\Users\Waseem\Downloads\Lab8Key.pem ec2-user@56.228.41.241
The authenticity of host '56.228.41.241 (56.228.41.241)' can't be established.
ED25519 key fingerprint is SHA256:155ImMBSJKv0MKMfVJB1FaMPcKusWW96bFMG6YJSQ8.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Failed to add the host to the list of known hosts (C:\\\\Users\\\\Waseem\\\\.ssh\\\\known_hosts).
hostfile_replace_entries: mkstemp: Permission denied
update_known_hosts: hostfile_replace_entries failed for C:\\\\Users\\\\Waseem\\\\.ssh\\\\known_hosts: Permission denied
,
#_
~\_ ##### Amazon Linux 2023
~~ \#####\
~~ \###|
~~ \#/ ____ https://aws.amazon.com/linux/amazon-linux-2023
~~ \~' '-' /
~~ / /
~~ ._. / /
~/ / /
Last login: Thu Dec 25 18:42:07 2025 from 119.152.254.155
[ec2-user@ip-172-31-46-80 ~]$ groups
ec2-user adm wheel systemd-journal docker
```

```
[ec2-user@ip-172-31-46-80 ~]$ 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
    0dfd86289dd1      Pull complete
    98eecc0da868      Pull complete
    b747867e61cb      Pull complete
  ⚡ Network webnet      Created
  ⚡ Volume gitea        Created
  ⚡ Volume gitea_postgres Created
  ⚡ Container gitea     Created
  ⚡ Container gitea_db   Created
[ec2-user@ip-172-31-46-80 ~]$
```

☰ EC2 > Security Groups > sg-0c925367ae74a7fe9 - Lab8SecurityGroup > Edit inbound rules

**Edit inbound rules** [Info](#)

Inbound rules control the incoming traffic that's allowed to reach the instance.

Security group rule ID	Type	Info	Protocol	Info	Port range	Source	Info	Description - optional	Info
sgr-02fc8889aa544bbc2	Custom TCP	▼	TCP	Info	3000	Any...	▼	Q 0.0.0.0/0	0.0.0.0/0 X
<a href="#">Delete</a>									

[Add rule](#)

⚠ Not secure 56.228.41.241:3000

### 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").

#### General Settings

← → ⌂ ⚡ Not secure 56.228.41.241:3000/admin/lab8-repo

Issues Pull Requests Milestones Explore

admin / lab8-repo

Code Issues Packages Projects Wiki

Quick Guide

Clone this repository Need help cloning? Visit [Help](#).

New File Upload File HTTP SSH <http://56.228.41.241:3000/admin/lab8-repo.git>

Instances (1) [Info](#)

Find Instance by attribute or tag (case-sensitive)

All states ▾

Name	Instance ID	Instance state	Instance type	Status check	Alarm status
Lab8Machine	i-0f9b66288eb530c24	Running	t3.micro	3/3 checks passed	<a href="#">View alarms +</a>

# Cleanup — Remove resources to avoid charges

## Terminate (delete) instance

X

**⚠️** On an EBS-backed instance, the default action is for the root EBS volume to be deleted when the instance is terminated. Storage on any local drives will be lost.

Are you sure you want to terminate these instances?

Instance ID

i-0f9b66288eb530c24 (Lab8Machine)

Termination protection

Disabled

To confirm that you want to delete the instances, choose the terminate button below. Instances with termination protection enabled will not be terminated. Terminating the instance cannot be undone.

### Skip OS shutdown

This option skips the graceful OS shutdown process. Use only when your instance must be stopped immediately, such as during an emergency or failover.

Skip OS shutdown

Cancel

Terminate (delete)

Snapshots Info

Last updated  
less than a minute ago

 Recycle Bin

Actions ▾

Create snapshot

Owned by me ▾

 Search

< 1 > 



Name 



Snapshot ID

▼ | Full snapshot size ▾ |

Volume size ▾ |

Description



| Storage tier ▾ | S

You currently have no snapshots in this Region.

## Delete security groups

X

Are you sure that you want to delete this security group?

- sg-0c925367ae74a7fe9 - Lab8SecurityGroup

Cancel

Delete

**Lab8Key could be associated with one or more instances.** X

Delete Lab8Key

To confirm deletion, type *Delete* in the field

CancelDelete

## Delete Lab8User?



Delete **Lab8User** permanently? This will also delete all its user data, security credentials and inline policies.

User name	Last activity
Lab8User	23 minutes ago

Note: Recent activity usually appears within 4 hours. Data is stored for a maximum of 365 days, depending when your region began supporting this feature. [Learn more ↗](#)

To avoid accidental deletions, we ask you to provide additional written consent.

**To confirm this deletion, type "confirm".**

CancelDelete user