

Cloud Computing Lab

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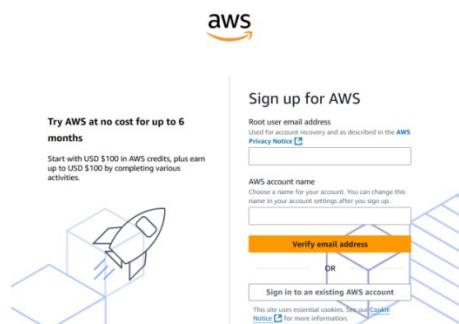
BSE-V B

2023-BSE-046

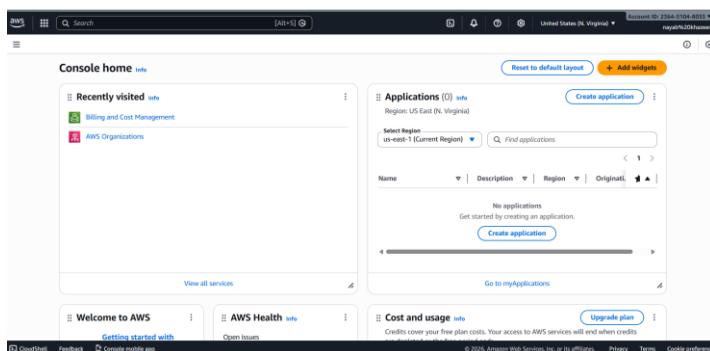
LAB 08

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

- task1_open_signup_page.png



- task1_signed_up_confirmation.png



- task1_root_signed_in.png



- task1_enable_region_me-central-1.png

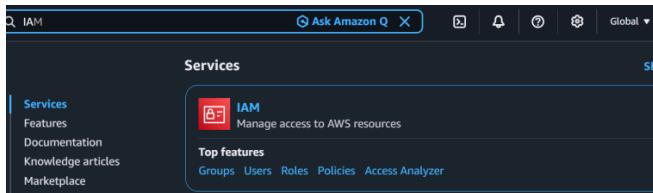
<input type="checkbox"/> Europe (Milan)	Disabled
<input type="checkbox"/> Europe (Spain)	Disabled
<input type="checkbox"/> Israel (Tel Aviv)	Disabled
<input checked="" type="checkbox"/> Middle East (UAE)	Enabled
<input type="checkbox"/> Middle East (Bahrain)	Disabled
<input type="checkbox"/> Mexico (Central)	Disabled
<input type="checkbox"/> Asia Pacific (Tokyo)	Enabled by default
<input type="checkbox"/> Asia Pacific (Seoul)	Enabled by default
<input type="checkbox"/> Asia Pacific (Osaka)	Enabled by default
<input type="checkbox"/> Asia Pacific (Mumbai)	Enabled by default
<input type="checkbox"/> Asia Pacific (Singapore)	Enabled by default

- task1_summary.png

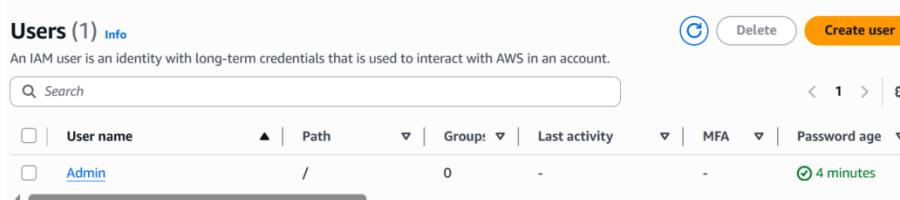


Task 2 — Create IAM Admin and Lab8User with console access

- task2_open_iam_console.png



- task2_admin_create_confirmation.png



- task2_admin_csv_and_signin_url.png

Admin_credentials - Microsoft Excel												
		Admin_credentials - Microsoft Excel										
		Admin_credentials - Microsoft Excel										
B2	f2	zSU34\$13	C	D	E	F	G	H	I	J	K	L
User name	Password	Console sign-in URL										
Admin	zSU34\$13	https://236451048033.signin.aws.amazon.com/console										

- task2_admin_console_after_login.png



- task2_create_lab8user_and_csv.png

Console sign-in details

Console sign-in URL
 https://236451048033.signin.aws.amazon.com/console

User name
 Lab8User

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

[Email sign-in instructions](#) [Download .csv file](#) [Return to users list](#)

- task2_lab8user_csv_saved.png

1	A	B	C	D	E	F	G	H	I
	User name	Password	Console sign-in URL						
	Lab8User	p'6P14\$4	https://236451048033.signin.aws.amazon.com/console						

- task2_lab8user_logged_in.png

Account ID: 2364-5104-8033 ▾

[Alt+S] [⟳](#) [🔕](#) [?](#) [⚙️](#) Europe (Stockholm) ▾

Lab8User

- task2_summary.png

Users (2) Info

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	Groups	Last activity	MFA	Password age
<input type="checkbox"/>	Admin	/	0	16 minutes ago	-	15 minutes
<input type="checkbox"/>	Lab8User	/	0	7 minutes ago	-	1 minute

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

- task3_open_vpc_console.png

VPC dashboard [Create VPC](#) [Launch EC2 Instances](#)

AWS Global View [Filter by VPC](#)

Resources by Region

You are using the following Amazon VPC resources

Region	Services	Count
Stockholm	Endpoint Services, NAT Gateways, Route Tables, Subnets	3
Stockholm	Subnets	2
Stockholm	Route Tables	1
Stockholm	Internet Gateways	1

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](#)

- task3_vpcs_list.png

Your VPCs

[VPCs](#) [VPC encryption controls](#)

Your VPCs (1) Info

Last updated 1 minute ago [⟳](#) [Actions](#)

Name	VPC ID	State	Encryption c...	Encryption control ...
-	vpc-0e210a15e8f3fe12f	Available	-	-

- task3_subnets_list.png

Subnets (3) [Info](#)

Last updated less than a minute ago [Actions](#) [Create](#)

<input type="checkbox"/>	Name	Subnet ID	State	VPC	Block Public...
<input type="checkbox"/>	-	subnet-03b14671346f97bd9	Available	vpc-0e210a15e8f3fe12f	Off
<input type="checkbox"/>	-	subnet-002ded545d2f2d2aa	Available	vpc-0e210a15e8f3fe12f	Off
<input type="checkbox"/>	-	subnet-071f97bda8a8ba4c4	Available	vpc-0e210a15e8f3fe12f	Off

- task3_route_tables_list.png

Route tables (1) [Info](#)

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

<input type="checkbox"/>	Name	Route table ID	Explicit subnet assoc...	Edge a...
<input type="checkbox"/>	-	rtb-0038a3dae52cf2823	-	-

- task3_network_acls_list.png

Network ACLs (1) [Info](#)

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

<input type="checkbox"/>	Name	Network ACL ID	Associated with	Default
<input type="checkbox"/>	-	acl-04d839ff2bff69563	3 Subnets	Yes

- task3_summary.png

The screenshot shows the AWS VPC dashboard for the Middle East (UAE) region. It displays various VPC resources across different regions:

- VPCs:** UAE 1 (See all regions)
- Subnets:** UAE 3 (See all regions)
- Route Tables:** UAE 1 (See all regions)
- Internet Gateways:** UAE 1 (See all regions)
- Egress-only Internet Gateways:** UAE 0 (See all regions)
- Endpoint Services:** UAE 0 (See all regions)
- NAT Gateways:** UAE 0 (See all regions)
- VPC Peering Connections:** UAE 0 (See all regions)
- Network ACLs:** UAE 1 (See all regions)
- Security Groups:** UAE 1 (See all regions)

On the right side, there are sections for Service Health, Settings, Additional Information, and Site-to-Site VPN Connections.

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

- Ztask4_open_ec2_console.png

The screenshot shows the AWS EC2 dashboard for the Middle East (UAE) region. It provides an overview of EC2 resources and costs:

Resources:

- Instances (running): 0
- Dedicated Hosts: 0
- Key pairs: 0
- Security groups: 1
- Auto Scaling Groups: 0
- Elastic IPs: 0
- Load balancers: 0
- Snapshots: 0
- Capacity Reservations: 0
- Instances: 0
- Placement groups: 0
- Volumes: 0

EC2 cost:

- Date range: Past 6 months | Region: Global
- Total cost: Data unavailable
- Regions: Data unavailable
- Data unavailable

Launch instance:

To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.

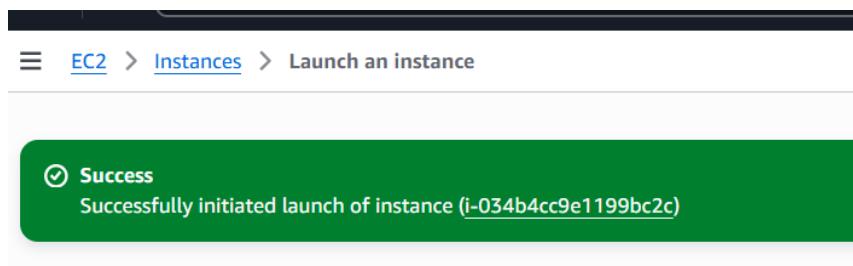
Service health:

Region: Middle East (UAE)
Status: This service is operating normally.

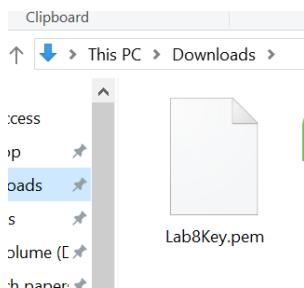
Account attributes:

Default VPC: vpc-0fbfb7302dc628797
Settings

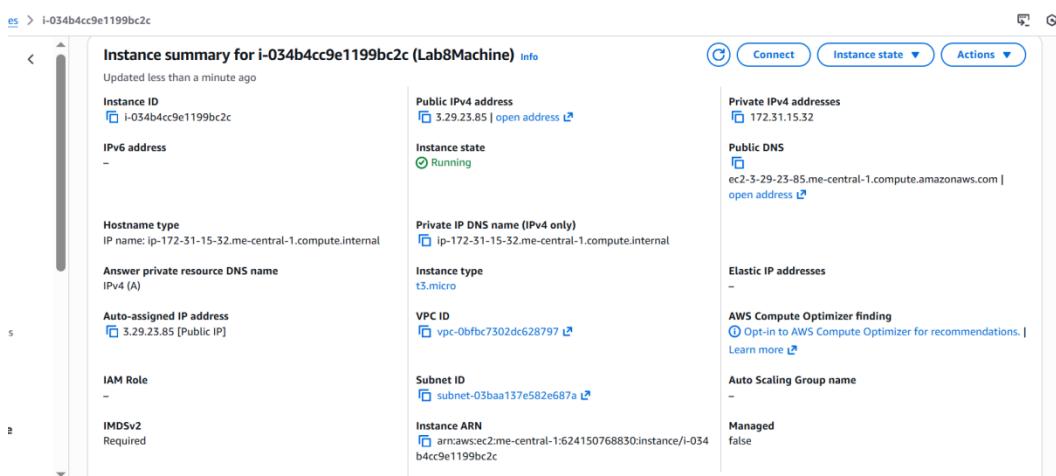
- task4_launch_instance_config.png



- task4_keypair_download.png



- task4_instance_running_console.png



- task4_ssh_from_windows_to_ec2.png

```
C:\Users\sweng>ssh -i Downloads/Lab8Key.pem ec2-user@3.29.23.85
The authenticity of host '3.29.23.85 (3.29.23.85)' can't be established.
ED25519 key fingerprint is SHA256:4FV8UUH1wdpNQLuk4PfkIXRYQK5ofhDw9K6BdKMFQ0ZE.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '3.29.23.85' (ED25519) to the list of known hosts.

,#
~\_#####
~~ \#####
~~ \###|
~~ \#/ __ https://aws.amazon.com/linux/amazon-linux-2023
~~ \~' '-'>
~~ \_/
~~ \_/
~/m/'
```

- task4_ec2_install_docker_compose_started.png

```
[ec2-user@ip-172-31-32-32 ~]$ sudo yum update -y
Amazon Linux 2023 Kernel Livepatch repository
Dependencies resolved.
Nothing to do.
Complete!
[ec2-user@ip-172-31-32-32 ~]$ sudo yum install -y docker
Last metadata expiration check: 0:00:05 ago on Sun Dec 28 16:19:05 2025.
Dependencies resolved.
=====
Version           Repository      Size          =Package= Architecture
=====
docker           x86_64          25.0.13-1.amzn2023.0.2    amazonlinux      46 M ==Installing:
=====
Installing dependencies:
amazon-selinux      roarch        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        1.8.1-1.amzn2023.0.2     amazonlinux      401 k
libselinux-libs    x86_64        1.8.1-1.amzn2023.0.2     amazonlinux      183 k
libseccomp          x86_64        3.0.1-3.amzn2023.0.1     amazonlinux      75 k
libselinuxfs         roarch       1.0.8-2.amzn2023.0.2     amazonlinux      58 k
lvm2               x86_64        2.0.2-1.amzn2023.0.2     amazonlinux      34 M
pigz              x86_64        2.5-1.amzn2023.0.3      amazonlinux      83 k
runc              x86_64        1.3.5-2.amzn2023.0.1     amazonlinux      3.9 M

Transaction Summary
=====
=====
Total download size: 74 M
Installed size: 200 M
Downloading Packages:
(1/1): container-selinux-2.242.0-1.amzn2023.roarch.rpm   1.6 MB/s | 58 kB  00:00

```

- task4_vim_compose_yaml_paste.png

```
  Select ec2-user@ip-172-31-15-32:~
```

```
networks:
  - webnet

images:
  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=dwzCgHBTUk
```

- task4_compose_yaml_saved_ls.png

```
[ec2-user@ip-172-31-15-32 ~]$ ls -l  
total 8  
-rw-r--r--. 1 root root 7127 Dec 28 16:26 compose.yaml  
[ec2-user@ip-172-31-15-32 ~]$
```

- task4_usermod_and_groups_before_after.png

```
[ec2-user@ip-172-31-15-32 ~]$ groups
ec2-user adm wheel systemd-journal
[ec2-user@ip-172-31-15-32 ~]$ sudo usermod -aG docker $USER
[ec2-user@ip-172-31-15-32 ~]$ groups
ec2-user adm wheel systemd-journal
[ec2-user@ip-172-31-15-32 ~]$ exit
logout
Connection to 3.29.23.85 closed.

C:\Users\sweng>ssh -i Downloads/Lab8Key.pem ec2-user@3.29.23.85
,
#_
~\ #####
~~ \####\ Amazon Linux 2023
~~ \###\
~~ #/\ https://aws.amazon.com/linux/amazon-linux-2023
~~ V~' '-->
~~~ /
~~~ _/ \
~~~ _/ \
~~~ _/ \
~~~ _/ \
Last login: Sun Dec 28 16:17:06 2025 from 103.255.6.97
[ec2-user@ip-172-31-15-32 ~]$ groups
ec2-user adm wheel systemd-journal docker
```

- task4 docker compose up.png

```

> EOF
[ec2-user@ip-172-31-15-32 ~]$ sudo docker compose up -d
[+] up 15/18
[+] up 23/tgres:alpine [REDACTED]    112MB / 112MB   Pulling          10.5s
[+] Image postgres:alpine    Pulled           10.5s
  [+] 1074353eec0d      Pull complete     1.0s
  [+] 51a9324a2bdc      Pull complete     1.1s
  [+] 1e827ac0fa1e      Pull complete     1.1s
  [+] 0629ac8b8cc5      Pull complete     1.8s
  [+] 2e50a444bddf      Pull complete     7.1s
  [+] 4465107e1675      Pull complete     7.1s
  [+] cc2ee20b6816      Pull complete     7.2s
  [+] 0dfd86289dd1      Pull complete     7.2s
  [+] 98ecc0da868       Pull complete     7.2s
  [+] b747867e61cb      Pull complete     7.2s
[+] Image gitea/gitea:latest Pulled           10.6s
  [+] 2d35ebdb57d9      Pull complete     3.6s
  [+] 9f4e672c1f34      Pull complete     5.5s
  [+] 4da94b3cc809      Pull complete     5.6s
  [+] 8e016ece0bd3      Pull complete     5.6s
  [+] 346e493cb6cb      Pull complete     7.2s
  [+] 95215379f1d1      Pull complete     7.3s
[+] Network webnet        Created          0.2s
[+] Volume gitea_postgres Created          0.0s
[+] Volume gitea          Created          0.0s
[+] Container gitea_db   Created          0.2s
[+] Container gitea      Created          0.2s

```

- task4_security_group_allow_3000.png

Inbound rules (2)

Security group rule ID	IP version	Type	Protocol	Port range	Source
sgr-019a65865e3e0580d	IPv4	SSH	TCP	22	0.0.0.0/0
sgr-0466ba9835039cf58	IPv4	Custom TCP	TCP	3000	0.0.0.0/0

- task4_gitea_install_page.png



Installing now, please wait...

- task4_gitea_create_repo.png

Issues Pull Requests Milestones Explore

admin

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Mon Wed Fri

1 contributions in the last 12 months

Less More

admin created repository admin/Assignment-2 now

Repository Organization

Repositories 1

Search repos...

All Sources Forks Mirrors Collaborative

admin/Assignment-2

- task4_summary.png

The screenshot shows two panels. The left panel displays CloudWatch Metrics data for a repository named 'admin/Assignment-2'. It includes a search bar, a timeline from Jan to Dec, and a message indicating 1 contribution in the last 12 months. The right panel shows the 'Details' page for a security group named 'Lab8SecurityGroup'. It lists the security group ID (sg-0d1a401cb871173e6), VPC ID (vpc-0fbfc7302dc628797), and inbound rules, which include SSH (TCP port 22) and Custom TCP (TCP port 3000).

Cleanup — Remove resources to avoid charges

- cleanup_terminate_instance.png

The screenshot shows the Lambda console with a confirmation message: "Successfully initiated termination (deletion) of i-034b4cc9e1199bc2c (Lab8Machine)". Below this, the "Instance summary" for the terminated instance is displayed, including details like Instance ID (i-034b4cc9e1199bc2c), Public IPv4 Address (3.29.23.85), Instance state (Shutting-down), and VPC ID (vpc-0fbfc7302dc628797).

- cleanup_delete_volumes_snapshots.png

The screenshot shows the Lambda console with sections for "Volumes" and "Snapshots". Both sections indicate that no volumes or snapshots are currently present in the region.

- cleanup_delete_security_group_and_keypair.png

The screenshot shows the Lambda console with a confirmation message: "Successfully deleted 1 key pair". Below this, the "Key pairs" section is shown, which is currently empty.

- cleanup_iam_users_deleted.png

The screenshot shows the Lambda console with a confirmation message: "User 'Lab8User' deleted". Below this, the "Users (1/2)" section is shown, which is currently empty.

- cleanup_summary.png

 **Users deleted.**

X

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

[Add MFA](#)

 **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

0

Users

0

Roles

3

Policies

0

Identity providers

0