

Cloud Computing Lab

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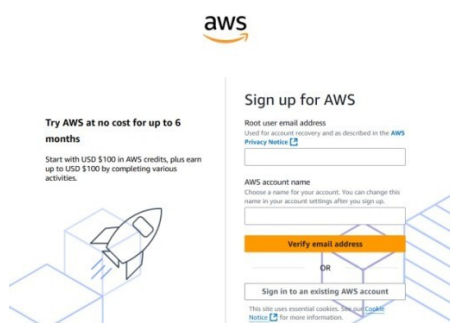
BSE-V B

2023-BSE-046

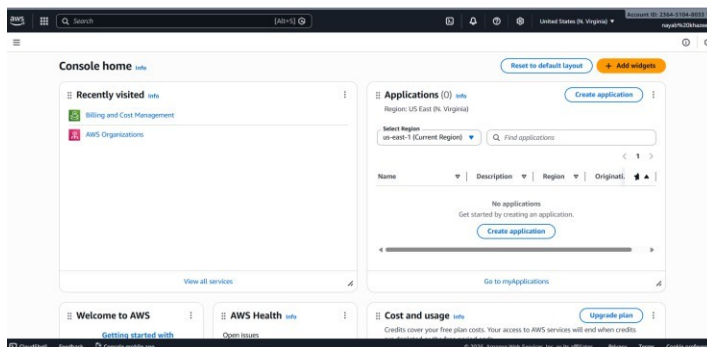
LAB 08

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

- task1_open_signup_page.png



- task1_signed_up_confirmation.png



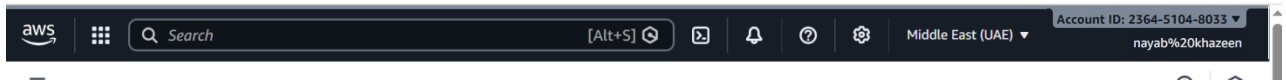
- task1_root_signed_in.png



- task1_enable_region_me-central-1.png

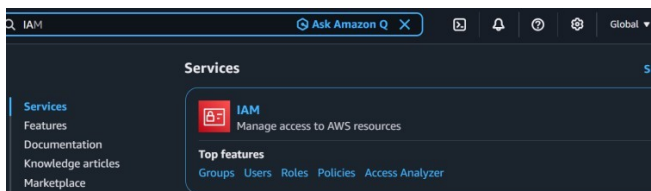
<input type="checkbox"/>	Europe (Milan)	Disabled
<input type="checkbox"/>	Europe (Spain)	Disabled
<input type="checkbox"/>	Israel (Tel Aviv)	Disabled
<input checked="" type="checkbox"/>	Middle East (UAE)	Enabled
<input type="checkbox"/>	Middle East (Bahrain)	Disabled
<input type="checkbox"/>	Mexico (Central)	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

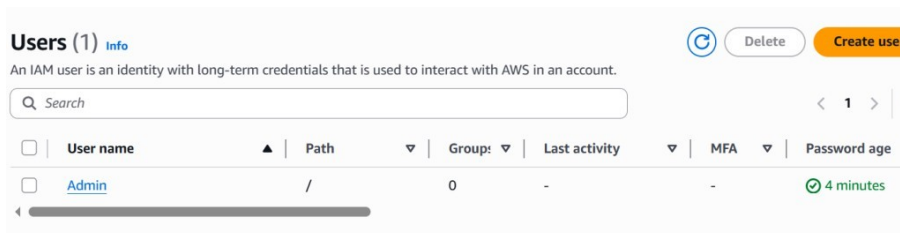


Task 2 — Create IAM Admin and Lab8User with console access

- task2_open_iam_console.png



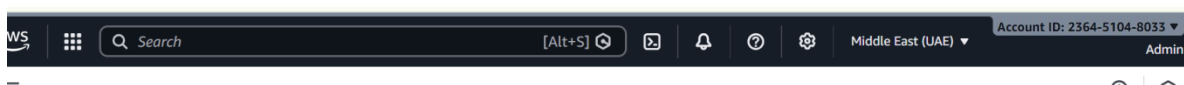
- task2_admin_create_confirmation.png



- task2_admin_csv_and_signin_url.png

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

Email sign-in instructions

Console sign-in URL

https://236451048033.signin.aws.amazon.com/console

User name

Lab8User

Console password

Show

Cancel

Download .csv file

Return to users list

- task2_lab8user_csv_saved.png

A	B	C	D	E	F	G	H	I
User name	Password	Console sign-in URL						
Lab8User	b'6P14S4	https://236451048033.signin.aws.amazon.com/console						

- task2_lab8user_logged_in.png



- 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.

Q Search

< 1 >

⚙️

<input type="checkbox"/>	User name	▲ Path	▼ Group:	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

The screenshot shows the AWS VPC dashboard. On the left, there's a navigation menu with options like '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', 'Route servers', and 'Security'. The main content area is titled 'Resources by Region' and shows a table of VPCs. The table has columns for 'VPCs', 'Endpoint Services', 'NAT Gateways', 'VPC Peering Connections', and 'Network ACLs'. Each row represents a VPC in a specific region (us-east-1, us-east-2, us-west-1, us-west-2). The 'VPCs' column shows the VPC ID and a link to 'See all regions'. The other columns show the service name and a link to 'See all regions'. On the right, there are links for 'Service Health', 'Settings', 'Additional Information', and 'Report an issue'.

VPCs	Endpoint Services	NAT Gateways	VPC Peering Connections	Network ACLs
See all regions	See all regions	See all regions	See all regions	See all regions
See all regions	See all regions	See all regions	See all regions	See all regions
See all regions	See all regions	See all regions	See all regions	See all regions
See all regions	See all regions	See all regions	See all regions	See all regions

- task3_vpcs_list.png

Your VPCs

VPC encryption controls

Last updated 1 minute ago [Actions](#)

Your VPCs (1) [Info](#)

Find VPCs by attribute or tag

<input type="checkbox"/>	Name	VPC ID	State	Encryption c...	Encryption control ...
<input type="checkbox"/>	-	vpc-0e210a15e8f3fe12f	Available	-	-

- task3_subnets_list.png

Subnets (3) Info Last updated less than a minute ago [Actions](#) [Create](#)

Find subnets by attribute or tag

<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

Find route tables by attribute or tag

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

- task3_network_acls_list.png

Network ACLs (1) Info [Refresh](#)

Find Network ACLs by attribute or tag

<input type="checkbox"/>	Name	Network ACL ID	Associated with	Default
<input type="checkbox"/>	-	acl-04d839ff2bfff69563	3 Subnets	Yes

- task3_summary.png

Search [Alt+S] Account ID: 2344 Middle East (UAE)

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

Site-to-Site VPN Connect
Amazon VPC enables you to use yo isolated resources within the AWS t then connect those resources direct own datacenter using industrv-star

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

- Ztask4_open_ec2_console.png

Search [Alt+S] Account ID: 2344 Middle East (UAE)

EC2
[Dashboard](#)
[EC2 Global View](#)
[Events](#)
[Instances](#)
[Instance Types](#)
[Launch Templates](#)
[Spot Requests](#)
[Savings Plans](#)
[Reserved Instances](#)
[Dedicated Hosts](#)
[Capacity Reservations](#)
[Images](#)
[AMI](#)
[AMI Catalog](#)

Resources [EC2 Global View](#) [Refresh](#)

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

Launch Instance
To get started, launch an Amazon EC2 Instance, which is a virtual server in the cloud.
[Launch Instance](#) [Migrate a server](#)

Service health [AWS Health Dashboard](#)

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

EC2 cost
Date range: Past 6 months | Region: Global
Total cost
Data unavailable
Regions
Data unavailable
[Analyze your costs in Cost Explorer](#)

Account attributes
Default VPC
vpc-0b0bc7302ac628797
Settings

Note: Your instances will launch in the Middle East (UAE) Region

- ☰ [EC2](#) > [Instances](#) > Launch an instance
- ✔ **Success**
Successfully initiated launch of instance ([i-034b4cc9e1199bc2c](#))

-

- Instance summary for i-034b4cc9e1199bc2c (Lab8Machine)** info

Updated less than a minute ago

Instance ID i-034b4cc9e1199bc2c	Public IPv4 address 3.29.23.85 open address ↗	Private IPv4 addresses 172.31.15.32
IPv6 address -	Instance state Running	Public DNS ec2-3-29-23-85.me-central-1.compute.amazonaws.com open address ↗
Hostname type IP name: ip-172-31-15-32.me-central-1.compute.internal	Private IP DNS name (IPv4 only) ip-172-31-15-32.me-central-1.compute.internal	
Answer private resource DNS name IPv4 (A) Auto-assigned IP address 3.29.23.85 [Public IP]	Instance type t3.micro	Elastic IP addresses -
IAM Role -	VPC ID vpc-0fbfc7302dc628797 ↗	AWS Compute Optimizer finding Opt-in to AWS Compute Optimizer for recommendations. Learn more ↗
IMDSv2 Required	Subnet ID subnet-03baa137e582e687a ↗	Auto Scaling Group name -
	Instance ARN arn:aws:ec2:me-central-1:624150768830:instance/i-034b4cc9e1199bc2c	Managed false

- ```
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 SHA256:4FV8UUH1wdpNQLuk4PkIXRYQK5ofhdW9K6BdKMfQ0ZE.
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.
```
- 
- ```
, #  
~_#### Amazon Linux 2023  
~~ \#####\  
~~ \|###|  
~~ \|#/ https://aws.amazon.com/linux/amazon-linux-2023  
~~~~ V^'->  
~~~~_-_  
~~~~/_/_/  
~~~~/_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-1.6.8-3.amzn2023.0.2.x86_64                                  iptables-nft-1.6.8-3.amzn2023.0.2.x86_64                                    libgroup-3-0.1.amzn2023.0.1.x86_64
libwireless-contrack-3-0.2.amzn2023.0.2.x86_64                            libwifeline-1-0.2-19.amzn2023.0.2.x86_64                                   librunc-1.2.2-2.amzn2023.0.2.x86_64
pigz-1.3.amzn2023.0.1.x86_64                                                runc-1.3.3.amzn2023.0.1.x86_64

Complete!
[ec2-user@ip-172-31-15-32 ~]$ sudo mkdir -p /usr/local/lib/docker/cli-plugins
[ec2-user@ip-172-31-15-32 ~]$ sudo curl -SL https://github.com/docker/compose/releases/latest/download/docker-compose-linux-x86_64 -o /usr/local/lib/docker/cli-plugins
er-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     0      0
  0 25.0M    100 25.0M      24.0M       0:00:01  0:00:01 --:- 351M
[ec2-user@ip-172-31-15-32 ~]$ sudo chmod +x /usr/local/lib/docker/cli-plugins/docker-compose
[ec2-user@ip-172-31-15-32 ~]$ sudo systemctl start docker
[ec2-user@ip-172-31-15-32 ~]$

```

- task4_vim_compose_yaml_paste.png

```

Select ec2-user@ip-172-31-15-32-
works:
- webnet

limes:
  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 Tutorial1 : https://www.youtube.com/watch?v=dad2Cq98TUw

```

- 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
```

- task4_usermod_and_groups_before_after.png

[illegible]

- task4_docker_compose_up.png


```
> EOF
[ec2-user@ip-172-31-15-32 ~]$ sudo docker compose up -d
[+] up 15/18
[+] up 23/23gres:alpine [██████████] 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
    98eccc0da868 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
```

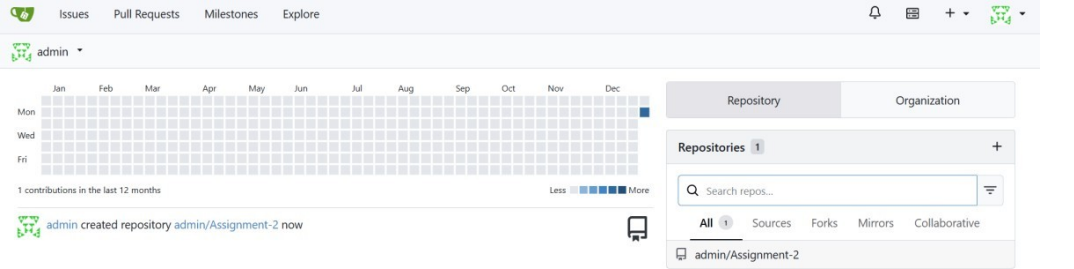
- task4_security_group_allow_3000.png

Inbound rules (2)							Manage tags	Edit inbound rules
Q Search							< 1 >	
	Security group rule ID	IP version	Type	Protocol	Port range	Source		
	sgr-019a65865e3e0580d	IPv4	SSH	TCP	22	0.0.0.0/0		
	sgr-0466ba9835039cf38	IPv4	Custom TCP	TCP	3000	0.0.0.0/0		

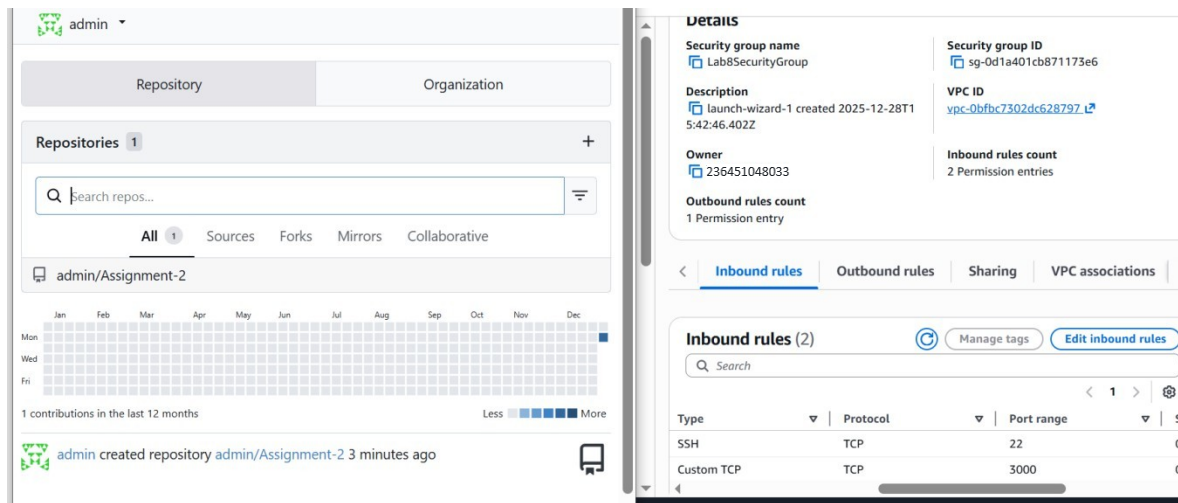
- task4_gitea_install_page.png



- task4_gitea_create_repo.png

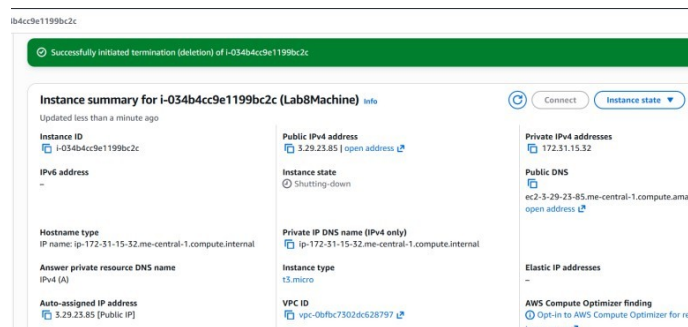


- task4_summary.png

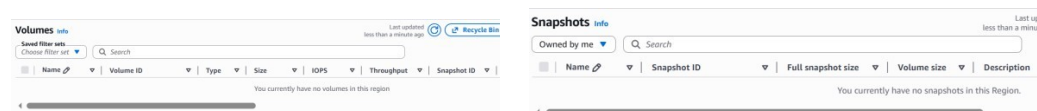


Cleanup — Remove resources to avoid charges

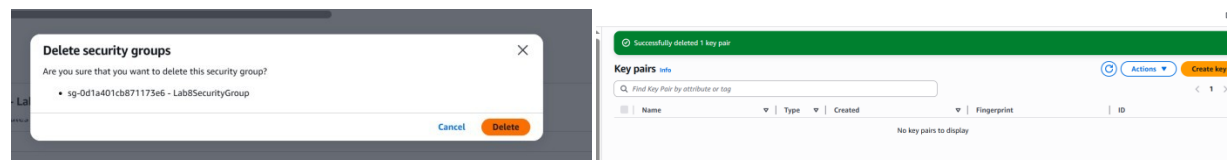
- cleanup_terminate_instance.png



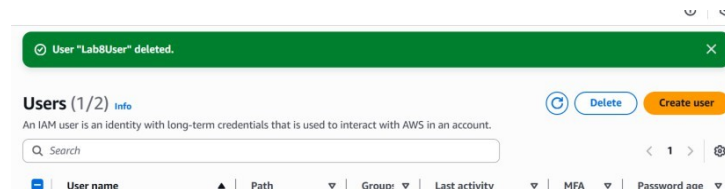
- cleanup_delete_volumes_snapshots.png



- cleanup_delete_security_group_and_keypair.png



- cleanup_iam_users_deleted.png



- cleanup_summary.png

✓ Users deleted.

✕

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	Users	Roles	Policies	Identity providers
0	0	3	0	0