

**LAB # 08:**  
**CLOUD COMPUTING :**

**FROM:**

ALINA IMAN  
2023-BSE-005  
SECTION A

---

**TO:**

SIR SHOAB


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**TITLE:**

AWS: ACCOUNT SETUP, IAM, VPC INVENTORY, EC2, DOCKER &  
GITEA


---

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



### Try AWS at no cost for up to 6 months

Start with USD \$100 in AWS credits, plus earn up to USD \$100 by completing various activities.



## Sign up for AWS

Root user email address  
Used for account recovery and as described in the [AWS Privacy Notice](#)

AWS account name  
Choose a name for your account. You can change this name in your account settings after you sign up.


**Verify email address**

OR

**Sign in to an existing AWS account**

This site uses essential cookies. See our [Cookie Notice](#) for more information.

Activate Windows  
Go to Settings to activate Windows.



### **Paid**

Develop production-ready workloads

- ✓ Receive up to \$200 in credits
- ✓ Includes free usage of select services
- ✓ Workloads scale beyond credit thresholds
- ✓ Access to all AWS services and features

(i) After all of your credits are used, you are charged using pay-as-you-go pricing.

**Choose paid plan**

# Sign up for AWS

## Contact Information

How do you plan to use AWS?

- ☐ Business - for your work, school, or organization
- ☐ Personal - for your own projects

Who should we contact about this account?

Full Name



## Sign up for AWS

### Confirm your identity

Verify code

SMS PIN required

[Continue \(step 4 of 5\)](#)

Having trouble? Sometimes it takes up to 10 minutes to retrieve a verification code. If it's been longer than that, [return to the previous page](#) and try again.

## Sign up for AWS

### Select a support plan

Choose a support plan for your business or personal account. [Compare plans and pricing examples](#). You can change your plan anytime in the AWS Management Console.

#### ☒ Basic support - Free

- Recommended for new users just getting started with AWS
- 24x7 self-service access to AWS resources
- For account and billing issues only
- Access to Personal Health Dashboard & Trusted Advisor

#### ☐ AWS Business Support+ Starts at \$29/month

##### Limited time offer: Get full refund for first 60 days

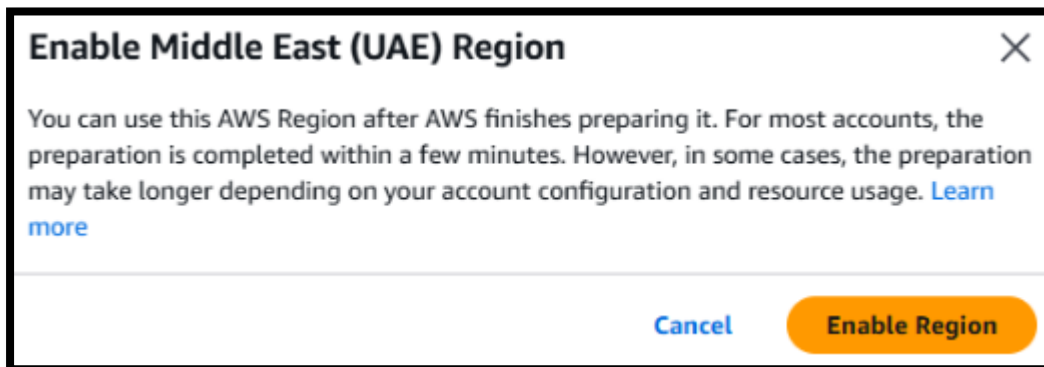
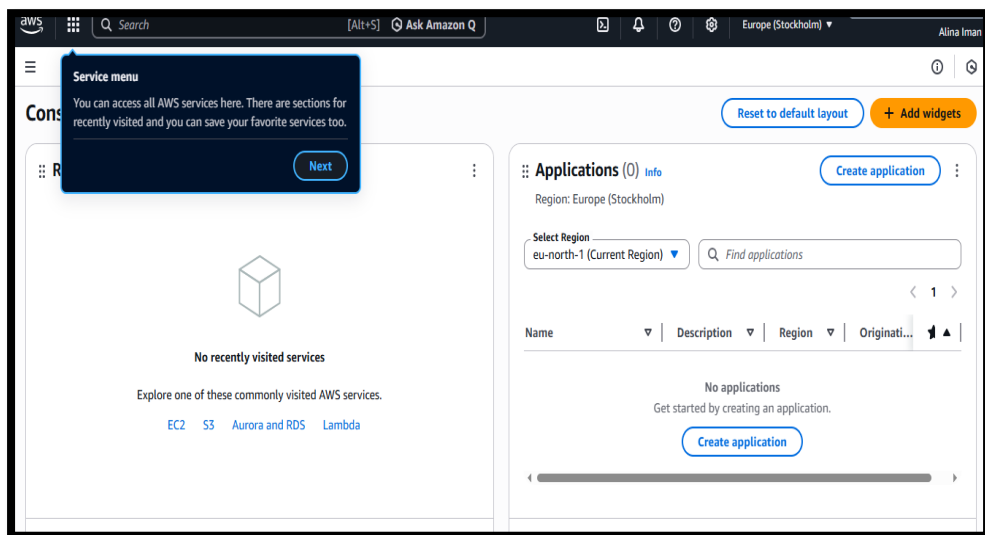
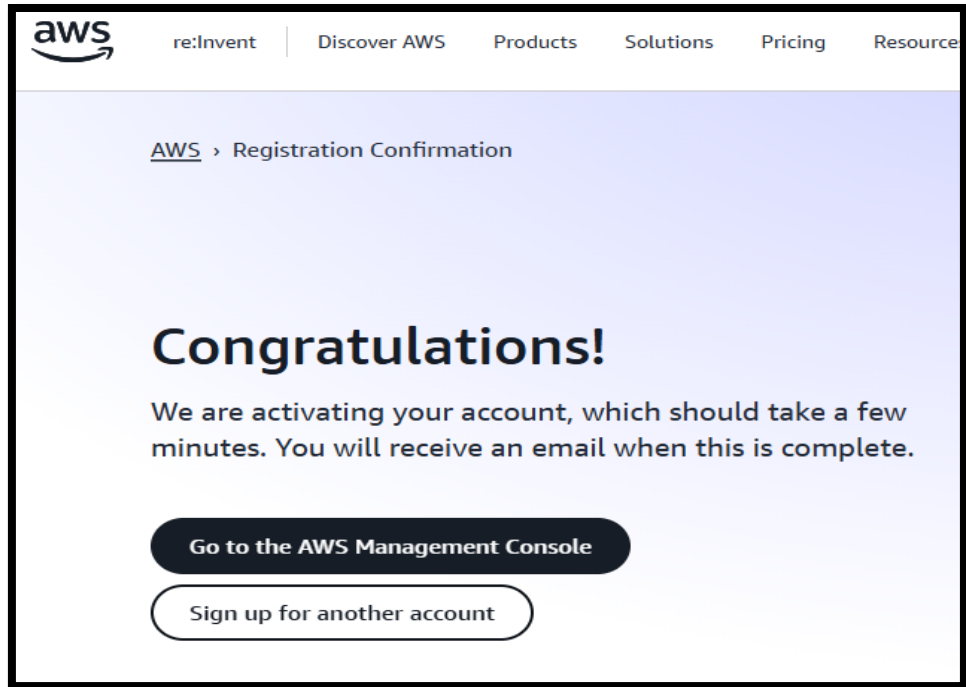
- Unlimited troubleshooting (genAI)
- 24x7 access to AWS experts
- <30 mins response for business critical issues
- Full set of Trusted Advisor checks
- AI driven cost optimization
- By selecting this offer you agree to the offer's [terms and conditions](#)



#### Need Enterprise level support?

From \$15,000 a month you will receive 15-minute response times and concierge-style experience with an assigned Technical Account Manager. [Learn more](#)

[Complete sign up \(step 5 of 5\)](#)



### User details

**User name**

The user name can have up to 64 characters. Valid characters: A-Z, a-z, 0-9, and + = , . @ \_ - (hyphen)

☒ **Provide user access to the AWS Management Console - optional**

In addition to console access, users with `SignInLocalDevelopmentAccess` permissions can use the same console credentials for programmatic access without the need for access keys.

**Console password**

☒ **Autogenerated password**

You can view the password after you create the user.

☐ **Custom password**

Enter a custom password for the user.

- Must be at least 8 characters long
- Must include at least three of the following mix of character types: uppercase letters (A-Z), lowercase letters (a-z), numbers (0-9), and symbols ! @ # \$ % ^ & \* ( ) \_ + - (hyphen) = [ ] { } | ' "

☐ **Show password**

☒ **Users must create a new password at next sign-in - Recommended**

Users automatically get the [IAMUserChangePassword](#) policy to allow them to change their own password.

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## Set permissions

Add user to an existing group or create a new one. Using groups is a best-practice way to manage user's permissions by job functions. [Learn more](#)

### Permissions options

☐ **Add user to group**  
Add user to an existing group, or create a new group. We recommend using groups to manage user permissions by job function.

☐ **Copy permissions**  
Copy all group memberships, attached managed policies, and inline policies from an existing user.

☒ **Attach policies directly**  
Attach a managed policy directly to a user. As a best practice, we recommend attaching policies to a group instead. Then, add the user to the appropriate group.

Permissions policies (1/1440)





Choose one or more policies to attach to your new user.

Search

Filter by Type

All types

< 1 2 3 4 5 6 7 ... 72 >

|                                     | Policy name   | Type                       | Attached entities |
|-------------------------------------|---|----------------------------|-------------------|
| <input type="checkbox"/>            |  <a href="#">AccessAnalyzerServiceRolePolicy</a> | AWS managed                | 0                 |
| <input type="checkbox"/>            |  <a href="#">AccountManagementFromVercel</a>     | AWS managed                | 0                 |
| <input checked="" type="checkbox"/> |  <a href="#">AdministratorAccess</a>             | AWS managed - job function | 0                 |
| <input type="checkbox"/>            |  <a href="#">AdministratorAccess-Amplify</a>     | AWS managed                | 0                 |

aws

Search

[Alt+S] Ask Amazon Q

Global

IAM > Users > Admin

Identity and Access Management (IAM)

Admin


Summary

User created successfully

You can view and download the user's password and email instructions for signing in to the AWS Management Console.

View user

This PC > Downloads

| Name  | Date modified      | Type                 | Size |
|---|--------------------|----------------------|------|
| Today (1)   |                    |                      |      |
|  Admin_credentials | 12/30/2025 1:35 AM | Microsoft Excel C... | 1 KB |

Admin

+ Add widgets

Create application

### User details

**User name**

Lab8user

The user name can have up to 64 characters. Valid characters: A-Z, a-z, 0-9, and + = , . @ \_ - (hyphen)

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Create policy

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Search

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< 1 2 3 4 5 6 7 ... 72 >

|                                     | Policy name                                     | Type                       | Attached entities |
|-------------------------------------|---|----------------------------|-------------------|
| <input type="checkbox"/>            | <a href="#">AccessAnalyzerServiceRolePolicy</a> | AWS managed                | 0                 |
| <input type="checkbox"/>            | <a href="#">AccountManagementFromVercel</a>     | AWS managed                | 0                 |
| <input checked="" type="checkbox"/> | <a href="#">AdministratorAccess</a>             | AWS managed - job function | 1                 |
| <input type="checkbox"/>            | <a href="#">AdministratorAccess-Amplify</a>     | AWS managed                | 0                 |

This PC > Downloads

| Name                 | Date modified      | Type                 | Size |
|----------------------|--------------------|----------------------|------|
| ▼ Today (2)          |                    |                      |      |
| Admin_credentials    | 12/30/2025 1:35 AM | Microsoft Excel C... | 1 KB |
| Lab8user_credentials | 12/30/2025 1:55 AM | Microsoft Excel C... | 1 KB |

Europe (Stockholm) ▾

Lab8user

Reset to default layout

+ Add widgets

Applications (0) Info

Create application

Region: Europe (Stockholm)

Select Region

eu-north-1 (Current Region) ▾

Find applications

Users (2) Info

Delete

Create user

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

Search

|                          | User name                | Path | Group | Last activity    | MFA | Password age | Console |
|--------------------------|--------------------------|------|-------|------------------|-----|--------------|---------|
| <input type="checkbox"/> | <a href="#">Admin</a>    | /    | 0     | ✓ 18 minutes ago | -   | ✓ 13 minutes | ✓ 18 m  |
| <input type="checkbox"/> | <a href="#">Lab8user</a> | /    | 0     | ✓ 3 minutes ago  | -   | ✓ 1 minute   | ✓ 3 mir |

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

Endpoint Services

Stockholm 0

See all regions

Subnets

Stockholm 3

See all regions

NAT Gateways

Stockholm 0

See all regions

Route Tables

Stockholm 1

See all regions

VPC Peering Connections

Stockholm 0

See all regions

Internet Gateways

Stockholm 1

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

Activate Windows



VPC dashboard

AWS Global View

Filter by VPC

Virtual private cloud

Your VPCs

Subnets

Route tables

Internet gateways

Egress-only internet

Your VPCs

VPCs

VPC encryption controls

Your VPCs (1)

Info

Find VPCs by attribute or tag

☐

Name

☐

-

☐

VPC ID

☐

vpc-0f88344f2b4c96005

☐

State

☐

Available

Select a VPC above

VPC > Subnets

VPC dashboard

AWS Global View

Filter by VPC

Virtual private cloud

Your VPCs

Subnets

Route tables

Internet gateways

Egress-only internet

Subnets (3)

Info

Find subnets by attribute or tag

☐

Name

☐

-

☐

Subnet ID

☐

subnet-023be2df684514691

☐

State

☐

Available

☐

VPC

☐

vpc-0f88344f2b4c96005

Select a subnet

VPC > Route tables

VPC dashboard

AWS Global View

Filter by VPC

Virtual private cloud

Your VPCs

Subnets

Route tables

Internet gateways

Egress-only internet

Route tables (1)

Info

Find route tables by attribute or tag

☐

Name

☐

-

☐

Route table ID

☐

rtb-03fa5578f9e352639

☐

Explicit subnet associ...

☐

-

☐

Edge associations

☐

-

Select a route table

VPC > Network ACLs

Managed prefix lists

NAT gateways

Peering connections

Route servers

Security

Network ACLs

Security groups

PrivateLink and Lattice

Getting started

Endpoints

Network ACLs (1)

Info

Find Network ACLs by attribute or tag

☐

Name

☐

-

☐

Network ACL ID

☐

acl-01be47e536141b9e8

☐

Associated with

☐

3 Subnets

☐

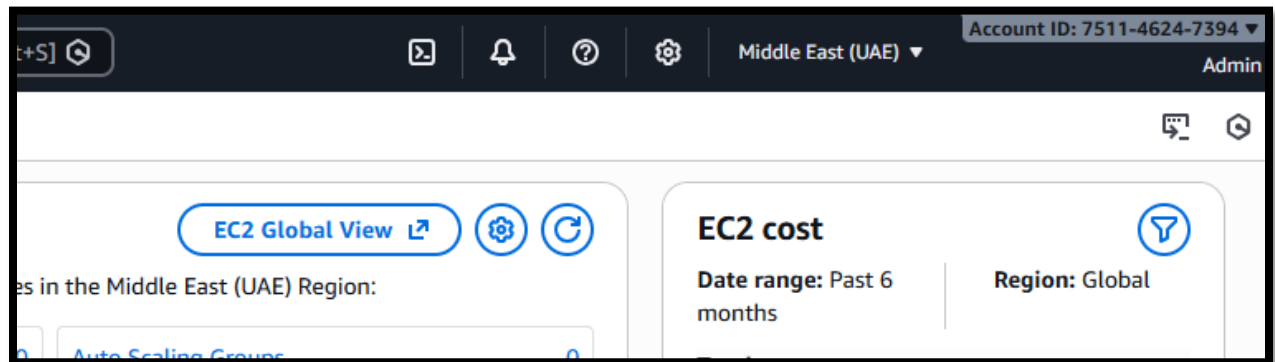
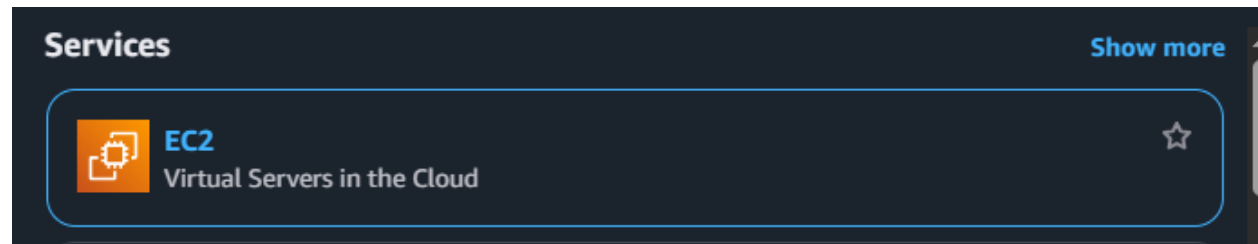
Default

☐

Yes

Select a network ACL

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



### Create key pair

**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

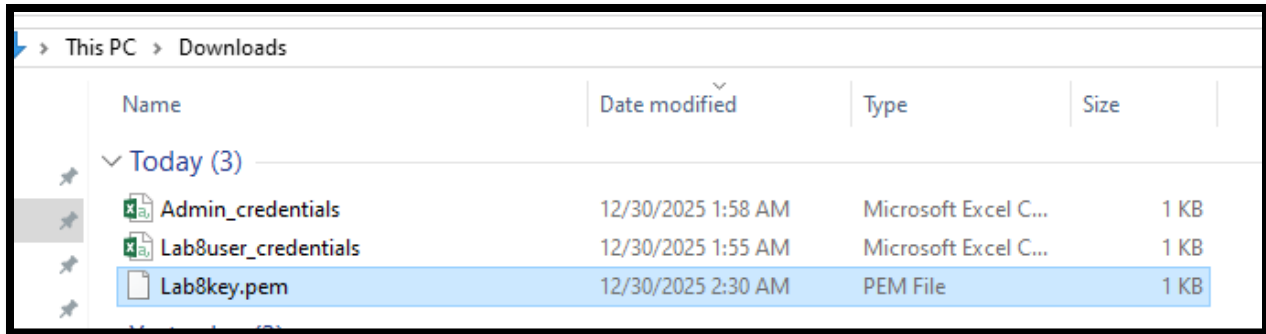
**Private key file format**

☒ .pem  
For use with OpenSSH

☐ .ppk  
For use with PuTTY

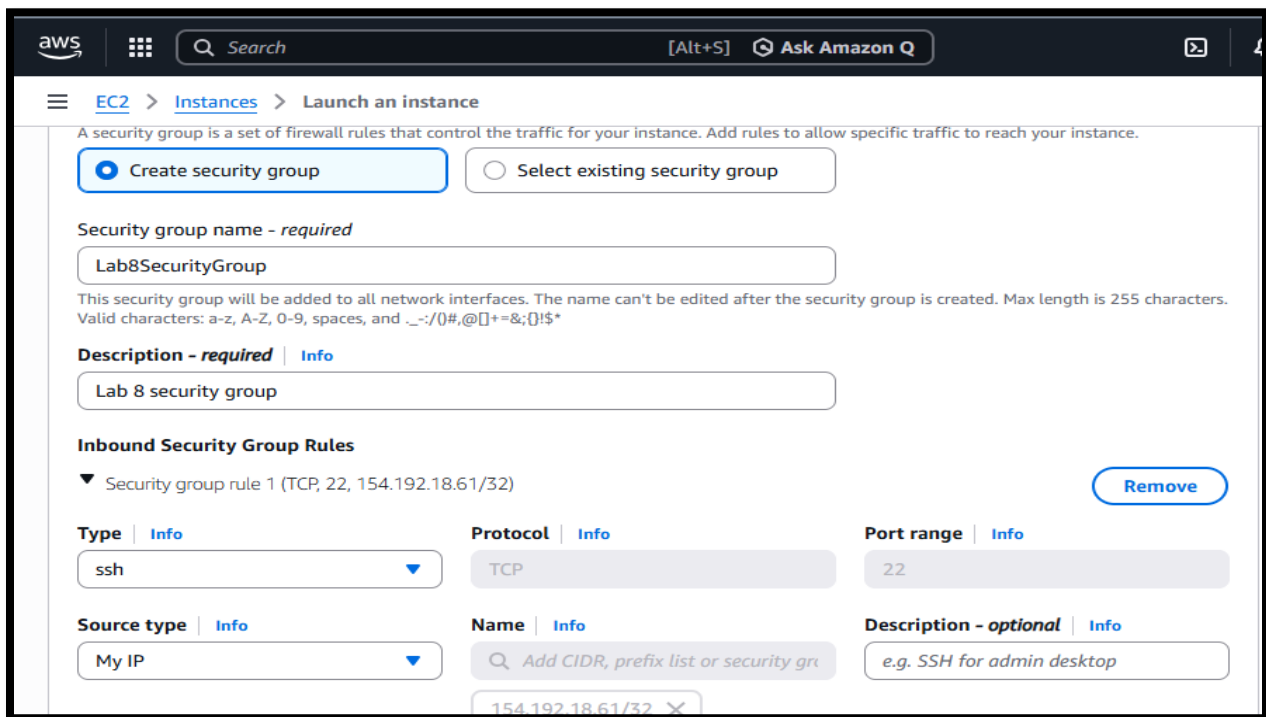
⚠ When prompted, store the private key in a secure and accessible location on

[Cancel](#) [Create key pair](#)



This PC > Downloads

| Name                 | Date modified      | Type                 | Size |
|----------------------|--------------------|----------------------|------|
| ▼ Today (3)          |                    |                      |      |
| Admin_credentials    | 12/30/2025 1:58 AM | Microsoft Excel C... | 1 KB |
| Lab8user_credentials | 12/30/2025 1:55 AM | Microsoft Excel C... | 1 KB |
| Lab8key.pem          | 12/30/2025 2:30 AM | PEM File             | 1 KB |



aws | Search [Alt+S] Ask Amazon Q

EC2 > Instances > Launch an instance

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 .\_-:/()#,@[]+=&;!\$\*

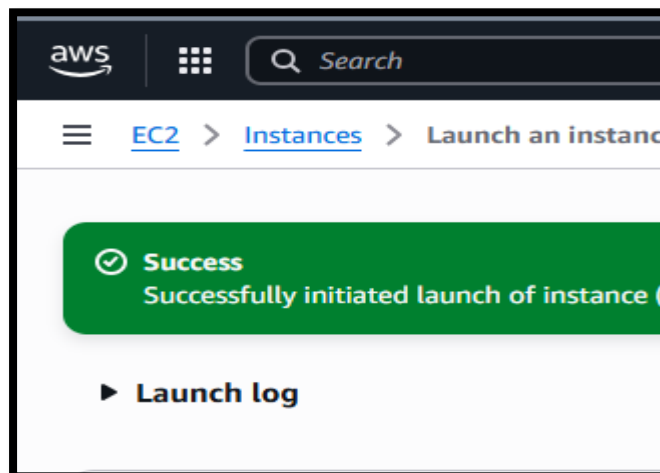
Description - *required* | Info

Lab 8 security group

Inbound Security Group Rules

▼ Security group rule 1 (TCP, 22, 154.192.18.61/32) Remove

|                    |   |   |
|--------------------|---|---|
| Type   Info        | Protocol   Info   | Port range   Info                                       |
| ssh                | TCP   | 22  |
| Source type   Info | Name   Info   | Description - <i>optional</i>   Info                    |
| My IP              | <input type="text" value="Add CIDR, prefix list or security gr"/> | <input type="text" value="e.g. SSH for admin desktop"/> |
|                    | <input type="text" value="154.192.18.61/32"/>                     |   |





```
ec2-user@ip-172-31-9-57:~  
[ec2-user@ip-172-31-9-57 ~]$ sudo yum update -y  
Amazon Linux 2023 Kernel Livepatch repository                229 kB/s | 29 kB    00:00  
Dependencies resolved.  
Nothing to do.  
Complete!  
[ec2-user@ip-172-31-9-57 ~]$ sudo yum install -y docker  
Last metadata expiration check: 0:00:17 ago on Mon Jan  5 22:16:56 2026.  
Dependencies resolved.  
=====
```

| Package                  | Architecture | 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  |
| libnftnl                 | 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.noarch.rpm        | 1.4 MB/s | 58 kB  | 00:00 |
| (2/11): iptables-libs-1.8.8-3.amzn2023.0.2.x86_64.rpm          | 11 MB/s  | 401 kB | 00:00 |
| (3/11): iptables-nft-1.8.8-3.amzn2023.0.2.x86_64.rpm           | 7.0 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.amzn2023.0.2.x86_64.rpm | 1.7 MB/s | 58 kB  | 00:00 |
| (6/11): libnftnl-1.0.1-19.amzn2023.0.2.x86_64.rpm              | 1.1 MB/s | 30 kB  | 00:00 |
| (7/11): libnftnl-1.2.2-2.amzn2023.0.2.x86_64.rpm               | 3.0 MB/s | 84 kB  | 00:00 |
| (8/11): pigz-2.5-1.amzn2023.0.3.x86_64.rpm                     | 2.8 MB/s | 83 kB  | 00:00 |
| (9/11): containerd-2.1.5-1.amzn2023.0.1.x86_64.rpm             | 65 MB/s  | 23 MB  | 00:00 |
| (10/11): runc-1.3.3-2.amzn2023.0.1.x86_64.rpm                  | 31 MB/s  | 3.9 MB | 00:00 |
| (11/11): docker-25.0.13-1.amzn2023.0.2.x86_64.rpm              | 67 MB/s  | 46 MB  | 00:00 |

```
=====
```

```
ec2-user@ip-172-31-9-57:~
Installing      : libnetfilter_conntrack-1.0.8-2.amzn2023.0.2.x86_64      6/11
Installing      : iptables-libs-1.8.8-3.amzn2023.0.2.x86_64             7/11
Installing      : iptables-nft-1.8.8-3.amzn2023.0.2.x86_64              8/11
Running scriptlet: iptables-nft-1.8.8-3.amzn2023.0.2.x86_64              8/11
Installing      : libcgroupp-3.0-1.amzn2023.0.1.x86_64                  9/11
Running scriptlet: container-selinux-4:2.242.0-1.amzn2023.noarch          10/11
Installing      : container-selinux-4:2.242.0-1.amzn2023.noarch          10/11
Running scriptlet: container-selinux-4:2.242.0-1.amzn2023.noarch          10/11
Running scriptlet: docker-25.0.13-1.amzn2023.0.2.x86_64                 11/11
Installing      : docker-25.0.13-1.amzn2023.0.2.x86_64                 11/11
Running scriptlet: docker-25.0.13-1.amzn2023.0.2.x86_64                 11/11
Created symlink /etc/systemd/system/sockets.target.wants/docker.socket → /usr/lib/systemd/system/docker.socket.

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-2.1.5-1.amzn2023.0.1.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      containerd-2.1.5-1.amzn2023.0.1.x86_64
docker-25.0.13-1.amzn2023.0.2.x86_64              iptables-libs-1.8.8-3.amzn2023.0.2.x86_64
iptables-nft-1.8.8-3.amzn2023.0.2.x86_64          libcgroupp-3.0-1.amzn2023.0.1.x86_64
libnetfilter_conntrack-1.0.8-2.amzn2023.0.2.x86_64 libnftnl-1.0.1-19.amzn2023.0.2.x86_64
libnftnl-1.2.2-2.amzn2023.0.2.x86_64              pigz-2.5-1.amzn2023.0.3.x86_64
runc-1.3.3-2.amzn2023.0.1.x86_64

Complete!
[ec2-user@ip-172-31-9-57 ~]$ sudo mkdir -p /usr/local/lib/docker/cli-plugins
[ec2-user@ip-172-31-9-57 ~]$ 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
% Total    % Received % Xferd Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left    Speed
  0     0    0     0    0     0      0  0 --:--:-- --:--:-- --:--:--    0
100 29.8M 100 29.8M    0  42.9M    0 --:--:-- --:--:-- --:--:--  42.9M
[ec2-user@ip-172-31-9-57 ~]$ sudo chmod +x /usr/local/lib/docker/cli-plugins/docker-compose
[ec2-user@ip-172-31-9-57 ~]$ sudo systemctl start docker
[ec2-user@ip-172-31-9-57 ~]$
```

```
[ec2-user@ip-172-31-9-57 ~]$ sudo vim compose.yaml
[ec2-user@ip-172-31-9-57 ~]$ [ec2-user@ip-172-31-9-57 ~]$ ls -l
total 4
-rw-r--r--. 1 root root 1128 Jan  5 22:31 compose.yaml
[ec2-user@ip-172-31-9-57 ~]$
```

