

# Practical - 2

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## # VPC Peering

Creating VPC 1

The screenshot displays the AWS Management Console interface for a newly created VPC. At the top, a green notification bar states: "You successfully created vpc-04f4d9c09a9617cfd / my-vpc-1". The main heading is "vpc-04f4d9c09a9617cfd / my-vpc-1".

**Details:**

- VPC ID:** vpc-04f4d9c09a9617cfd
- State:** Available
- Block Public Access:** Off
- DNS hostnames:** Disabled
- DNS resolution:** Enabled
- Tenancy:** default
- DHCP option set:** dopt-099d6e38dda4615ac
- Main network ACL:** acl-05434c4b34cf04b28
- Default VPC:** No
- IPv4 CIDR (Network border group):** -
- IPv4 CIDR:** 12.0.0.0/16
- Route 53 Resolver DNS Firewall rule groups:** -
- Main route table:** rtb-01c9ee65260358a5e
- IPv6 pool:** -
- Owner ID:** 772548858659

**Resource map:**

- VPC:** Your AWS virtual network
- Subnets (0):** Subnets within this VPC
- Route tables (1):** Route network traffic to resources
- Network Connections (0):** Connections to other networks

The left sidebar shows the navigation menu with categories: Virtual private cloud, Security, and PrivateLink and Lattice. The top right shows the account ID: 7725-4885-8659 and the region: Europe (Stockholm).

## Creating VPC 2

The screenshot shows the 'Create VPC' page in the AWS Management Console. The breadcrumb navigation is 'VPC > Your VPCs > Create VPC'. The page title is 'Create VPC' with an 'Info' link. A descriptive text states: 'A VPC is an isolated portion of the AWS Cloud populated by AWS objects, such as Amazon EC2 instances.'

**VPC settings**

**Resources to create** [Info](#)  
Create only the VPC resource or the VPC and other networking resources.

☒ VPC only ☐ VPC and more

**Name tag - optional** [Info](#)  
Creates a tag with a key of 'Name' and a value that you specify.

my-vpc-2

**IPv4 CIDR block** [Info](#)  
☒ IPv4 CIDR manual input  
☐ IPAM-allocated IPv4 CIDR block

**IPv4 CIDR**  
13.0.0.0/16  
CIDR block size must be between /16 and /28.

**IPv6 CIDR block** [Info](#)  
☒ No IPv6 CIDR block  
☐ IPAM-allocated IPv6 CIDR block  
☐ Amazon-provided IPv6 CIDR block  
☐ IPv6 CIDR owned by me

At the bottom, there are links for 'CloudShell' and 'Feedback', and a footer with '© 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences'.

## Creating route table for vpc 1

The screenshot shows the 'Create route table' page in the AWS Management Console. The breadcrumb navigation is 'VPC > Route tables > Create route table'. The page title is 'Create route table' with an 'Info' link. A descriptive text states: 'A route table specifies how packets are forwarded between the subnets within your VPC, the internet, and your VPN connection.'

**Route table settings**

**Name - optional** [Info](#)  
Create a tag with a key of 'Name' and a value that you specify.

rt-vpc-1

**VPC**  
The VPC to use for this route table.

vpc-04f4d9c09a9617cfd (my-vpc-1)

**Tags**  
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

| Key  | Value - optional |                        |
|------|------------------|------------------------|
| Name | rt-vpc-1         | <a href="#">Remove</a> |

[Add new tag](#)  
You can add 49 more tags.

At the bottom right, there are 'Cancel' and 'Create route table' buttons. The footer at the bottom contains '© 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences'.

## Creating route table for vpc 2

The screenshot shows the 'Create route table' page in the AWS Management Console. The page is titled 'Create route table' with an 'Info' icon. Below the title, a description states: 'A route table specifies how packets are forwarded between the subnets within your VPC, the internet, and your VPN connection.'

The 'Route table settings' section contains two fields: 'Name - optional' with the value 'rt-vpc-2' and 'VPC' with a dropdown menu showing 'vpc-028e1157493ee0b56 (my-vpc-2)'. Below this, the 'Tags' section explains that a tag is a label for an AWS resource. It shows a table with two columns: 'Key' and 'Value - optional'. The first row has 'Name' as the key and 'rt-vpc-2' as the value. There is an 'Add new tag' button and a note 'You can add 49 more tags.' At the bottom right of the form are 'Cancel' and 'Create route table' buttons.

| Key  | Value - optional |
|------|------------------|
| Name | rt-vpc-2         |

Buttons: Add new tag, Cancel, Create route table

The screenshot shows the 'Route tables' page in the AWS Management Console. The page title is 'Route tables (8)' with an 'Info' icon. A search bar is present with the placeholder text 'Find route tables by attribute or tag'. Below the search bar is a table with 8 columns: Name, Route table ID, Explicit subnet associ..., Edge associations, Main, and VPC. The table lists 8 route tables. The first three are unnamed and associated with VPCs. The last two are named 'rt-vpc-1' and 'rt-vpc-2' and are not the main route tables for their respective VPCs. Below the table is a 'Select a route table' section with a dropdown menu.

| Name     | Route table ID        | Explicit subnet associ... | Edge associations | Main | VPC                       |
|----------|-----------------------|---------------------------|-------------------|------|---------------------------|
| -        | rtb-0399df32cb6f1c44e | -                         | -                 | Yes  | vpc-0d1ba43b497a1d3b1     |
| -        | rtb-01c9ee65260358a5e | -                         | -                 | Yes  | vpc-04f4d9c09a9617cfd   n |
| -        | rtb-090c03c8c5662d797 | -                         | -                 | Yes  | vpc-028e1157493ee0b56     |
| rt-vpc-1 | rtb-0239fab7ddabdb77e | -                         | -                 | No   | vpc-04f4d9c09a9617cfd   n |
| rt-vpc-2 | rtb-0da4a49ab3d1807e7 | -                         | -                 | No   | vpc-028e1157493ee0b56     |

Buttons: Actions, Create route table

## Creating subnet for vpc 1

aws Search [Alt+S] Europe (Stockholm) Account ID: 7725-4885-8659 sakshi-aws

VPC > Subnets > Create subnet

### Create subnet [Info](#)

**VPC**

**VPC ID**  
Create subnets in this VPC.  
vpc-04f4d9c09a9617cfd (my-vpc-1)

**Associated VPC CIDRs**

**IPv4 CIDRs**  
12.0.0.0/16

**Subnet settings**  
Specify the CIDR blocks and Availability Zone for the subnet.

**Subnet 1 of 1**

**Subnet name**  
Create a tag with a key of 'Name' and a value that you specify.  
my-subnet-vpc-1  
The name can be up to 256 characters long.

**Availability Zone** [Info](#)

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aws Search [Alt+S] Europe (Stockholm) Account ID: 7725-4885-8659 sakshi-aws

VPC > Subnets > Create subnet

**Availability Zone** [Info](#)  
Choose the zone in which your subnet will reside, or let Amazon choose one for you.  
Europe (Stockholm) / eu-north-1a

**IPv4 VPC CIDR block** [Info](#)  
Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.  
12.0.0.0/16

**IPv4 subnet CIDR block**  
12.0.1.0/24 256 IPs  
< > ^ v

**Tags - optional**

| Key    | Value - optional  |        |
|--------|-------------------|--------|
| Q Name | Q my-subnet-vpc-1 | Remove |

**Add new tag**  
You can add 49 more tags.

**Remove**

**Add new subnet**

Cancel **Create subnet**

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## Subnet for vpc 2

The screenshot shows the 'Create subnet' page in the AWS Management Console. The 'VPC' section is set to 'vpc-02ba115288e06d6 (my-vpc-2)'. The 'Subnet settings' section is for 'Subnet 1 of 1'. The 'Subnet name' is 'my-subnet-vpc-2'. The 'Availability Zone' is 'eu-north-1a'. The 'IPv4 CIDR block' is '10.0.0/16'. The 'IPv4 subnet CIDR block' is '10.0.0/24'. There are no tags added. The 'Create subnet' button is visible at the bottom right.

**Create subnet**

**VPC**

VPC ID  
vpc-02ba115288e06d6 (my-vpc-2)

Associated VPC CIDRs

IPv4 CIDRs  
10.0.0/16

**Subnet settings**

Specify the CIDR blocks and Availability Zone for the subnet.

Subnet 1 of 1

Subnet name  
my-subnet-vpc-2

Availability Zone  
eu-north-1a

IPv4 CIDR block  
10.0.0/16

IPv4 subnet CIDR block  
10.0.0/24

Tags - optional

| Key             | Value - optional |
|-----------------|------------------|
| my-subnet-vpc-2 |                  |

Cancel Create subnet

## Associating route table with subnet

The screenshot shows the 'Edit subnet associations' page in the AWS Management Console. The route table is 'rtb-0110d42578b392eff'. The 'Available subnets' table lists four subnets. The 'Selected subnets' section shows 'subnet-08f26346f8a89d0e8 / my-subnet-1' is selected. The 'Save associations' button is visible at the bottom right.

**Edit subnet associations**

Change which subnets are associated with this route table.

**Available subnets (1/4)**

| Name  | Subnet ID                | IPv4 CIDR     | IPv6 CIDR | Route table ID                           |
|---|--------------------------|---------------|-----------|--|
| my-subnet-3                                     | subnet-0dc709dc5076d2bf2 | 172.16.2.0/24 | -         | rtb-0b7472762b2c398bf / my-route-table-2 |
| <input checked="" type="checkbox"/> my-subnet-1 | subnet-08f26346f8a89d0e8 | 172.16.0.0/24 | -         | rtb-0110d42578b392eff / my-route-table-1 |
| my-subnet-2                                     | subnet-0c53f53b7449f9c3e | 172.16.1.0/24 | -         | rtb-0110d42578b392eff / my-route-table-1 |
| my-subnet-4                                     | subnet-0055962bbdaef973  | 172.16.3.0/24 | -         | rtb-0b7472762b2c398bf / my-route-table-2 |

**Selected subnets**

subnet-08f26346f8a89d0e8 / my-subnet-1

Cancel Save associations

Add subnet1 association with its router

**Edit subnet associations**  
Change which subnets are associated with this route table.

**Available subnets (1/1)**

| <input checked="" type="checkbox"/> | Name            | Subnet ID                | IPv4 CIDR   | IPv6 CIDR | Route table ID               |
|-------------------------------------|-----------------|--------------------------|-------------|-----------|------------------------------|
| <input checked="" type="checkbox"/> | my-subnet-vpc-1 | subnet-0053ee50e55c5c33e | 12.0.1.0/24 | -         | Main (rtb-01c9ee65260358a5e) |

**Selected subnets**

subnet-0053ee50e55c5c33e / my-subnet-vpc-1

[Cancel](#) [Save associations](#)

Add subnet2 association with its router

**Edit subnet associations**  
Change which subnets are associated with this route table.

**Available subnets (1/1)**

| <input checked="" type="checkbox"/> | Name            | Subnet ID                | IPv4 CIDR   | IPv6 CIDR | Route table ID               |
|-------------------------------------|-----------------|--------------------------|-------------|-----------|------------------------------|
| <input checked="" type="checkbox"/> | my-subnet-vpc-2 | subnet-0da5b74ee1e1f781c | 13.0.1.0/24 | -         | Main (rtb-090c03c8c5662d797) |

**Selected subnets**

subnet-0da5b74ee1e1f781c / my-subnet-vpc-2

[Cancel](#) [Save associations](#)

## Internet gateway for subnet1

The screenshot shows the 'Create internet gateway' page in the AWS Management Console. The breadcrumb navigation is 'VPC > Internet gateways > Create internet gateway'. The page title is 'Create internet gateway' with an 'info' icon. A subtitle states: 'An internet gateway is a virtual router that connects a VPC to the internet. To create a new internet gateway specify the name for the gateway below.'

**Internet gateway settings**

**Name tag**  
Creates a tag with a key of 'Name' and a value that you specify.  
my-igw-1

**Tags - optional**  
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

| Key  | Value - optional |        |
|------|------------------|--------|
| Name | my-igw-1         | Remove |

[Add new tag](#)  
You can add 49 more tags.

[Cancel](#) [Create internet gateway](#)

## Internet gateway associated to vpc1

The screenshot shows the 'Attach to VPC' page in the AWS Management Console. The breadcrumb navigation is 'VPC > Internet gateways > Attach to VPC (igw-0735ec52e68927374)'. A green notification banner at the top states: 'The following internet gateway was created: igw-0735ec52e68927374 - my-igw-1. You can now attach to a VPC to enable the VPC to communicate with the internet.' with an 'Attach to a VPC' button.

**Attach to VPC (igw-0735ec52e68927374)** [info](#)

**VPC**  
Attach an internet gateway to a VPC to enable the VPC to communicate with the internet. Specify the VPC to attach below.

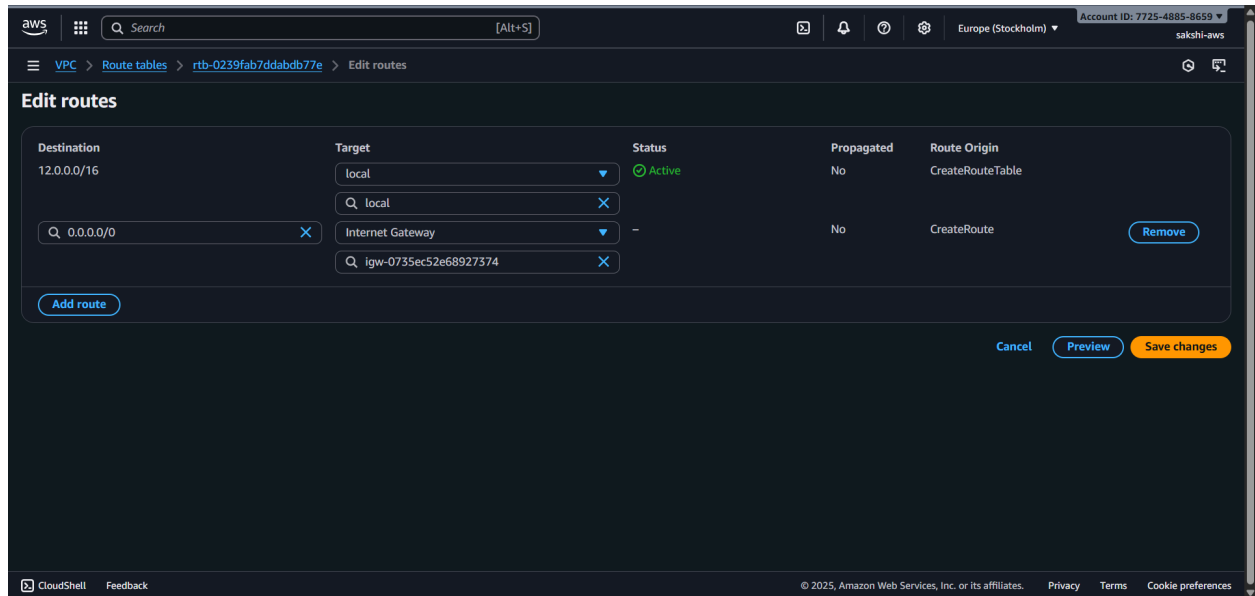
**Available VPCs**  
Attach the internet gateway to this VPC.

vpc-04f4d9c09a9617cfd

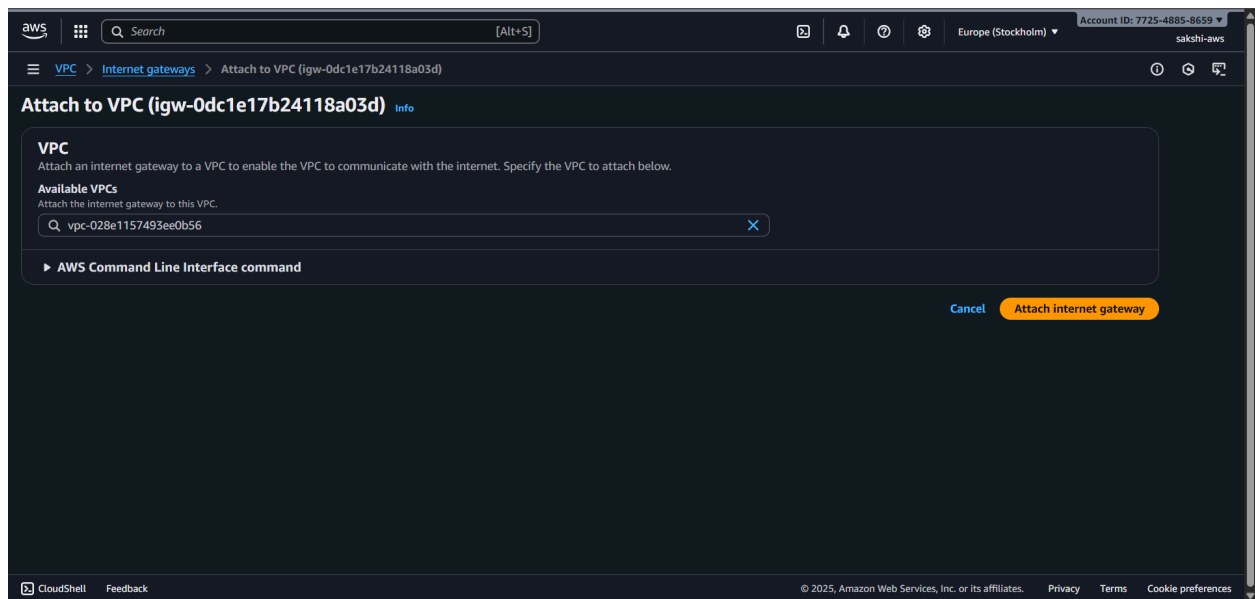
[AWS Command Line Interface command](#)

[Cancel](#) [Attach internet gateway](#)

## Adding internet route to subnet1 route table

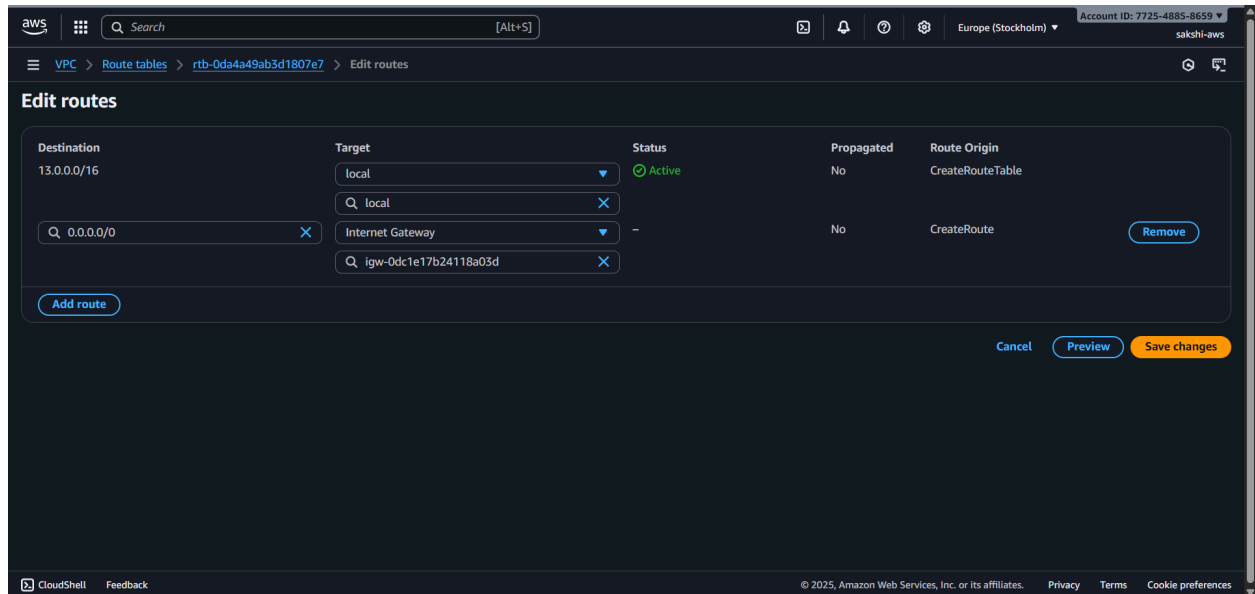


## internet gateway for associated subnet2

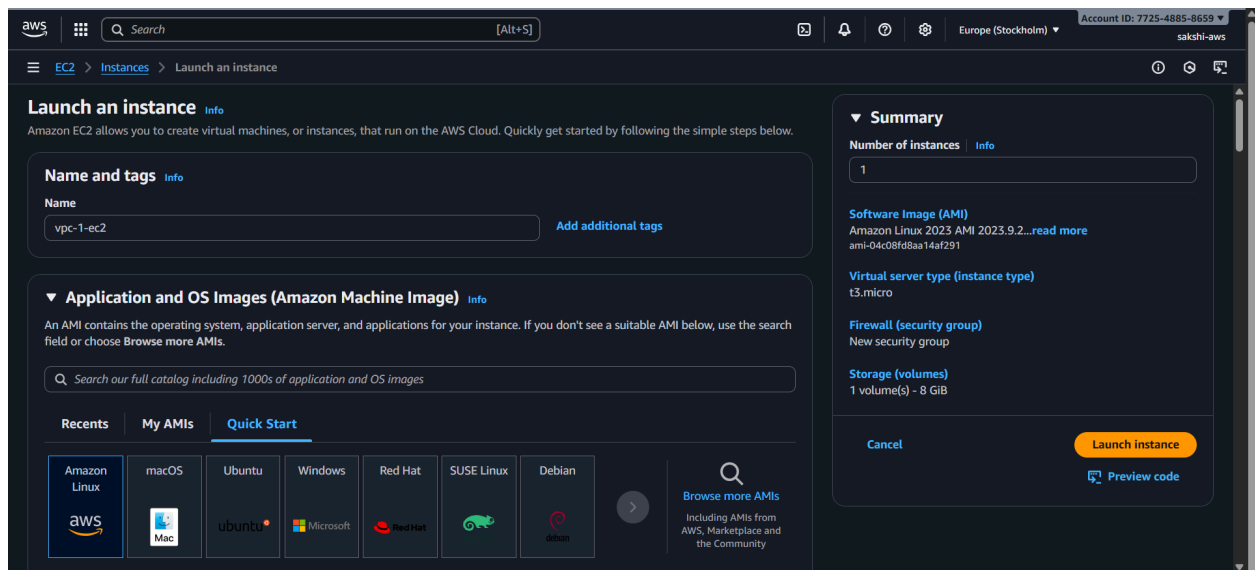




## Adding internet route to subnet2 route table



## Launching first ec2 instance



## Selecting key pair and network settings

The screenshot shows the 'Launch an instance' page in the AWS Management Console. The 'Key pair (login)' section is active, showing a dropdown menu with 'key-pair-1' selected and a 'Create new key pair' button. The 'Network settings' section is also visible, showing 'vpc-Qa0Tf5cb5989d692a' and 'Subnet' set to 'No preference'. The 'Firewall (security groups)' section shows 'Create security group' selected, with a warning message about rules allowing access from 0.0.0.0/0. The 'Summary' panel on the right shows 'Number of instances' as 1, 'Software Image (AMI)' as 'Amazon Linux 2023 AMI 2023.9.2...', 'Virtual server type (instance type)' as 't3.micro', 'Firewall (security group)' as 'New security group', and 'Storage (volumes)' as '1 volume(s) - 8 GiB'. The 'Launch instance' button is highlighted in orange.

**Key pair (login)** Info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

**Key pair name - required**

key-pair-1 ↕ [Create new key pair](#)

**Network settings** Info [Edit](#)

**Network** Info

vpc-Qa0Tf5cb5989d692a

**Subnet** Info

No preference (Default subnet in any availability zone)

**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

We'll create a new security group called 'launch-wizard-10' with the following rules:

- ☒ Allow SSH traffic from Anywhere 0.0.0.0/0
- ☐ Allow HTTPS traffic from the internet
- ☒ Allow HTTP traffic from the internet

To set up an endpoint, for example when creating a web server

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

**Summary**

**Number of instances** Info

1

**Software Image (AMI)**

Amazon Linux 2023 AMI 2023.9.2...[read more](#)  
ami-04c08fd8aa14af291

**Virtual server type (instance type)**

t3.micro

**Firewall (security group)**

New security group

**Storage (volumes)**

1 volume(s) - 8 GiB

[Cancel](#) [Launch instance](#) [Preview code](#)

## Adding user data

The screenshot shows the 'Launch an instance' page in the AWS Management Console, with the 'User data - optional' section active. The 'Choose file' button is highlighted. The text area contains the following user data: `#!/bin/bash  
yum install httpd -y  
service httpd start  
echo "<h1> User Data </h1>">/var/www/html/index.html`. The 'Summary' panel on the right is identical to the previous screenshot. The 'Launch instance' button is highlighted in orange.

**Allow tags in metadata** Info

Select

**User data - optional** Info

Upload a file with your user data or enter it in the field.

[Choose file](#)

`#!/bin/bash  
yum install httpd -y  
service httpd start  
echo "<h1> User Data </h1>">/var/www/html/index.html`

☐ User data has already been base64 encoded

**Summary**

**Number of instances** Info

1

**Software Image (AMI)**

Amazon Linux 2023 AMI 2023.9.2...[read more](#)  
ami-04c08fd8aa14af291

**Virtual server type (instance type)**

t3.micro

**Firewall (security group)**

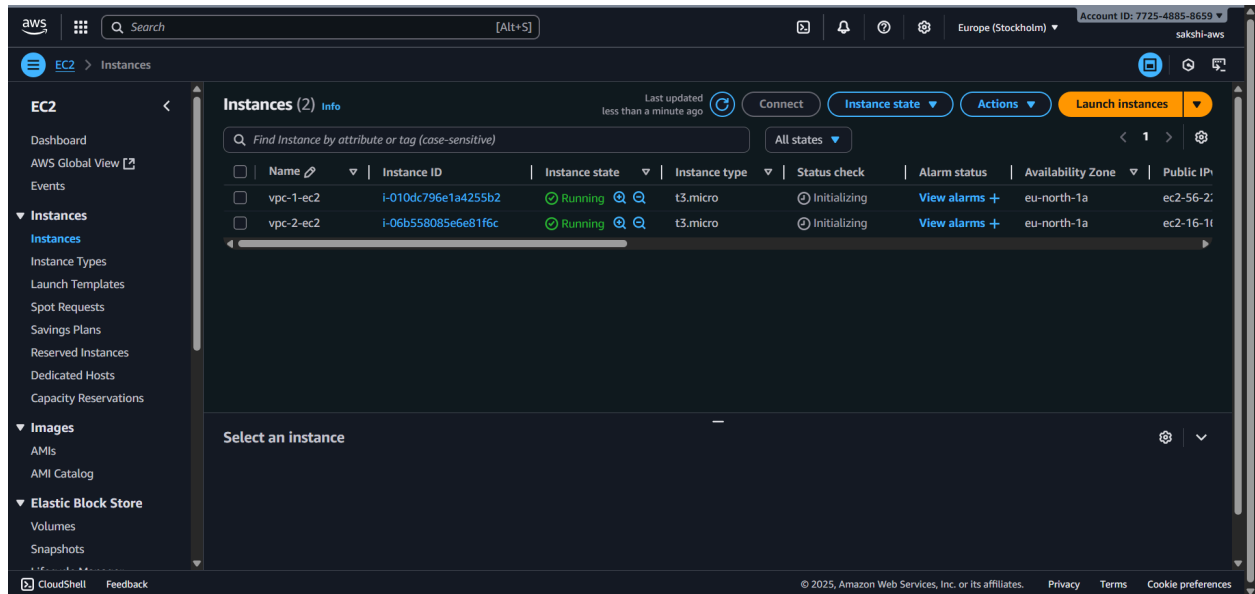
New security group

**Storage (volumes)**

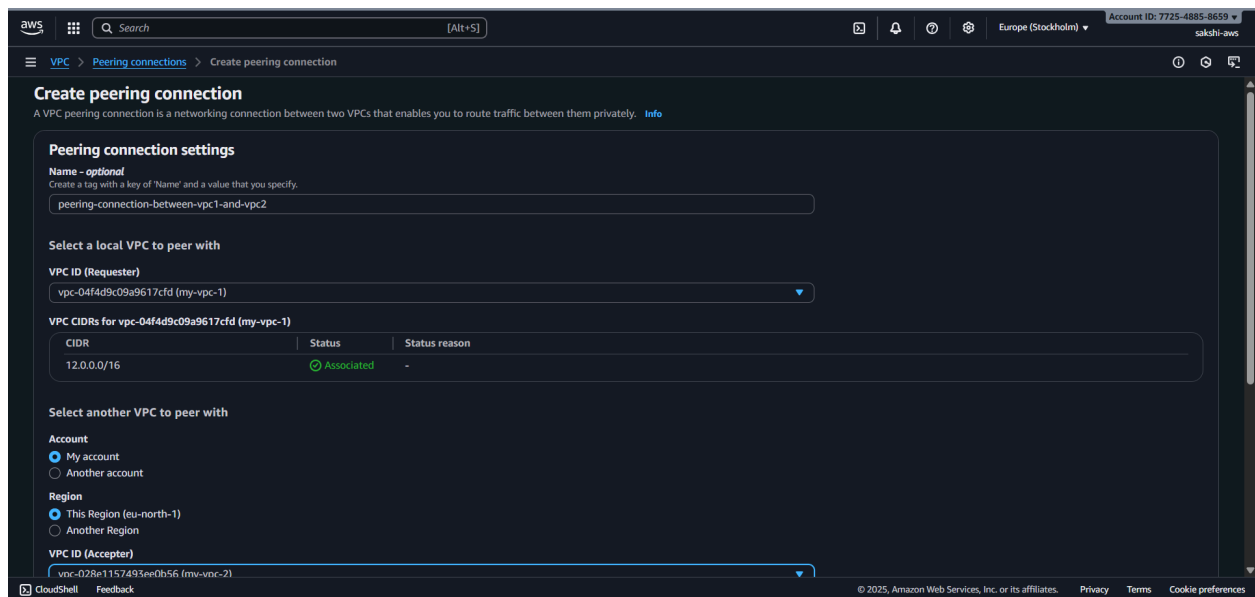
1 volume(s) - 8 GiB

[Cancel](#) [Launch instance](#) [Preview code](#)

Similarly launched ec2 instance for vpc2



Creating peering connection request



## Accepting it

The screenshot shows the AWS Management Console interface. The top navigation bar includes the AWS logo, a search bar, and the account ID 7725-4885-8659. The left sidebar shows the navigation menu with categories like VPC, Security, and PrivateLink and Lattice. The main content area displays the 'VPC dashboard' and a list of VPCs. A notification at the top indicates that a VPC peering connection request has been received. The details of the request are shown, including the requester VPC, acceptor VPC, and the status 'Pending Acceptance'. A modal dialog titled 'Accept VPC peering connection request' is open, asking for confirmation to accept the request. The dialog includes fields for the requester VPC, acceptor VPC, requester owner ID, acceptor owner ID, requester region, acceptor region, requester CIDRs, and acceptor CIDRs. The 'Accept request' button is highlighted in orange.

**Accept VPC peering connection request**

Are you sure you want to accept this VPC peering connection request? (pcx-08df443a01dd0a1d4 / peering-connection-between-vpc1-and-vpc2)

| Requester VPC                    | Requester Region       | Requester CIDRs |
|----------------------------------|------------------------|-----------------|
| vpc-04f4d9c09a9617cfd / my-vpc-1 | Stockholm (eu-north-1) | 12.0.0.0/16     |

| Acceptor VPC                     | Acceptor Region        | Acceptor CIDRs |
|----------------------------------|------------------------|----------------|
| vpc-028e1157493ee0b56 / my-vpc-2 | Stockholm (eu-north-1) | 12.0.0.0/16    |

Requester owner ID: 772548858659 (This account)

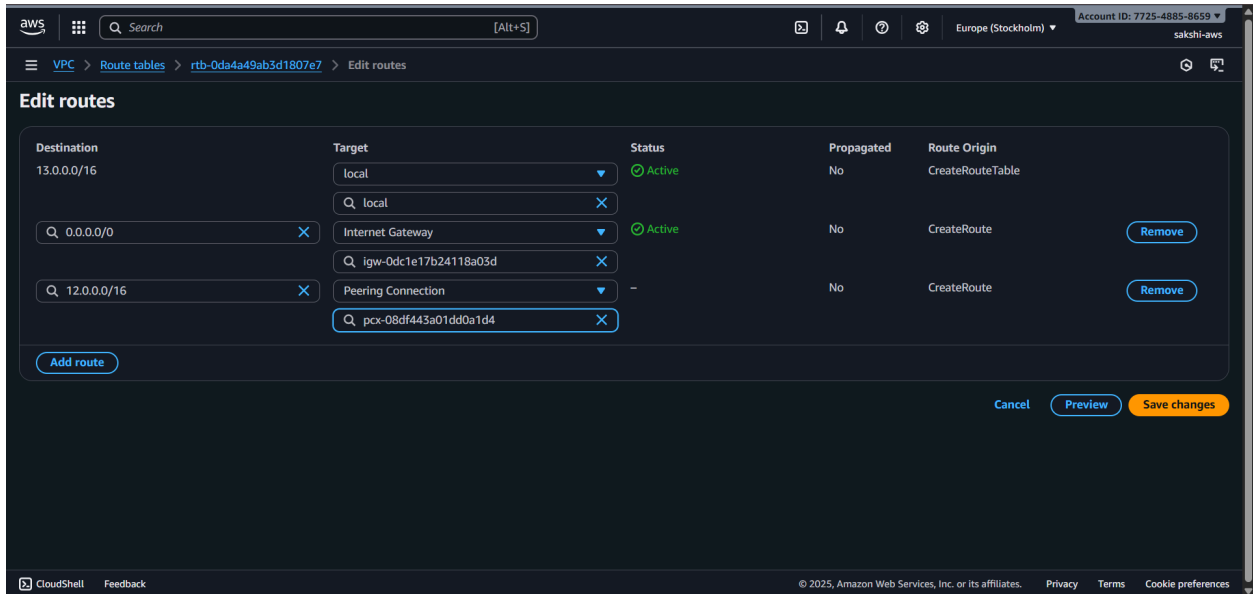
Acceptor owner ID: 772548858659 (This account)

Cancel Accept request

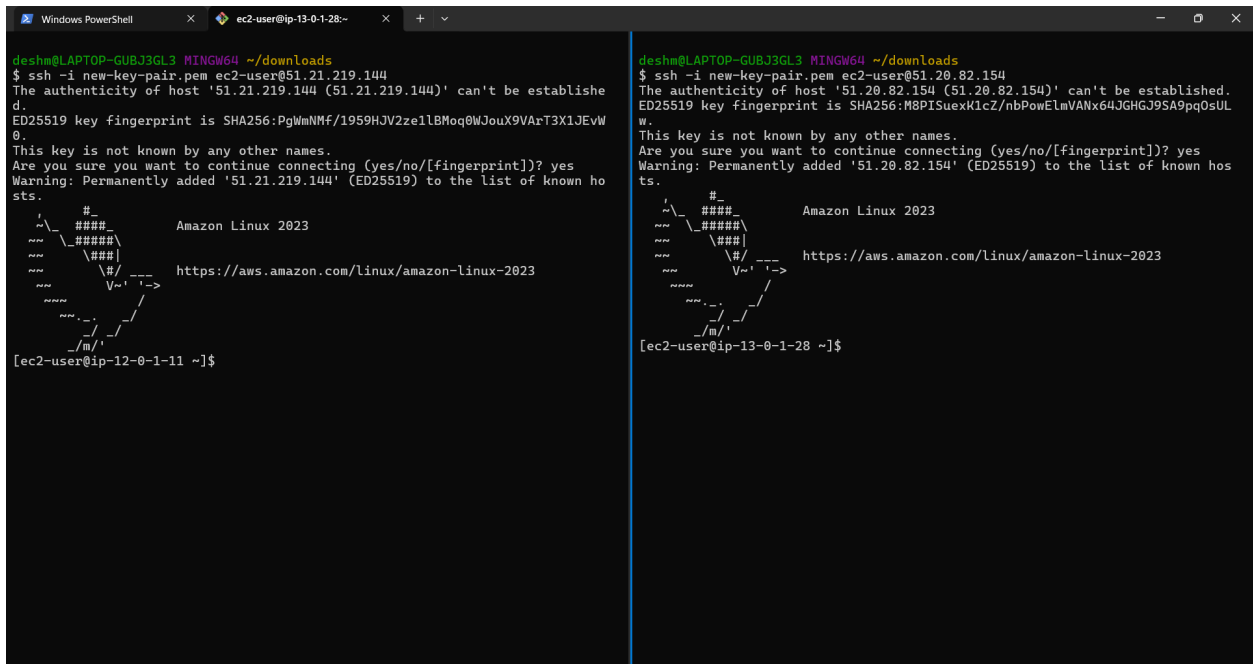
The screenshot shows the 'Edit routes' page in the AWS Management Console. The top navigation bar includes the AWS logo, a search bar, and the account ID 7725-4885-8659. The left sidebar shows the navigation menu. The main content area displays the 'Edit routes' page for a specific route table. The page shows a table of routes with columns for Destination, Target, Status, Propagated, and Route Origin. The routes are listed as follows:

| Destination | Target             | Status | Propagated | Route Origin     |
|-------------|--------------------|--------|------------|------------------|
| 12.0.0.0/16 | local              | Active | No         | CreateRouteTable |
| 0.0.0.0/0   | Internet Gateway   | Active | No         | CreateRoute      |
| 13.0.0.0/16 | Peering Connection | -      | No         | CreateRoute      |

The 'Add route' button is highlighted in orange. The 'Save changes' button is also highlighted in orange.



Connected to instances



## Connecting using curl command

```
Windows PowerShell
[ec2-user@ip-12-8-1-11 ~]$ curl 51.20.82.154
<h1> User Data <h1>
[ec2-user@ip-12-8-1-11 ~]$

[ec2-user@ip-13-8-1-28 ~]$ curl 51.21.219.144
<h1> User Data <h1>
[ec2-user@ip-13-8-1-28 ~]$
```

## Editing route tables

