

## Description:

Set up a VPC with an Internet gateway, create a public subnet with 256 IP addresses, a private subnet with 256 IP addresses, make a route table connecting the Internet gateway and the subnets, and launch a Linux EC2 instance by using the above VPC and public subnet.

## Techstacks needs to be used :

- AWS VPC
- AWS EC2

## To Create a VPC

The screenshot displays the AWS Management Console interface. At the top, the search bar contains the text 'vpc'. The left-hand navigation menu is visible, with 'EC2' selected. The main content area shows search results for 'vpc' under the 'Services' section. The results include:

- VPC**: Isolated Cloud Resources
- AWS Global View**: AWS Global View provides a global dashboard and search functionality that lets you ...
- AWS Firewall Manager**: Central management of firewall rules

Below the services, there is a 'Features' section with the following items:

- Dashboard**: VPC feature
- Route 53 VPCs**: Route 53 feature
- VPC links**

At the bottom of the search results, there is a feedback prompt: 'Were these results helpful?' with 'Yes' and 'No' buttons.

On the right side of the console, there are several panels:

- EC2 cost**: Shows 'Date range: Past 6 months', 'Costs in your free plan account', 'Credits remaining \$119.15 USD', and 'Days remaining 102 (February 19, 2026)'. There is an 'Analyze your costs' link.
- Account attributes**: Shows 'Default VPC' with a link to 'vpc-01eeb13ae824cbde3' and a 'Settings' link.

[illegible][illegible]

## To create an Internet gateway

The screenshot shows the AWS Management Console interface for the 'Internet gateways' page. The top navigation bar includes the AWS logo, a search bar, and the account ID. The left sidebar shows the 'VPC' section with 'Internet gateways' selected. The main content area shows a table with one internet gateway attached to a VPC. The table has columns for Name, Internet gateway ID, State, VPC ID, and Owner. The gateway is named 'igw-0dc4acb9d48ab3475' and is in an 'Attached' state, connected to VPC 'vpc-01eeb13ae824cbde3'.

Name	Internet gateway ID	State	VPC ID	Owner
-	igw-0dc4acb9d48ab3475	Attached	vpc-01eeb13ae824cbde3	675845727425

The screenshot shows the 'Create internet gateway' page in the AWS Management Console. The page includes a form for 'Internet gateway settings' with a 'Name tag' field containing 'test\_igw'. Below this is a 'Tags - optional' section with a 'Key' field containing 'test\_igw' and a 'Value - optional' field. The 'Create internet gateway' button is highlighted in orange.

**Internet gateway settings**

**Name tag**  
Creates a tag with a key of 'Name' and a value that you specify.

test\_igw

**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**

Q Name X Q test\_igw X Remove

Add new tag

You can add 49 more tags.

Cancel Create internet gateway

Click on **create internet gateway**

## Attach Internet Gateway to VPC

Go to Internet Gateway ➡ Click on **Attach to VPC**

The screenshot shows the AWS Management Console interface. The left sidebar contains the 'VPC dashboard' with links to '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 main content area displays the details for the Internet Gateway 'igw-0b524431d708a6f20 / test\_igw'. The 'Details' section shows the 'Internet gateway ID' as 'igw-0b524431d708a6f20', the 'State' as 'Detached', the 'VPC ID' as '-', and the 'Owner' as '675845727425'. The 'Tags' section shows a single tag with the key 'Name' and value 'test\_igw'. An 'Actions' dropdown menu is open, showing options: 'Attach to VPC', 'Detach from VPC', 'Manage tags', and 'Delete'.

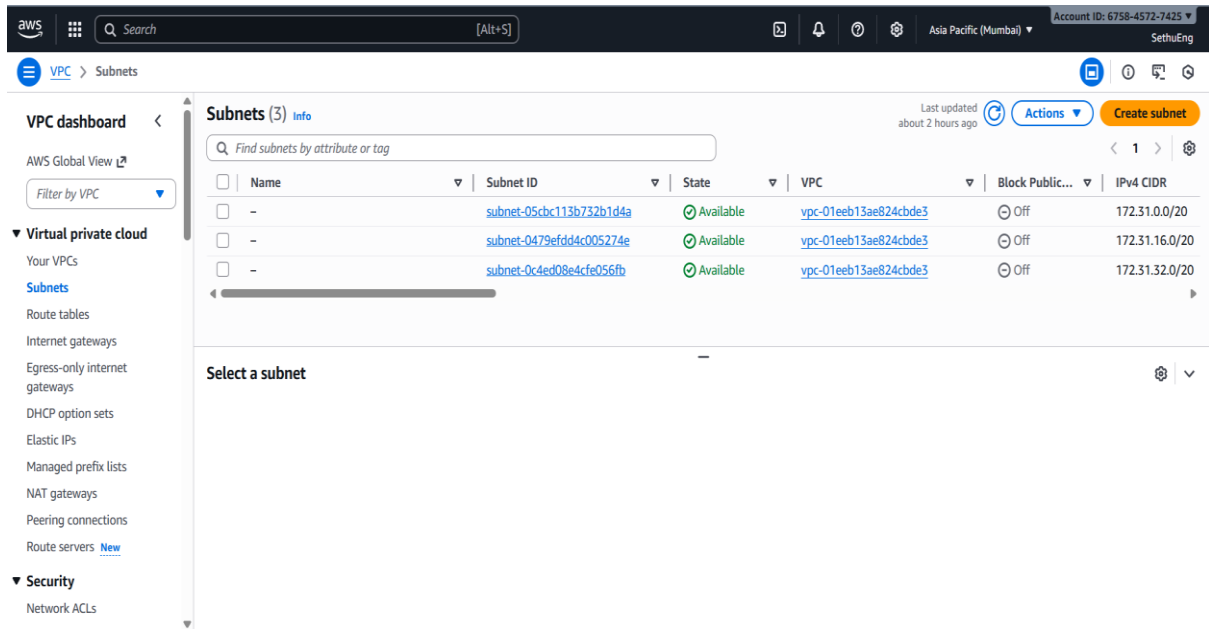
The screenshot shows the 'Attach to VPC (igw-0b524431d708a6f20)' dialog box. The 'VPC' section contains the text: 'Attach an internet gateway to a VPC to enable the VPC to communicate with the internet. Specify the VPC to attach below.' The 'Available VPCs' section contains the text: 'Attach the internet gateway to this VPC.' A search bar is present with the text 'vpc-099edcd9ed8e6822e'. Below the search bar, a list of VPCs is shown, including 'vpc-099edcd9ed8e6822e - VPC\_test'. At the bottom right, there are two buttons: 'Cancel' and 'Attach internet gateway'.

Click on **Attach Internet Gateway**

## To Create Subnet

Go to subnets

while creating subnets you can select a VPC



## To create a public subnet

The screenshot shows the 'Create subnet' form in the AWS Management Console. The form is titled 'Subnet 1 of 1' and includes the following sections:

- Subnet name:** A text input field with the value 'public\_test\_subnet'.
- Availability Zone:** A dropdown menu showing 'Asia Pacific (Mumbai) / ap-south-1a'.
- IPv4 VPC CIDR block:** A dropdown menu showing '13.0.0.0/16'.
- IPv4 subnet CIDR block:** A text input field with the value '13.0.1.0/24' and a note '256 IPs'.
- Tags - optional:** A section for adding tags, with a table showing a key 'Name' and a value 'public\_test\_subnet'.

At the bottom of the form, there are buttons for 'Cancel' and 'Create subnet'.

## To create a Private subnet

**Subnet 1 of 1**

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

**Availability Zone** [Info](#)  
Choose the zone in which your subnet will reside, or let Amazon choose one for you.

**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.

**IPv4 subnet CIDR block**  
 256 IPs  
[<](#) [>](#) [^](#) [v](#)

**Tags - optional**

Key	Value - optional	
<input type="text" value="Name"/>	<input type="text" value="Private_test_subnet"/>	<a href="#">Remove</a>

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

[Remove](#)

[Add new subnet](#)

[Cancel](#) [Create subnet](#)

## To create Route Tables

**Route tables (2)** [Info](#)

Last updated 25 minutes ago [Actions](#) [Create route table](#)

<input type="checkbox"/>	Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC	Owner ID
<input type="checkbox"/>	-	<a href="#">rtb-06e20f5b1db248558</a>	-	-	Yes	<a href="#">vpc-01eeb13ae824cbe3</a>	675845727425
<input type="checkbox"/>	-	<a href="#">rtb-068cb64f5a140e4f2</a>	-	-	Yes	<a href="#">vpc-099edcd9ed8e6822e   VPC...</a>	675845727425

**Virtual private cloud**

- Your VPCs
- Subnets
- Route tables**
- Internet gateways
- Egress-only internet gateways
- DHCP option sets
- Elastic IPs
- Managed prefix lists
- NAT gateways

## Click on create route tables

**Create route table** [info](#)

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**  
Create a tag with a key of 'Name' and a value that you specify.  
Route\_table\_test

**VPC**  
The VPC to use for this route table.  
vpc-099edcd9ed8e6822e (VPC\_test)

**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**  
Name

**Value - optional**  
Route\_table\_test

[Remove](#)

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

[Cancel](#) [Create route table](#)

Route tables need to access internet access. Let give internet access

Click on edit routes

**Route table rtb-0ca62b071f709fd1e | Route\_table\_test** was created successfully.

**rtb-0ca62b071f709fd1e / Route\_table\_test**

**Details** [info](#)

Route table ID: rtb-0ca62b071f709fd1e  
VPC: vpc-099edcd9ed8e6822e | VPC\_test  
Main: No  
Owner ID: 675845727425

**Routes** | Subnet associations | Edge associations | Route propagation | Tags

**Routes (1)**

Destination	Target	Status	Propagated	Route Origin
13.0.0.0/16	local	Active	No	Create Route Table

[Edit routes](#)

Choose internet gateway

Select the gateway in that list

**Edit routes**

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

[Add route](#) [Remove](#)

[Cancel](#) [Preview](#) [Save changes](#)

Click on Save changes

## Lets Create Route Tables for Private subnets

VPC > Route tables > Create route table

1

2

3

Create route table

Info

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**  
Create a tag with a key of 'Name' and a value that you specify.

Route\_table\_private

**VPC**  
The VPC to use for this route table.  
vpc-099edcd9ed8e6822e (VPC\_test)

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**

Q Name X

**Value - optional**

Q Route\_table\_private X Remove

Add new tag

You can add 49 more tags.

Cancel

Create route table

This is a private subnet, it doesn't need any internet access

VPC > Route tables > rtb-0bc06eed73ab7bbea

1

2

3

VPC dashboard <

AWS Global View

Filter by VPC

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 New

rtb-0bc06eed73ab7bbea / Route\_table\_private

Actions

Details

Info

Route table ID  
rtb-0bc06eed73ab7bbea

Main  
No

Explicit subnet associations  
-

Edge associations  
-

VPC  
vpc-099edcd9ed8e6822e | VPC\_test

Owner ID  
675845727425

Routes

Subnet associations

Edge associations

Route propagation

Tags

Routes (1)

Both Edit routes

Q Filter routes

< 1 > ⚙

Destination	Target	Status	Propagated	Route Origin
13.0.0.0/16	local	Active	No	Create Route Table

Click on Subnet associations



VPC > Route tables > rtb-0bc06eed73ab7bbea

VPC dashboard < AWS Global View Filter by VPC

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 [New](#)

### rtb-0bc06eed73ab7bbea / Route\_table\_private

Details [Info](#)

Route table ID <a href="#">rtb-0bc06eed73ab7bbea</a>	Main <a href="#">No</a>	Explicit subnet associations -	Edge associations -
VPC <a href="#">vpc-099edcd9ed8e6822e</a>   <a href="#">VPC_test</a>	Owner ID <a href="#">675845727425</a>		

Routes **Subnet associations** Edge associations Route propagation Tags

Explicit subnet associations (0) [Edit subnet associations](#)

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
No subnet associations You do not have any subnet associations.			

Select Private subnet and click on Save association

aws VPC > Route tables > rtb-0bc06eed73ab7bbea > Edit subnet associations

### Edit subnet associations

Change which subnets are associated with this route table.

Available subnets (1/2) [Filter subnet associations](#)

<input type="checkbox"/>	Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
<input checked="" type="checkbox"/>	Private_test_subnet	<a href="#">subnet-06b8b0ec90604624c</a>	13.0.2.0/24	-	Main (rtb-068cb64f5a140e4f2)
<input type="checkbox"/>	public_test_subnet	<a href="#">subnet-0ccb81c20fc9c4591</a>	13.0.1.0/24	-	Main (rtb-068cb64f5a140e4f2)

Selected subnets  
[subnet-06b8b0ec90604624c / Private\\_test\\_subnet](#)

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

VPC > Route tables > rtb-0bc06eed73ab7bbea

VPC dashboard < AWS Global View Filter by VPC

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 [New](#)

Security  
Network ACLs  
Security groups

PrivateLink and Lattice  
[CloudShell](#) [Feedback](#)

### rtb-0bc06eed73ab7bbea / Route\_table\_private

Details [Info](#)

Route table ID <a href="#">rtb-0bc06eed73ab7bbea</a>	Main <a href="#">No</a>	Explicit subnet associations <a href="#">subnet-06b8b0ec90604624c</a> / <a href="#">Private_test_subnet</a>	Edge associations -
VPC <a href="#">vpc-099edcd9ed8e6822e</a>   <a href="#">VPC_test</a>	Owner ID <a href="#">675845727425</a>		

Routes **Subnet associations** Edge associations Route propagation Tags

Explicit subnet associations (1) [Edit subnet associations](#)

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
Private_test_subnet	<a href="#">subnet-06b8b0ec90604624c</a>	13.0.2.0/24	-

Subnets without explicit associations (1) [Edit subnet associations](#)

The following subnets have not been explicitly associated with any route tables and are therefore associated with the main route table:

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
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## Create Ec2 instance on public subnet

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:  [Add additional tags](#)

**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](#).

**Recents** **Quick Start**

Amazon Linux, macOS, Ubuntu, Windows, Red Hat, SUSE Linux, Debian

**Amazon Machine Image (AMI)**

Ubuntu Server 24.04 LTS (HVM), SSD Volume Type  
ami-02b8269d5e85954ef (64-bit (x86)) / ami-027308d79a86d22c (64-bit (Arm))  
Virtualization: hvm ENA enabled: true Root device type: ebs

**Description**  
Ubuntu Server 24.04 LTS (HVM),EBS General Purpose (SSD) Volume Type. Support available from Canonical (<http://www.ubuntu.com/cloud/services>).

**Summary**

Number of instances:  [info](#)

**Software Image (AMI)**  
Canonical, Ubuntu, 24.04, amd64...[read more](#)  
ami-02b8269d5e85954ef

**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](#)

## Click on edit network settings

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

**Network** [info](#)  
vpc-01eeb13ae824cbde3

**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-3' with the following rules:

☒ Allow SSH traffic from  [Helps you connect to your instance](#)

☐ Allow HTTPS traffic from the internet  
To set up an endpoint, for example when creating a web server

☐ 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](#)

**Software Image (AMI)**  
Canonical, Ubuntu, 24.04, amd64...[read more](#)  
ami-02b8269d5e85954ef

**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](#)

## Choose our custom settings

Select VPC, Subnet then enable Auto-assign public IP

Select the security groups

EC2InstancesLaunch an instance

▼ Network settings info

VPC - required info

vpc-099edcd9ed8e6822e (VPC\_test)  
13.0.0.0/16

Subnet info

subnet-0c2b81c20fc9c4591 public\_test\_subnet  
VPC: vpc-099edcd9ed8e6822e Owner: 675845727425 Availability Zone: ap-south-1a (aps1-az1)  
Zone type: Availability Zone IP addresses available: 251 CIDR: 13.0.1.0/24

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

launch-wizard-3

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 \_; [0-9a-z]=k.[0-9]

Description - required info

launch-wizard-3 created 2025-11-19T04:32:26.996Z

Inbound Security Group Rules

▼ Security group rule 1 (TCP: 22, 0.0.0.0/0)

Type info

ssh

Protocol info

TCP

Port range info

22

▼ Summary

Number of instances info

1

Software Image (AMI)

Canonical, Ubuntu, 24.04, amd6...read more  
ami-02b8269d5e85954ef

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

CloudShell Feedback Console Mobile App

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Click on launch instance