

# VPC

## Step-1: Create VPC

**Your VPCs (1/1)** Info

Last updated less than a minute ago

Name	VPC ID	State	Block Public...	IPv4 CIDR	IPv6 CIDR	DHCP o...
-	vpc-068773491dcacb3bc	Available	Off	172.31.0.0/16	-	dopt-06...

**vpc-068773491dcacb3bc**

Details | Resource map | CIDRs | Flow logs | Tags | Integrations

**Details**

VPC ID vpc-068773491dcacb3bc	State Available	Block Public Access Off	DNS hostnames Enabled
DNS resolution Enabled	Tenancy default	DHCP option set dopt-063f9181beb543a80	Main route table rtb-048e5d455c1ec2d10

### Create VPC

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**

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

my-vpc-01

**IPv4 CIDR block** Info

☒ IPv4 CIDR manual input ☐ IPAM-allocated IPv4 CIDR block

**IPv4 CIDR**

192.168.0.0/16

CIDR block size must be between /16 and /28.

**IPv6 CIDR block** Info

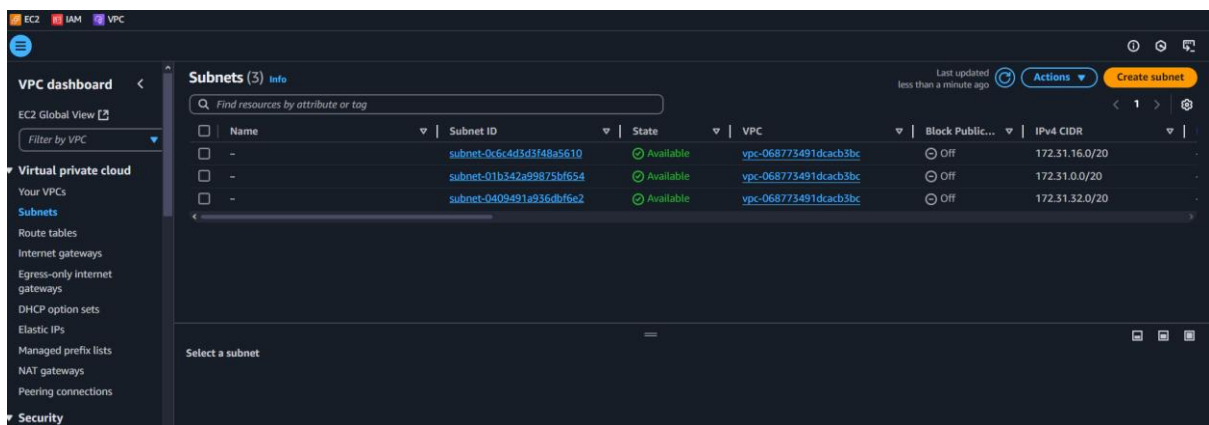
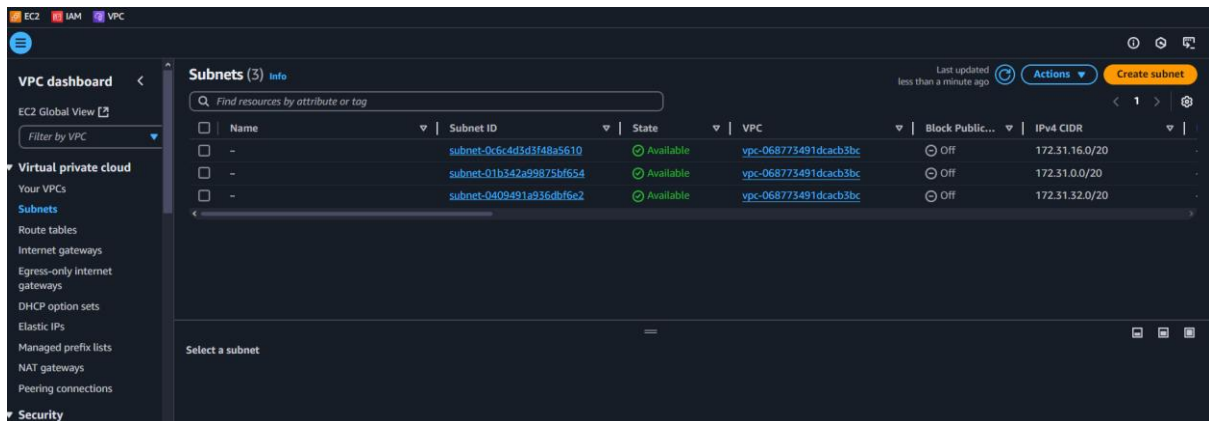
☒ No IPv6 CIDR block ☐ IPAM-allocated IPv6 CIDR block ☐ Amazon-provided IPv6 CIDR block ☐ IPv6 CIDR owned by me

**Your VPCs (1/2)** Info

Last updated less than a minute ago

Name	VPC ID	State	Block Public...	IPv4 CIDR	IPv6 CIDR	DHCP o...
my-vpc-01	vpc-0cc58cc4f146f3d53	Available	Off	192.168.0.0/16	-	dopt-06...
-	vpc-068773491dcacb3bc	Available	Off	172.31.0.0/16	-	dopt-06...

## Step-2: Create subnet



### 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.  
public-sub-01  
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.  
Asia Pacific (Mumbai) / ap-south-1

**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.  
192.168.0.0/16

**IPv4 subnet CIDR block**  
192.168.1.0/28 16 IPs

Tags - optional

Key	Value - optional
Name	public-sub-01

Add new tag Remove

Create 4 subnet

2 public, 2 private

**Subnets (4/7)** [Info](#)

Find resources by attribute or tag

<input type="checkbox"/>	Name	Subnet ID	State	VPC
<input checked="" type="checkbox"/>	public-sub-01	<a href="#">subnet-02e2558dd57fe42f9</a>	Available	<a href="#">vpc-0cc58cc</a>
<input checked="" type="checkbox"/>	public-sub-02	<a href="#">subnet-04809aee8f7ead3c6</a>	Available	<a href="#">vpc-0cc58cc</a>
<input type="checkbox"/>	-	<a href="#">subnet-0c6c4d3d3f48a5610</a>	Available	<a href="#">vpc-068773</a>
<input type="checkbox"/>	-	<a href="#">subnet-01b342a99875bf654</a>	Available	<a href="#">vpc-068773</a>
<input type="checkbox"/>	-	<a href="#">subnet-0409491a936dbf6e2</a>	Available	<a href="#">vpc-068773</a>
<input checked="" type="checkbox"/>	private-sub-02	<a href="#">subnet-0c30e8d7c1a9ab9cc</a>	Available	<a href="#">vpc-0cc58cc</a>
<input checked="" type="checkbox"/>	private-sub-01	<a href="#">subnet-075906de832ea299a</a>	Available	<a href="#">vpc-0cc58cc</a>

**Subnets (4/7)** [Info](#)

Find resources by attribute or tag

<input type="checkbox"/>	Name	Subnet ID	State
<input checked="" type="checkbox"/>	public-sub-01	<a href="#">subnet-02e2558dd57fe42f9</a>	Available
<input type="checkbox"/>	public-sub-02	<a href="#">subnet-04809aee8f7ead3c6</a>	Available
<input type="checkbox"/>	-	<a href="#">subnet-0c6c4d3d3f48a5610</a>	Available
<input type="checkbox"/>	-	<a href="#">subnet-01b342a99875bf654</a>	Available
<input type="checkbox"/>	-	<a href="#">subnet-0409491a936dbf6e2</a>	Available
<input type="checkbox"/>	private-sub-02	<a href="#">subnet-0c30e8d7c1a9ab9cc</a>	Available
<input type="checkbox"/>	private-sub-01	<a href="#">subnet-075906de832ea299a</a>	Available

- Create subnet
- View details
- Create flow log
- Edit subnet settings
- Edit IPv6 CIDRs
- Edit network ACL association
- Edit route table association
- Edit CIDR reservations
- Share subnet
- Manage tags
- Delete subnet

**subnet-02e2558dd57fe42f9**

[Details](#) | [Flow logs](#) | [Route tables](#) | [CIDR reservations](#) | [Sharing](#)

**Details**

Subnet ID	Subnet ARN	State
<a href="#">subnet-02e2558dd57fe42f9</a>	<a href="#">arn:aws:ec2:ap-south-</a>	Available

Allow auto-assign IP address to public subnet

VPC > Subnets > subnet-02e2558dd57fe42f9 > Edit subnet settings

### Edit subnet settings [Info](#)

#### Subnet

**Subnet ID**  
subnet-02e2558dd57fe42f9

**Name**  
public-sub-01

#### Auto-assign IP settings [Info](#)

Enable AWS to automatically assign a public IPv4 or IPv6 address to a new primary network interface for an instance in this subnet.

☒ Enable auto-assign public IPv4 address [Info](#)

☐ Enable auto-assign customer-owned IPv4 address [Info](#)  
Option disabled because no customer owned pools found.

#### Resource-based name (RBN) settings [Info](#)

Specify the hostname type for EC2 instances in this subnet and optional RBN DNS query settings.

☐ Enable resource name DNS A record on launch [Info](#)

☐ Enable resource name DNS AAAA record on launch [Info](#)

**Hostname type** [Info](#)

☐ Resource name

☒ IP name

#### DNS64 settings

## Step-3: Create Internet gateway

The following internet gateway was created: igw-0f3552b2dc829a7c5 - myigw. You can now attach to a VPC to enable the VPC to communicate with the internet. [Attach to a VPC](#)

### Internet gateways (2+) [Info](#)

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

<input type="checkbox"/>	Name	Internet gateway ID	State	VPC ID	Owner
<input type="checkbox"/>	-	igw-08874796b55c12484	Attached	vpc-068773491dcacb3bc	277707135838
<input type="checkbox"/>	myigw	igw-0f3552b2dc829a7c5	Detached	-	277707135838

The following internet gateway was created: igw-0f3552b2dc829a7c5 - myigw. You can now attach to a VPC to enable the VPC to communicate with the internet. [Attach to a VPC](#)

### Internet gateways (1/2+) [Info](#)

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

<input type="checkbox"/>	Name	Internet gateway ID	State	VPC ID
<input type="checkbox"/>	-	igw-08874796b55c12484	Attached	vpc-068773491dcacb3bc
<input checked="" type="checkbox"/>	myigw	igw-0f3552b2dc829a7c5	Detached	-

[View details](#)  
[Attach to VPC](#)  
[Detach from VPC](#)  
[Manage tags](#)  
[Delete internet gateway](#)

## Attach to VPC

The following internet gateway was created: igw-0f3552b2dc829a7c5 - myigw. You can now attach to a VPC to enable the VPC to communicate with the internet. [Attach to a VPC](#)

### Attach to VPC (igw-0f3552b2dc829a7c5) [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.

[AWS Command Line Interface command](#)

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

# Step-4: Create route table

VPC > Route tables > Create route table

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.

my-public-rt

VPC

The VPC to use for this route table.

vpc-0cc58cc4f146f3d53 (my-vpc-01)

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 my-public-rt X

Remove

Add new tag

You can add 49 more tags.

Cancel

Create route table

rtb-024200a5b9255ed96 / my-public-rt

Actions

Details

Info

Route table ID

rtb-024200a5b9255ed96

Main

No

Explicit subnet associations

-

Edge associations

-

VPC

vpc-0cc58cc4f146f3d53 | my-vpc-01

Owner ID

277707135838

Routes

Subnet associations

Edge associations

Route propagation

Tags

Routes (1)

Both

Edit routes

Filter routes

< 1 >

Settings

Destination

Target

Status

Propagated

192.168.0.0/16

local

Active

No

## Edit subnet associations

tb-024200a5b9255ed96 / my-public-rt

Actions

Details

Info

Route table ID

rtb-024200a5b9255ed96

Main

No

Explicit subnet associations

-

Edge associations

-

VPC

vpc-0cc58cc4f146f3d53 | my-vpc-01

Owner ID

277707135838

Routes

Subnet associations

Edge associations

Route propagation

Tags

Explicit subnet associations (0)

Edit subnet associations

Find subnet association

< 1 >

Settings

Name

Subnet ID

IPv4 CIDR

IPv6 CIDR

No subnet associations

You do not have any subnet associations.

Subnets without explicit associations (4)

Edit subnet associations

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

Find subnet association

< 1 >

Settings

Edit subnet associations

Change which subnets are associated with this route table.

Available subnets (2/4)

Filter subnet associations

	Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
<input checked="" type="checkbox"/>	public-sub-01	subnet-02e2558dd57fe42f9	192.168.1.0/28	-	Main (rtb-022ef11b8a97714dc)
<input checked="" type="checkbox"/>	public-sub-02	subnet-04809aee8f7ead3c6	192.168.2.0/28	-	Main (rtb-022ef11b8a97714dc)
<input type="checkbox"/>	private-sub-02	subnet-0c30e8d7c1a9ab9cc	192.168.4.0/28	-	Main (rtb-022ef11b8a97714dc)
<input type="checkbox"/>	private-sub-01	subnet-075906de832ea299a	192.168.3.0/28	-	Main (rtb-022ef11b8a97714dc)

Selected subnets

subnet-02e2558dd57fe42f9 / public-sub-01

subnet-04809aee8f7ead3c6 / public-sub-02

Cancel

Save associations

## Edit Routes

rtb-024200a5b9255ed96 / my-public-rt

Details

Info

Route table ID

rtb-024200a5b9255ed96

VPC

vpc-0cc58cc4f146f3d53 | my-vpc-01

Main

No

Owner ID

277707135838

Explicit subnet associations

2 subnets

Edge associations

-

Routes

Subnet associations

Edge associations

Route propagation

Tags

Routes (1)

Filter routes

Destination	Target	Status	Propagated
192.168.0.0/16	local	Active	No

Both

Edit routes

Edit routes

Destination

192.168.0.0/16

Target

local

Status

Active

Propagated

No

Q 0.0.0.0

Internet Gateway

Q igw-0f3552b2dc829a7c5

Add route

Remove

Cancel

Preview

Save changes

## Create EC2 instance

EC2 > Instances > Launch an Instance

On-Demand Windows base pricing: 0.017 USD per Hour

On-Demand RHEL base pricing: 0.0268 USD per Hour

On-Demand Ubuntu Pro base pricing: 0.0142 USD per Hour

On-Demand SUSE base pricing: 0.0124 USD per Hour

Additional costs apply for AMIs with pre-installed software

Compare instance types

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 before you launch the instance.

Key pair name - required

Key\_2.1.25

Create new key pair

Network settings

Info

VPC - required

Info

vpc-0cc58cc4f146f3d53 (my-vpc-01)

192.168.0.0/16

Subnet

Info

subnet-02e2558dd57fe42f9

VPC: vpc-0cc58cc4f146f3d53

Owner: 277707135838

Availability Zone: ap-south-1a

Zone type: Availability Zone

IP addresses available: 11

CIDR: 192.168.1.0/28

public-sub-01

Create new subnet

Auto-assign public IP

Info

Enable

Additional charges apply when outside of free tier allowance

Firewall (security groups)

Info

New security group

Summary

Info

Number of instances

1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.6.2...read more

ami-0f405997b4d8f7aac

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 Gb of snapshots.

Cancel

Launch instance

Preview code

Create 2 instance (public and private)

And connect to the public instance and ping google.com to check network

Connect to private instance using ssh -i key.pem 192.168.3.4

Check network is working or not

```
#_
~\  #####_      Amazon Linux 2023
~~~\  #####\
~~~\  #####|
~~~\  \###/
~~~\  \#/
~~~\  V~' '->      https://aws.amazon.com/linux/amazon-linux-2023
~~~\  /
~~~\  /m/
ec2-user@ip-192-168-1-14 ~]$ ping google.com
PING google.com (142.251.42.110) 56(84) bytes of data.
64 bytes from bom07s45-in-f14.1e100.net (142.251.42.110): icmp_seq=1 ttl=117 time=1.67 ms
64 bytes from bom07s45-in-f14.1e100.net (142.251.42.110): icmp_seq=2 ttl=117 time=1.75 ms
64 bytes from bom07s45-in-f14.1e100.net (142.251.42.110): icmp_seq=3 ttl=117 time=1.75 ms
64 bytes from bom07s45-in-f14.1e100.net (142.251.42.110): icmp_seq=4 ttl=117 time=1.79 ms
64 bytes from bom07s45-in-f14.1e100.net (142.251.42.110): icmp_seq=5 ttl=117 time=1.74 ms
^C
--- google.com ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4007ms
rtt min/avg/max/mdev = 1.666/1.739/1.793/0.041 ms
ec2-user@ip-192-168-1-14 ~]$ vi key.pem
ec2-user@ip-192-168-1-14 ~]$ chmod 400 key.pem
ec2-user@ip-192-168-1-14 ~]$ ssh -i key.pem 192.168.3.4
The authenticity of host '192.168.3.4 (192.168.3.4)' can't be established.
ED25519 key fingerprint is SHA256:zzPg1e5h2wD9KxnQwn9AYWrmT2zuLPBco1ZeIQ2ayOo.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.3.4' (ED25519) to the list of known hosts.

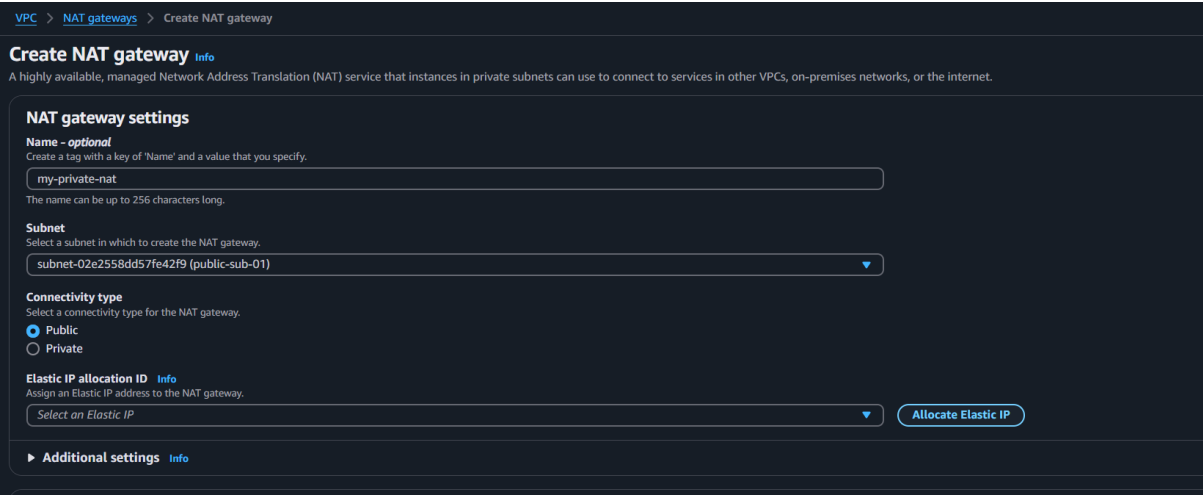
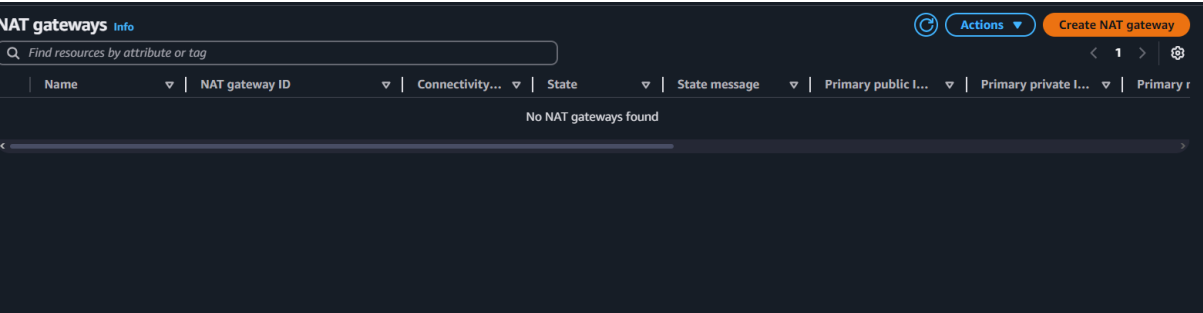
#_
~\  #####_      Amazon Linux 2023
~~~\  #####\
~~~\  #####|
~~~\  \###/
~~~\  \#/
~~~\  V~' '->      https://aws.amazon.com/linux/amazon-linux-2023
~~~\  /
~~~\  /m/
```

```
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.3.4' (ED25519) to the list of known hosts.

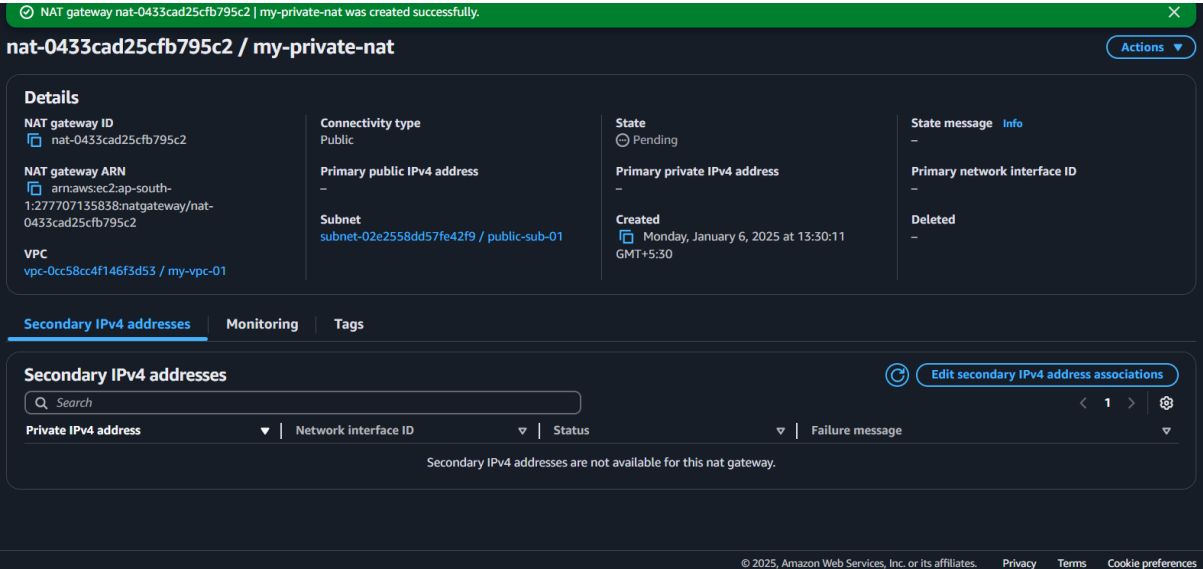
#_
~\  #####_      Amazon Linux 2023
~~~\  #####\
~~~\  #####|
~~~\  \###/
~~~\  \#/
~~~\  V~' '->      https://aws.amazon.com/linux/amazon-linux-2023
~~~\  /
~~~\  /m/
ec2-user@ip-192-168-3-4 ~]$ ping google.com
PING google.com (142.250.183.14) 56(84) bytes of data.
^C
--- google.com ping statistics ---
7 packets transmitted, 0 received, 100% packet loss, time 6226ms

ec2-user@ip-192-168-3-4 ~]$
```

Now create Nat gateway to access network in private subnet



## Select allocate elastic IP





# Create route table for private subnet

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.

my-private-rt

VPC

The VPC to use for this route table.

vpc-0cc58cc4f146f3d53 (my-vpc-01)

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

Value - optional

Q my-private-rt

Remove

Add new tag

You can add 49 more tags.

Cancel

Create route table

Available subnets (2/4)

Filter subnet associations

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
<input type="checkbox"/> public-sub-01	subnet-02e2558dd57fe42f9	192.168.1.0/28	-	rtb-024200a5b9255ed96 / my-public-rt
<input type="checkbox"/> public-sub-02	subnet-04809aee8f7ead5c6	192.168.2.0/28	-	rtb-024200a5b9255ed96 / my-public-rt
<input checked="" type="checkbox"/> private-sub-02	subnet-0c30e8d7c1a9ab9cc	192.168.4.0/28	-	Main (rtb-022ef11b8a97714dc)
<input checked="" type="checkbox"/> private-sub-01	subnet-075906de832ea299a	192.168.3.0/28	-	Main (rtb-022ef11b8a97714dc)

Selected subnets

subnet-075906de832ea299a / private-sub-01

subnet-0c30e8d7c1a9ab9cc / private-sub-02

Cancel

Save associations

You have successfully updated subnet associations for rtb-054cb6e0b07d68900 / my-private-rt.

tb-054cb6e0b07d68900 / my-private-rt

Actions

Details

Info

Route table ID

rtb-054cb6e0b07d68900

Main

No

Explicit subnet associations

2 subnets

VPC

vpc-0cc58cc4f146f3d53 | my-vpc-01

Owner ID

277707135838

Edge associations

-

Routes

Subnet associations

Edge associations

Route propagation

Tags

Explicit subnet associations (2)

Edit subnet associations

Find subnet association

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
private-sub-02	subnet-0c30e8d7c1a9ab9cc	192.168.4.0/28	-
private-sub-01	subnet-075906de832ea299a	192.168.3.0/28	-

Subnets without explicit associations (0)

Edit subnet associations

VPC

Route tables

rtb-054cb6e0b07d68900

Edit routes

Edit routes

Destination

192.168.0.0/16

Target

local

Q local

NAT Gateway

nat-0433cad25cfb795c2

Status

Active

Propagated

No

Add route

Cancel

Preview

Save changes

Try ping google.com to check network is working

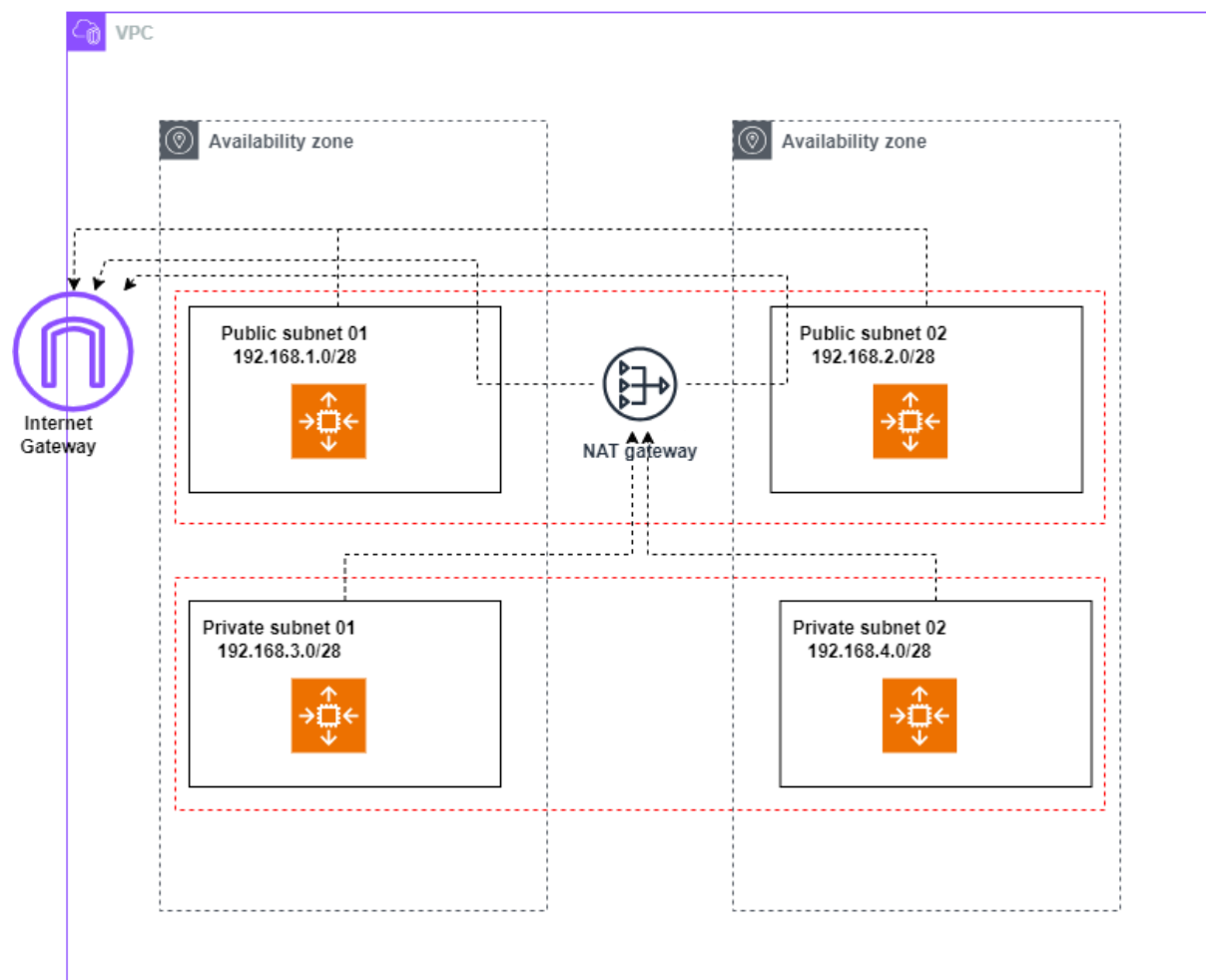
```

[ec2-user@ip-192-168-3-4 ~]$ ping google.com
PING google.com (142.250.183.14) 56(84) bytes of data.
^C
--- google.com ping statistics ---
7 packets transmitted, 0 received, 100% packet loss, time 6226ms

[ec2-user@ip-192-168-3-4 ~]$ ls
[ec2-user@ip-192-168-3-4 ~]$ ping google.com
PING google.com (142.250.70.110) 56(84) bytes of data.
64 bytes from pnbomb-ac-in-f14.1e100.net (142.250.70.110): icmp_seq=1 ttl=56 time=2.75 ms
64 bytes from pnbomb-ac-in-f14.1e100.net (142.250.70.110): icmp_seq=2 ttl=56 time=2.30 ms
64 bytes from pnbomb-ac-in-f14.1e100.net (142.250.70.110): icmp_seq=3 ttl=56 time=2.37 ms
64 bytes from pnbomb-ac-in-f14.1e100.net (142.250.70.110): icmp_seq=4 ttl=56 time=2.34 ms
64 bytes from pnbomb-ac-in-f14.1e100.net (142.250.70.110): icmp_seq=5 ttl=56 time=2.32 ms
^C
--- google.com ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4005ms
rtt min/avg/max/mdev = 2.299/2.414/2.751/0.169 ms
[ec2-user@ip-192-168-3-4 ~]$

```

## VPC



## Peering connection

- Create 2 VPCs with 2 public subnet & 2 private subnet, Internet gateway, NAT gateway and 2 route table for each VPCs (2 set)
- While creating public instance vpc a web server add security groups (SSH, HTTP, ICMP)
- Create a Peering Connection

VPC > Peering connections > Create peering connection

### Create peering connection

A VPC peering connection is a networking connection between two VPCs that enables you to route traffic between them privately. [Info](#)

**Peering connection settings**

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

vpca-to-vpcb

**Select a local VPC to peer with**

**VPC ID (Requester)**  
vpc-0af6394fbf1ac4c43 (my-vpc-a)

**VPC CIDRs for vpc-0af6394fbf1ac4c43 (my-vpc-a)**

CIDR	Status	Status reason
192.168.0.0/16	Associated	-

**Select another VPC to peer with**

**Account**  
☒ My account  
☐ Another account

**Region**  
☒ This Region (ap-south-1)  
☐ Another Region

**VPC ID (Acceptor)**  
vpc-0b4bd7775fd67e981 (my-vpc-b)

**VPC CIDRs for vpc-0b4bd7775fd67e981 (my-vpc-b)**

CIDR	Status	Status reason
------	--------	---------------

RWS [Search] [Alt+S] Asia Pacific (Mumbai) Siddharth Mahendran

EC2 IAM VPC

### VPC dashboard

EC2 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**

**Security**

- Network ACLs
- Security groups

**PrivateLink and Lattice**

- Getting started [Updated](#)
- Endpoints [Updated](#)

### Peering connections (1) [Info](#)

[Actions](#) [Create peering connection](#)

Find resources by attribute or tag

Name	Peering connection ID	Status	Requester VPC	Acceptor VPC	Req
vpca-to-vpcb	pcx-03f47e209392b50b9	Active	vpc-0af6394fbf1ac4c43 / my-vpc-a	vpc-0b4bd7775fd67e981 / my-vpc-b	192

Select a peering connection above

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VPC > Peering connections > Create peering connection

## Create peering connection

A VPC peering connection is a networking connection between two VPCs that enables you to route traffic between them privately. [Info](#)

### Peering connection settings

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

vpca-to-vpcb

**Select a local VPC to peer with**

**VPC ID (Requester)**  
vpc-0af6394fbf1ac4c43 (my-vpc-a)

**VPC CIDRs for vpc-0af6394fbf1ac4c43 (my-vpc-a)**

CIDR	Status	Status reason
192.168.0.0/16	Associated	-

**Select another VPC to peer with**

**Account**  
☒ My account  
☐ Another account

**Region**  
☒ This Region (ap-south-1)  
☐ Another Region

**VPC ID (Accepter)**  
vpc-0b4bd7775fd67e981 (my-vpc-b)

**VPC CIDRs for vpc-0b4bd7775fd67e981 (my-vpc-b)**

CIDR	Status	Status reason
------	--------	---------------

- Make changes in route table
  - To allow the network traffic

Change “my-public-rt-a” route table

Add route

VPC > Route tables > rtb-0671f4e74165e7379 > Edit routes

## Edit routes

Destination	Target	Status	Propagated	
192.168.0.0/16	local	Active	No	
172.160.1.0/28	Peering Connection	Active	No	<a href="#">Remove</a>
0.0.0.0/0	Internet Gateway	Active	No	<a href="#">Remove</a>

[Add route](#)

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

Change “my-private-rt-b” route table

VPC > Route tables > rtb-01fb8d44391ae9ab5 > Edit routes

## Edit routes

Destination	Target	Status	Propagated	
172.160.0.0/16	local	Active	No	
192.168.1.0/28	Peering Connection	Active	No	<a href="#">Remove</a>
0.0.0.0/0	Internet Gateway	Active	No	<a href="#">Remove</a>

[Add route](#)

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

## Change “my-private-rt-b” route table

VPCLocal Route tablesrtb-0679345b479db64baEdit routes

Edit routes

Destination	Target	Status	Propagated
172.160.0.0/16	local	Active	No
<div>Q 192.168.1.0/28</div>	Peering Connection	Active	No
<div>Q 0.0.0.0/0</div>	NAT Gateway	Active	No

Add route

Cancel

Preview

Save changes

Try ping in the web server from vpc b to vpc a

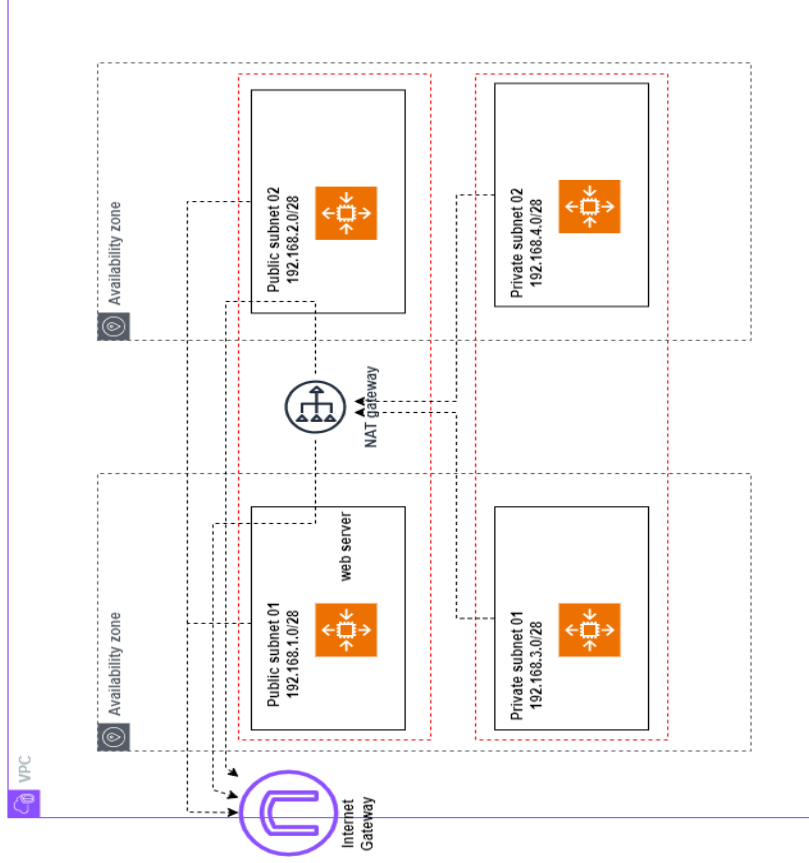
```
[ec2-user@ip-172-160-1-11 ~]$ curl 35.154.68.211
hello thi is ip-192-168-1-11.ap-south-1.compute.internal
[ec2-user@ip-172-160-1-11 ~]$
```

```
[ec2-user@ip-172-160-1-11 ~]$ ssh -i key.pem 172.160.3.11
```

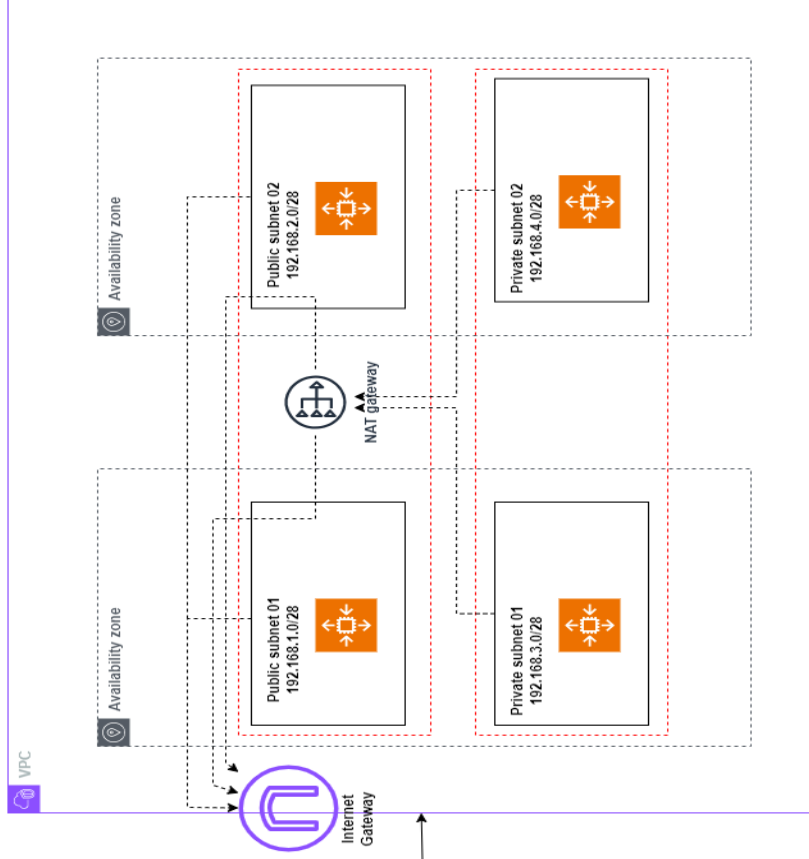
```
,#_
~\#### Amazon Linux 2023
~~\_#####\
~~~\###|
~~~\#/ https://aws.amazon.com/linux/amazon-linux-2023
~~V~'-'>
    ~~~
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          /m/'_/_
```

```
Last login: Tue Jan  7 07:01:51 2025 from 172.160.1.11
[ec2-user@ip-172-160-3-11 ~]$ curl 35.154.68.211
hello thi is ip-192-168-1-11.ap-south-1.compute.internal
[ec2-user@ip-172-160-3-11 ~]$
```

VPC



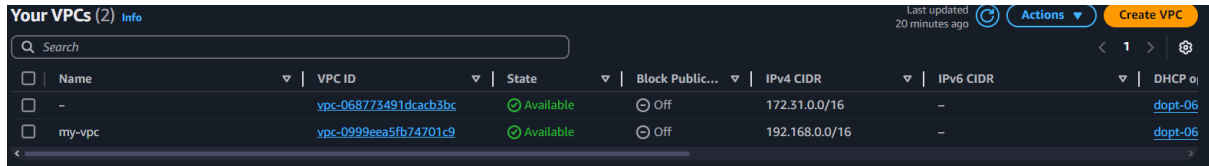
VPC



Peering Connections  
VPC-A to VPC-B

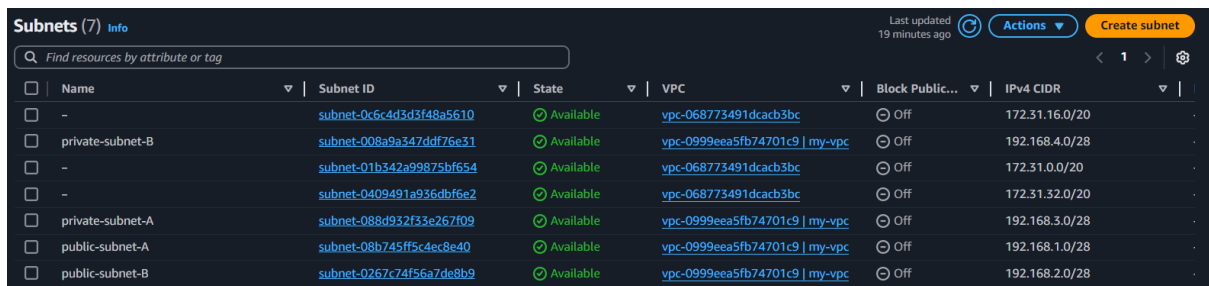
# Create VPC and with two available zone and manage the network traffic using load balancer

## Step-1: Create a VPC



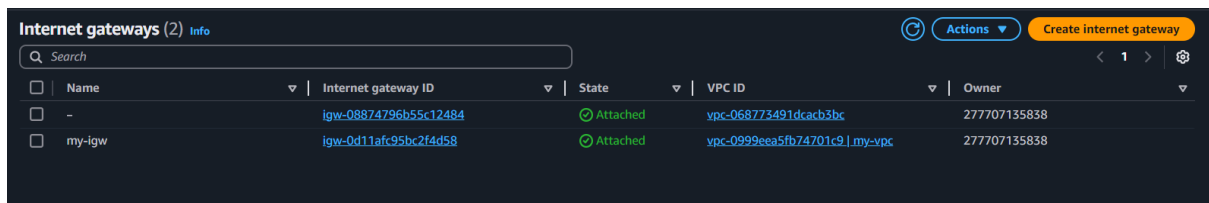
Name	VPC ID	State	Block Public...	IPv4 CIDR	IPv6 CIDR	DHCP o...
-	vpc-068773491dcacb3bc	Available	Off	172.31.0.0/16	-	dopt-06
my-vpc	vpc-0999eea5fb74701c9	Available	Off	192.168.0.0/16	-	dopt-06

## Step-2: Create a subnet



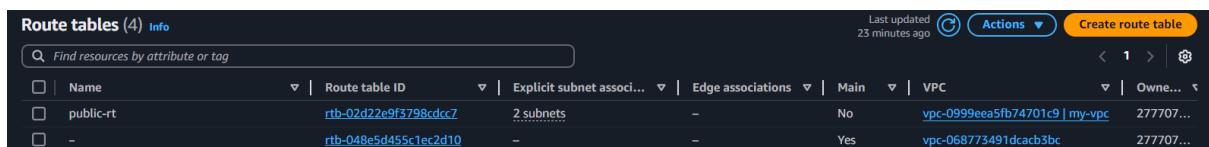
Name	Subnet ID	State	VPC	Block Public...	IPv4 CIDR
-	subnet-0c6c4d3d3f48a5610	Available	vpc-068773491dcacb3bc	Off	172.31.16.0/20
private-subnet-B	subnet-008a9a347dd76e31	Available	vpc-0999eea5fb74701c9   my-vpc	Off	192.168.4.0/28
-	subnet-01b342a99875bf654	Available	vpc-068773491dcacb3bc	Off	172.31.0.0/20
-	subnet-0409491a936dbf6e2	Available	vpc-068773491dcacb3bc	Off	172.31.32.0/20
private-subnet-A	subnet-088d932f33e267f09	Available	vpc-0999eea5fb74701c9   my-vpc	Off	192.168.3.0/28
public-subnet-A	subnet-08b745ff5c4ec8e40	Available	vpc-0999eea5fb74701c9   my-vpc	Off	192.168.1.0/28
public-subnet-B	subnet-0267c74f56a7de8b9	Available	vpc-0999eea5fb74701c9   my-vpc	Off	192.168.2.0/28

## Step-3: Create Internet gateway



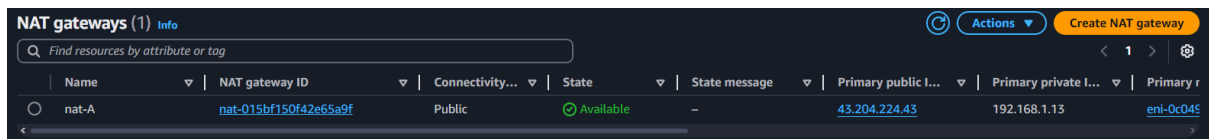
Name	Internet gateway ID	State	VPC ID	Owner
-	igw-08874796b55c12484	Attached	vpc-068773491dcacb3bc	277707135838
my-igw	igw-0d11afc95bc2f4d58	Attached	vpc-0999eea5fb74701c9   my-vpc	277707135838

## Step-4: Create a route table for public



Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC	Own...
public-rt	rtb-02d22e9f3798cdc7	2 subnets	-	No	vpc-0999eea5fb74701c9   my-vpc	277707...
-	rtb-048e5d455c1ec2d10	-	-	Yes	vpc-068773491dcacb3bc	277707...

## Step-5: Create a NAT gateway



Name	NAT gateway ID	Connectivity...	State	State message	Primary public I...	Primary private I...	Primary r
nat-A	nat-015bf150f42e65a9f	Public	Available	-	43.204.224.43	192.168.1.13	eni-0c045

## Step-6: Create a route table for private

Route tables (4) <a href="#">Info</a>								
Find resources by attribute or tag								
<input type="checkbox"/>	Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC	Owne...	
<input type="checkbox"/>	public-rt	rtb-02d22e9f3798cdcc7	2 subnets	-	No	vpc-0999eea5fb74701c9   my-vpc	277707...	
<input type="checkbox"/>	-	rtb-048e5d455c1ec2d10	-	-	Yes	vpc-068773491dcab3bc	277707...	
<input type="checkbox"/>	private-rt	rtb-00d0624b6dd8dd90c	2 subnets	-	No	vpc-0999eea5fb74701c9   my-vpc	277707...	
<input type="checkbox"/>	-	rtb-066dd55666c6eda12	-	-	Yes	vpc-0999eea5fb74701c9   my-vpc	277707...	

Step-7: Create 4 instance, with respective AZ, VPC, bootstrap command, security group, etc... (1 Public and 1 Private in AZ-1), (1 Public and 1 Private in AZ-2)

Instances (4) <a href="#">Info</a>								
Find Instance by attribute or tag (case-sensitive)								
<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
<input type="checkbox"/>	public-instance-b	i-044341814170ce6e7	Running	t2.micro	2/2 checks passed	View alarms +	ap-south-1b	-
<input type="checkbox"/>	public-instance-a	i-0dd5907a385b57b5d	Running	t2.micro	2/2 checks passed	View alarms +	ap-south-1a	-
<input type="checkbox"/>	private-instance-a	i-0310680aef3fc6b51	Running	t2.micro	2/2 checks passed	View alarms +	ap-south-1a	-
<input type="checkbox"/>	private-instance-b	i-0addd332c0a61c1d2	Running	t2.micro	2/2 checks passed	View alarms +	ap-south-1b	-

Step-8: Create 2 target groups, 1 for public and 1 for private

Target groups (2) <a href="#">Info</a>							
Filter target groups							
<input type="checkbox"/>	Name	ARN	Port	Protocol	Target type	Load balancer	VPC ID
<input type="checkbox"/>	private-tg	arn:aws:elasticloadbalancing...	80	HTTP	Instance	private-alb	vpc-0999eea5fb74701c9
<input type="checkbox"/>	public-tg	arn:aws:elasticloadbalancing...	80	HTTP	Instance	public-ALB	vpc-0999eea5fb74701c9

Step-9: Create 2 Load balancer, 1 for public and 1 for private

Load balancers (2)							
Elastic Load Balancing scales your load balancer capacity automatically in response to changes in incoming traffic.							
Filter load balancers							
<input type="checkbox"/>	Name	DNS name	State	VPC ID	Availability Zones	Type	Date created
<input type="checkbox"/>	public-ALB	public-ALB-1567911304.ap...	Active	vpc-0999eea5fb74701c9	2 Availability Zones	application	January 9, 2025, 09:36 (UT...
<input type="checkbox"/>	private-alb	internal-private-alb-34966...	Active	vpc-0999eea5fb74701c9	2 Availability Zones	application	January 9, 2025, 09:36 (UT...

Output:

- Public instance A output, curl the private ALB for checking network trafficking b/w 2 public instance



```

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~/m/' '->

Amazon Linux 2023

https://aws.amazon.com/linux/amazon-linux-2023

[ec2-user@ip-192-168-1-8 ~]$ curl hostname
curl: (6) Could not resolve host: hostname
[ec2-user@ip-192-168-1-8 ~]$ curl localhost
public instance A working on ip-192-168-1-8.ap-south-1.compute.internal
[ec2-user@ip-192-168-1-8 ~]$ curl internal-private-alb-349668042.ap-south-1.elb.amazonaws.com
private instance B working on ip-192-168-4-8.ap-south-1.compute.internal
[ec2-user@ip-192-168-1-8 ~]$ curl internal-private-alb-349668042.ap-south-1.elb.amazonaws.com
private instance B working on ip-192-168-4-8.ap-south-1.compute.internal
[ec2-user@ip-192-168-1-8 ~]$ curl internal-private-alb-349668042.ap-south-1.elb.amazonaws.com
private instance B working on ip-192-168-4-8.ap-south-1.compute.internal
[ec2-user@ip-192-168-1-8 ~]$ curl internal-private-alb-349668042.ap-south-1.elb.amazonaws.com
private instance A working on ip-192-168-3-14.ap-south-1.compute.internal
[ec2-user@ip-192-168-1-8 ~]$ █

```

- Public instance B output, curl the private ALB for checking network trafficking b/w 2 public instance

```

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~/m/' '->

Amazon Linux 2023

https://aws.amazon.com/linux/amazon-linux-2023

[ec2-user@ip-192-168-2-4 ~]$ curl localhost
public instance B working on ip-192-168-2-4.ap-south-1.compute.internal
[ec2-user@ip-192-168-2-4 ~]$ curl internal-private-alb-349668042.ap-south-1.elb.amazonaws.com
private instance A working on ip-192-168-3-14.ap-south-1.compute.internal
[ec2-user@ip-192-168-2-4 ~]$ curl internal-private-alb-349668042.ap-south-1.elb.amazonaws.com
private instance B working on ip-192-168-4-8.ap-south-1.compute.internal
[ec2-user@ip-192-168-2-4 ~]$ █

```

# VPC with load balancer

