

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

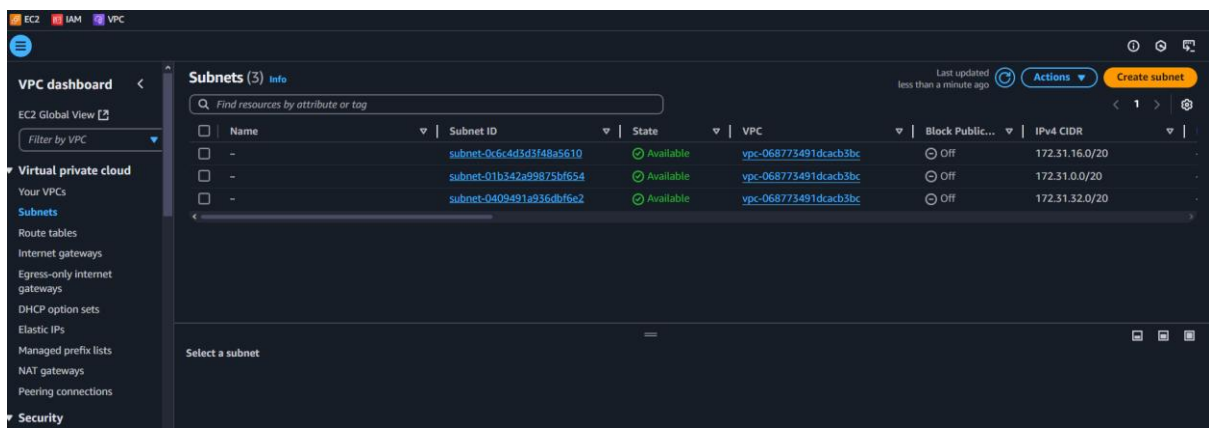
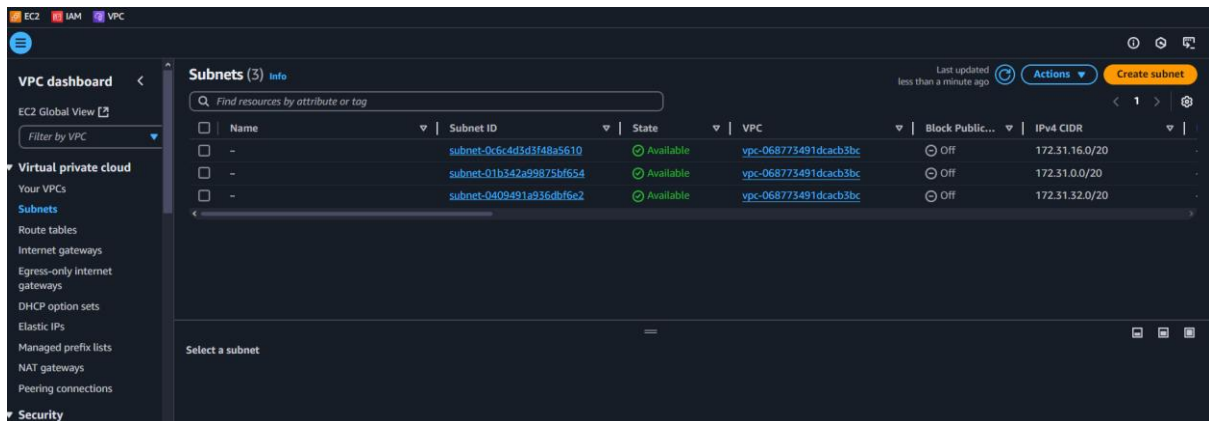
☒ No IPv6 CIDR block ☐ IPAM-allocated IPv6 CIDR block ☐ Amazon-provided IPv6 CIDR block ☐ IPv6 CIDR owned by me

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	subnet-02e2558dd57fe42f9	Available	vpc-0cc58cc
<input checked="" type="checkbox"/>	public-sub-02	subnet-04809aee8f7ead3c6	Available	vpc-0cc58cc
<input type="checkbox"/>	-	subnet-0c6c4d3d3f48a5610	Available	vpc-068773
<input type="checkbox"/>	-	subnet-01b342a99875bf654	Available	vpc-068773
<input type="checkbox"/>	-	subnet-0409491a936dbf6e2	Available	vpc-068773
<input checked="" type="checkbox"/>	private-sub-02	subnet-0c30e8d7c1a9ab9cc	Available	vpc-0cc58cc
<input checked="" type="checkbox"/>	private-sub-01	subnet-075906de832ea299a	Available	vpc-0cc58cc

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

Find resources by attribute or tag

<input type="checkbox"/>	Name	Subnet ID	State
<input checked="" type="checkbox"/>	public-sub-01	subnet-02e2558dd57fe42f9	Available
<input type="checkbox"/>	public-sub-02	subnet-04809aee8f7ead3c6	Available
<input type="checkbox"/>	-	subnet-0c6c4d3d3f48a5610	Available
<input type="checkbox"/>	-	subnet-01b342a99875bf654	Available
<input type="checkbox"/>	-	subnet-0409491a936dbf6e2	Available
<input type="checkbox"/>	private-sub-02	subnet-0c30e8d7c1a9ab9cc	Available
<input type="checkbox"/>	private-sub-01	subnet-075906de832ea299a	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
subnet-02e2558dd57fe42f9	arn:aws:ec2:ap-south-1:123456789012:subnet-02e2558dd57fe42f9	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

VPC
vpc-0cc58cc4f146f3d53 | my-vpc-01

Main
No

Owner ID
277707135838

Explicit subnet associations
-

Edge associations
-

Routes Subnet associations Edge associations Route propagation Tags

Routes (1) Both Edit routes

Filter routes

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

VPC
vpc-0cc58cc4f146f3d53 | my-vpc-01

Main
No

Owner ID
277707135838

Explicit subnet associations
-

Edge associations
-

Routes Subnet associations Edge associations Route propagation Tags

Explicit subnet associations (0) Edit subnet associations

Find subnet association

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

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

Explicit subnet associations

2 subnets

Edge associations

-

Owner ID

277707135838

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

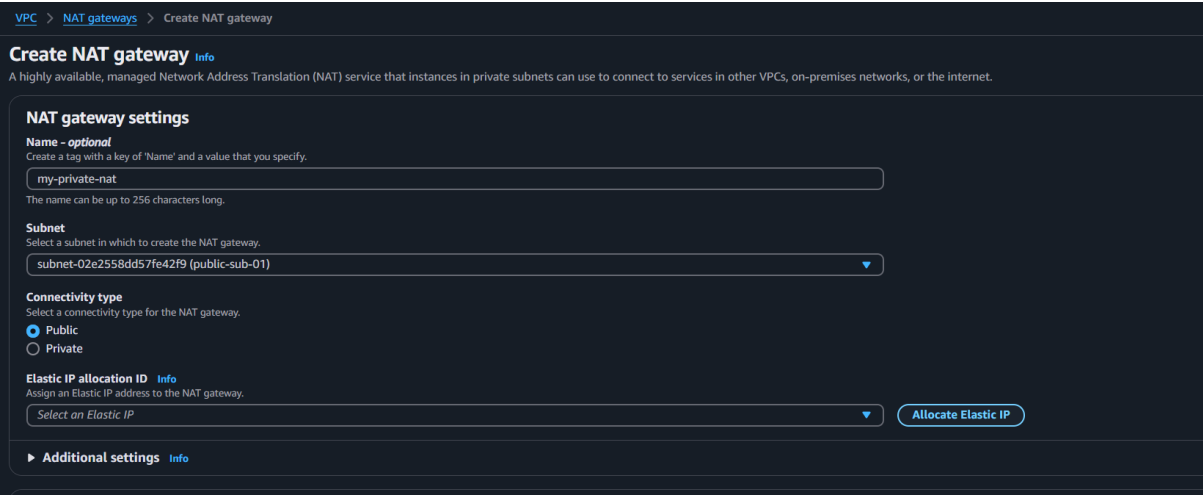
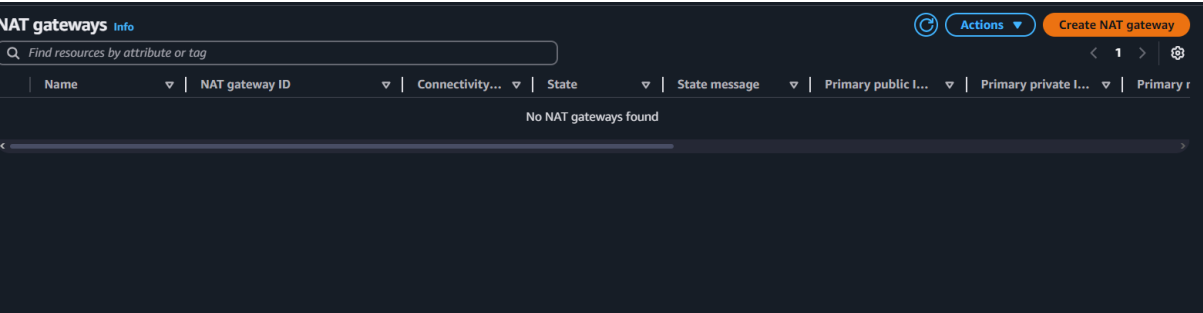
Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 Gb of snapshots.

Cancel

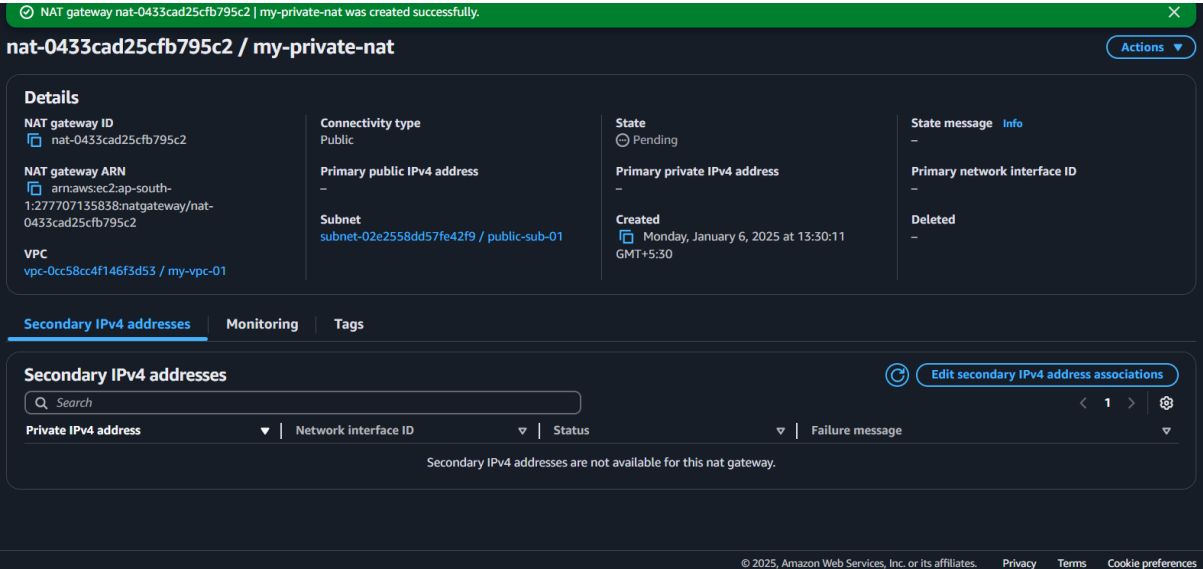
Launch instance

Preview code

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

Edge associations

-

VPC

vpc-0cc58cc4f146f3d53 | my-vpc-01

Owner ID

277707135838

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

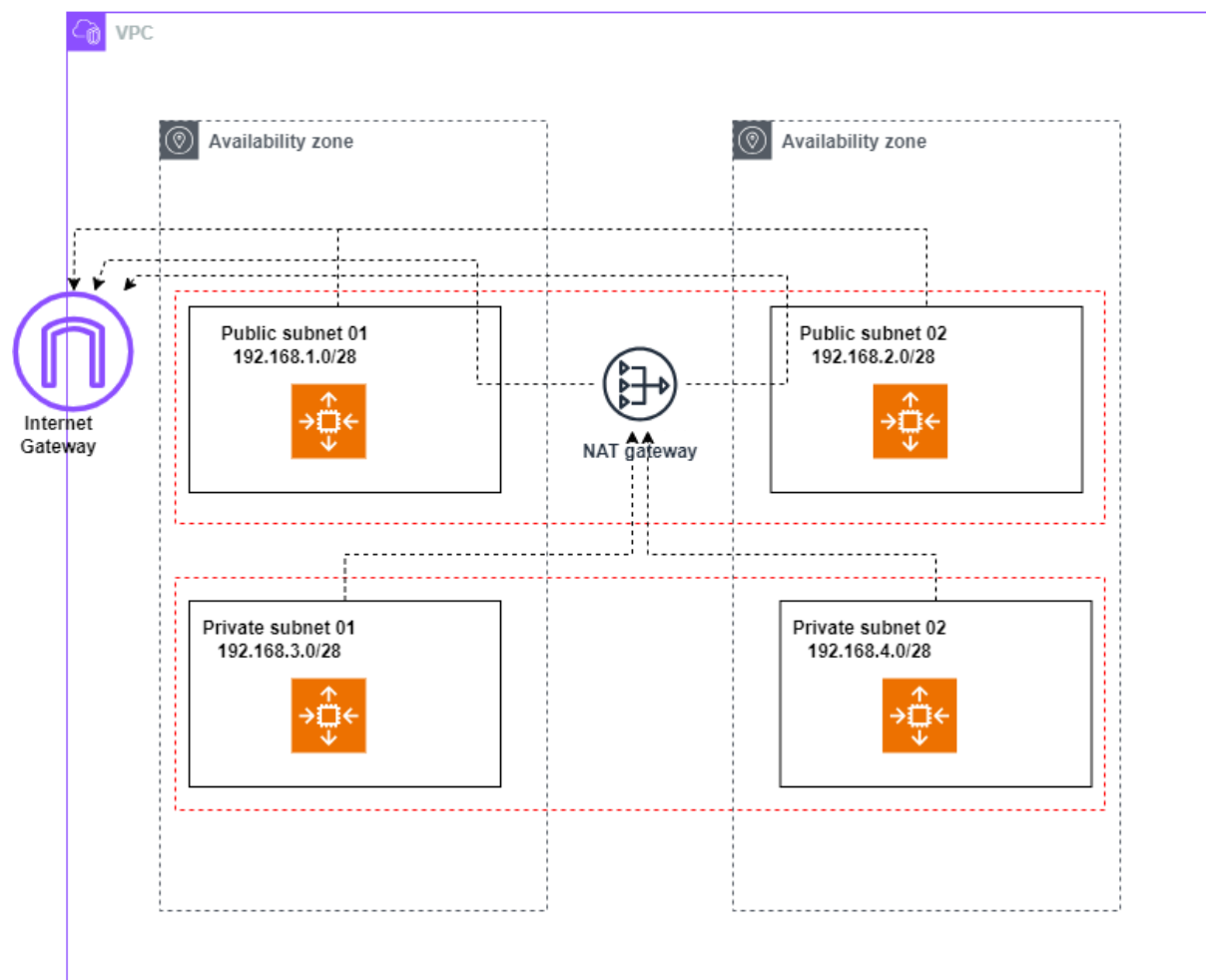
```

[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
------	--------	---------------

EC2 IAM VPC

Search [Alt+S]

Asia Pacific (Mumbai) Siddharth Mahendran

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)

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-067114e74165e7379 > 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
0.0.0.0/0	Internet Gateway	Active	No

[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
0.0.0.0/0	Internet Gateway	Active	No

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

Change “my-private-rt-b” route table

VPC

>

Route tables

>

rtb-0679345b479db64ba

>

Edit routes

Edit routes

Destination	Target	Status	Propagated	
172.160.0.0/16	local	Active	No	
<div><div>Q</div><div>192.168.1.0/28</div><div>X</div></div>	<div><div>Q</div><div>local</div><div>X</div></div>	Active	No	<div>Remove</div>
<div><div>Q</div><div>192.168.1.0/28</div><div>X</div></div>	<div><div>Q</div><div>Peering Connection</div><div>X</div></div>	Active	No	<div>Remove</div>
<div><div>Q</div><div>0.0.0.0/0</div><div>X</div></div>	<div><div>Q</div><div>pcx-03f47e209392b50b9</div><div>X</div></div>	Active	No	<div>Remove</div>
<div><div>Q</div><div>0.0.0.0/0</div><div>X</div></div>	<div><div>Q</div><div>NAT Gateway</div><div>X</div></div>	Active	No	<div>Remove</div>
<div><div>Q</div><div>0.0.0.0/0</div><div>X</div></div>	<div><div>Q</div><div>nat-05a312e7f23c85a02</div><div>X</div></div>	Active	No	<div>Remove</div>

Add route

Cancel

Preview

Save changes

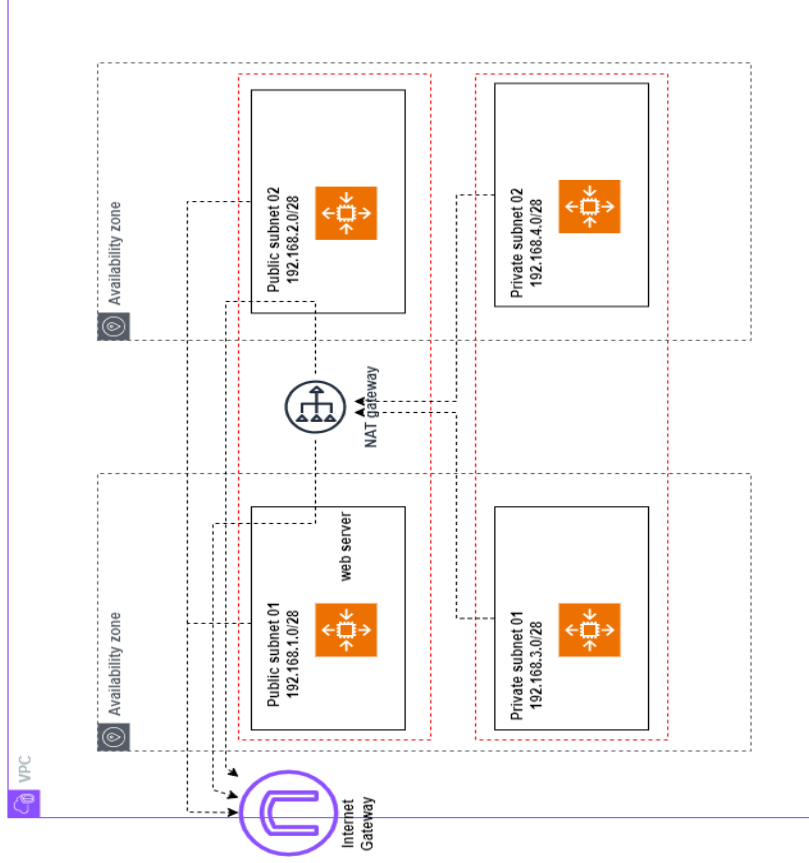
Try ping in the web server from vpc b to vpc a

```
[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 ~]$
```

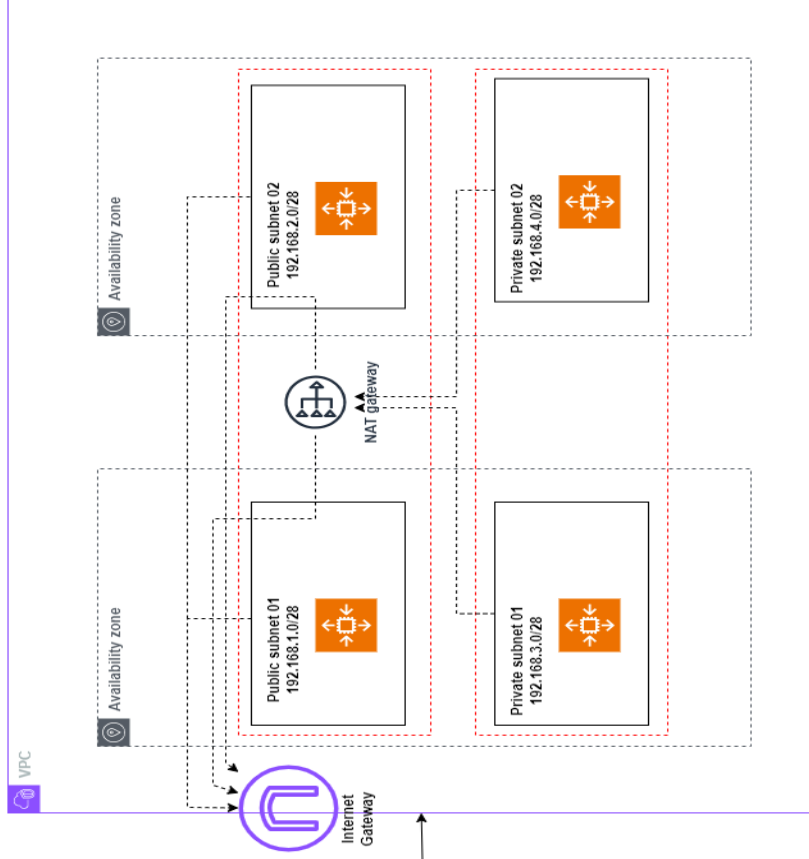
```
[ec2-user@ip-172-160-1-11 ~]$ ssh -i key.pem 172.160.3.11
#_
~\#### Amazon Linux 2023
~~\#####\
~~\###|
~~\#/ https://aws.amazon.com/linux/amazon-linux-2023
~~V~'-'>
~~~
~~~.~.~
~~~\~\~
~~~/_m/'~\~\~

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