

## Step 1:- Firstly Create our own vpc

VPC > Your VPCs > Create VPC

### Create VPC [Info](#)

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 create VPC, subnets, etc.

☒ VPC only ☐ VPC, subnets, etc.

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

Jarvis-vpc

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

IPv4 CIDR  
172.50.0.0/18

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

**Tenancy** [Info](#)  
Default

VPC > Your VPCs > vpc-015b63d29ad0baaf9

### vpc-015b63d29ad0baaf9 / Jarvis-vpc [Actions](#)

#### Details [Info](#)

VPC ID vpc-015b63d29ad0baaf9	State <span>Available</span>	DNS hostnames Disabled	DNS resolution Enabled
Tenancy Default	DHCP options set dopt-03a8f7b7c60ed1adb	Main route table rtb-072570401ca11ce60	Main network ACL acl-0d81427274c83cc4b
Default VPC No	IPv4 CIDR 172.50.0.0/18	IPv6 pool -	IPv6 CIDR -
Route 53 Resolver DNS Firewall rule groups -	Owner ID 829912339674		

[CIDRs](#) | [Flow logs](#) | [Tags](#)

#### CIDRs [Info](#)

Address type	CIDR	Pool	Status
IPv4	172.50.0.0/18	-	<span>Associated</span>

## Step 2 -Create 2 Subnets private or public within vpc range 172.50.0/18

### IPv4 Subnet Calculator

#### Result

IP Address:	172.50.0.0
Network Address:	172.50.0.0
Usable Host IP Range:	172.50.0.1 - 172.50.63.254
Broadcast Address:	172.50.63.255
Total Number of Hosts:	16,384
Number of Usable Hosts:	16,382
Subnet Mask:	255.255.192.0
Wildcard Mask:	0.0.63.255
Binary Subnet Mask:	11111111.11111111.11000000.00000000
IP Class:	B
CIDR Notation:	/18
IP Type:	Public
Short:	172.50.0.0 /18
Binary ID:	10101100001100100000000000000000
Integer ID:	2888957952
Hex ID:	0xac320000
in-addr.arpa:	0.0.50.172.in-addr.arpa
IPv4 Mapped Address:	::ffff:ac32.00
6to4 Prefix:	2002:ac32.00::/48

#### All 4 of the Possible /18 Networks for 172.50.\*.\*

Network Address	Usable Host Range	Broadcast Address:
172.50.0.0	172.50.0.1 - 172.50.63.254	172.50.63.255
172.50.64.0	172.50.64.1 - 172.50.127.254	172.50.127.255
172.50.128.0	172.50.128.1 - 172.50.191.254	172.50.191.255
172.50.192.0	172.50.192.1 - 172.50.255.254	172.50.255.255

We can able to create subnet within VPC range that is and we take same CIDR Block for subnetting

Network Address	Usable Host Range	Broadcast Address:
172.50.0.0	172.50.0.1 - 172.50.63.254	172.50.63.255

If we **take first IP in that range** then **whole range is isolate** for that defined **CIDR Block**

**First Subnet is created successfully with 172.50.0.0/22**

**After that select 2<sup>nd</sup> subnet & 1<sup>st</sup> subnet = Same CIDR Block**

Network Class ☒ Any ☐ A ☐ B ☐ C

Subnet

IP Address

**Then** Again check the range of /22

## IPv4 Subnet Calculator

### Result

IP Address:	172.50.0.0
Network Address:	172.50.0.0
Usable Host IP Range:	172.50.0.1 - 172.50.3.254
Broadcast Address:	172.50.3.255
Total Number of Hosts:	1,024
Number of Usable Hosts:	1,022
Subnet Mask:	255.255.252.0
Wildcard Mask:	0.0.3.255
Binary Subnet Mask:	11111111.11111111.11111100.00000000
IP Class:	B
CIDR Notation:	/22
IP Type:	Public
Short:	172.50.0.0 /22
Binary ID:	10101100001100100000000000000000
Integer ID:	2888957952
Hex ID:	0xac320000
in-addr.arpa:	0.0.50.172.in-addr.arpa
IPv4 Mapped Address:	::ffff:ac32.00
6to4 Prefix:	2002:ac32.00::/48

/22 range is again comes = 172.50.0.1 – 172.50.3.254

But, it All comes Under VPC range = 172.50.0.1 – 172.50.63.254

### All 64 of the Possible /22 Networks for 172.50.\*.\*

Network Address	Usable Host Range	Broadcast Address:
172.50.0.0	172.50.0.1 - 172.50.3.254	172.50.3.255
172.50.4.0	172.50.4.1 - 172.50.7.254	172.50.7.255
172.50.8.0	172.50.8.1 - 172.50.11.254	172.50.11.255
172.50.12.0	172.50.12.1 - 172.50.15.254	172.50.15.255
172.50.16.0	172.50.16.1 - 172.50.19.254	172.50.19.255
172.50.20.0	172.50.20.1 - 172.50.23.254	172.50.23.255
172.50.24.0	172.50.24.1 - 172.50.27.254	172.50.27.255
172.50.28.0	172.50.28.1 - 172.50.31.254	172.50.31.255
172.50.32.0	172.50.32.1 - 172.50.35.254	172.50.35.255
172.50.36.0	172.50.36.1 - 172.50.39.254	172.50.39.255
172.50.40.0	172.50.40.1 - 172.50.43.254	172.50.43.255
172.50.44.0	172.50.44.1 - 172.50.47.254	172.50.47.255
172.50.48.0	172.50.48.1 - 172.50.51.254	172.50.51.255
172.50.52.0	172.50.52.1 - 172.50.55.254	172.50.55.255
172.50.56.0	172.50.56.1 - 172.50.59.254	172.50.59.255
172.50.60.0	172.50.60.1 - 172.50.63.254	172.50.63.255
172.50.64.0	172.50.64.1 - 172.50.67.254	172.50.67.255
172.50.68.0	172.50.68.1 - 172.50.71.254	172.50.71.255
172.50.72.0	172.50.72.1 - 172.50.75.254	172.50.75.255
172.50.76.0	172.50.76.1 - 172.50.79.254	172.50.79.255
172.50.80.0	172.50.80.1 - 172.50.83.254	172.50.83.255
172.50.84.0	172.50.84.1 - 172.50.87.254	172.50.87.255
172.50.88.0	172.50.88.1 - 172.50.91.254	172.50.91.255
172.50.92.0	172.50.92.1 - 172.50.95.254	172.50.95.255
172.50.96.0	172.50.96.1 - 172.50.99.254	172.50.99.255
172.50.100.0	172.50.100.1 - 172.50.103.254	172.50.103.255
172.50.104.0	172.50.104.1 - 172.50.107.254	172.50.107.255
172.50.108.0	172.50.108.1 - 172.50.111.254	172.50.111.255
172.50.112.0	172.50.112.1 - 172.50.115.254	172.50.115.255
172.50.116.0	172.50.116.1 - 172.50.119.254	172.50.119.255

172.50.120.0	172.50.120.1 - 172.50.123.254	172.50.123.255
172.50.124.0	172.50.124.1 - 172.50.127.254	172.50.127.255
172.50.128.0	172.50.128.1 - 172.50.131.254	172.50.131.255
172.50.132.0	172.50.132.1 - 172.50.135.254	172.50.135.255
172.50.136.0	172.50.136.1 - 172.50.139.254	172.50.139.255
172.50.140.0	172.50.140.1 - 172.50.143.254	172.50.143.255
172.50.144.0	172.50.144.1 - 172.50.147.254	172.50.147.255
172.50.148.0	172.50.148.1 - 172.50.151.254	172.50.151.255
172.50.152.0	172.50.152.1 - 172.50.155.254	172.50.155.255
172.50.156.0	172.50.156.1 - 172.50.159.254	172.50.159.255
172.50.160.0	172.50.160.1 - 172.50.163.254	172.50.163.255
172.50.164.0	172.50.164.1 - 172.50.167.254	172.50.167.255
172.50.168.0	172.50.168.1 - 172.50.171.254	172.50.171.255
172.50.172.0	172.50.172.1 - 172.50.175.254	172.50.175.255
172.50.176.0	172.50.176.1 - 172.50.179.254	172.50.179.255
172.50.180.0	172.50.180.1 - 172.50.183.254	172.50.183.255
172.50.184.0	172.50.184.1 - 172.50.187.254	172.50.187.255
172.50.188.0	172.50.188.1 - 172.50.191.254	172.50.191.255
172.50.192.0	172.50.192.1 - 172.50.195.254	172.50.195.255
172.50.196.0	172.50.196.1 - 172.50.199.254	172.50.199.255
172.50.200.0	172.50.200.1 - 172.50.203.254	172.50.203.255
172.50.204.0	172.50.204.1 - 172.50.207.254	172.50.207.255
172.50.208.0	172.50.208.1 - 172.50.211.254	172.50.211.255
172.50.212.0	172.50.212.1 - 172.50.215.254	172.50.215.255
172.50.216.0	172.50.216.1 - 172.50.219.254	172.50.219.255
172.50.220.0	172.50.220.1 - 172.50.223.254	172.50.223.255
172.50.224.0	172.50.224.1 - 172.50.227.254	172.50.227.255
172.50.228.0	172.50.228.1 - 172.50.231.254	172.50.231.255
172.50.232.0	172.50.232.1 - 172.50.235.254	172.50.235.255
172.50.236.0	172.50.236.1 - 172.50.239.254	172.50.239.255
172.50.240.0	172.50.240.1 - 172.50.243.254	172.50.243.255
172.50.244.0	172.50.244.1 - 172.50.247.254	172.50.247.255
172.50.248.0	172.50.248.1 - 172.50.251.254	172.50.251.255

172.50.252.0	172.50.252.1 - 172.50.255.254	172.50.255.255
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Our another subnet ranges are in

## All 64 of the Possible /22 Networks for 172.50.\*.\*

Network Address	Usable Host Range	Broadcast Address:
172.50.0.0	172.50.0.1 - 172.50.3.254	172.50.3.255
172.50.4.0	172.50.4.1 - 172.50.7.254	172.50.7.255
172.50.8.0	172.50.8.1 - 172.50.11.254	172.50.11.255
172.50.12.0	172.50.12.1 - 172.50.15.254	172.50.15.255
172.50.16.0	172.50.16.1 - 172.50.19.254	172.50.19.255
172.50.20.0	172.50.20.1 - 172.50.23.254	172.50.23.255
172.50.24.0	172.50.24.1 - 172.50.27.254	172.50.27.255
172.50.28.0	172.50.28.1 - 172.50.31.254	172.50.31.255
172.50.32.0	172.50.32.1 - 172.50.35.254	172.50.35.255
172.50.36.0	172.50.36.1 - 172.50.39.254	172.50.39.255
172.50.40.0	172.50.40.1 - 172.50.43.254	172.50.43.255
172.50.44.0	172.50.44.1 - 172.50.47.254	172.50.47.255
172.50.48.0	172.50.48.1 - 172.50.51.254	172.50.51.255
172.50.52.0	172.50.52.1 - 172.50.55.254	172.50.55.255
172.50.56.0	172.50.56.1 - 172.50.59.254	172.50.59.255
172.50.60.0	172.50.60.1 - 172.50.63.254	172.50.63.255
172.50.64.0	172.50.64.1 - 172.50.67.254	172.50.67.255

➔ We can take any IP in that usable host range with **same CIDR /22**

As like we created 4 subnets


Subnets (4) [Info](#)

Q

Filter subnets

<input type="checkbox"/>	Name	Subnet ID	State	VPC	IPv4 CIDR
<input type="checkbox"/>	private-sub	subnet-07aeb5bcf281e6813	<span>✔ Available</span>	vpc-015b63d29ad0baaf9   Jar...	172.50.4.0/22
<input type="checkbox"/>	four	subnet-0b3a5a8422c8b2c76	<span>✔ Available</span>	vpc-015b63d29ad0baaf9   Jar...	172.50.12.0/22
<input type="checkbox"/>	public-sub	subnet-04edc40e28f96282a	<span>✔ Available</span>	vpc-015b63d29ad0baaf9   Jar...	172.50.0.0/22
<input type="checkbox"/>	three	subnet-09ca0087abd43656d	<span>✔ Available</span>	vpc-015b63d29ad0baaf9   Jar...	172.50.8.0/22

### Step 3 – Create & Attach Internet Gateway to the vpc to get internet connection from outside of vpc

 The following internet gateway was created: igw-05954ff3f2cbdd662 - jarvis-igw. You can now attach to a VPC to enable the VPC to communicate with the internet.

Attach to a VPC

[VPC](#) > [Internet gateways](#) > igw-05954ff3f2cbdd662

igw-05954ff3f2cbdd662 / jarvis-igw

Actions

**Details** [Info](#)

Internet gateway ID igw-05954ff3f2cbdd662	State Detached	VPC ID -	Owner 829912339674
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Created and now attached to the vpc

### Step 4 – Do the Public subnet and internet gateway entry in the default route table.

Go to route table → edit route table (Internet Gateway)

[VPC](#) > [Route tables](#) > [rtb-072570401ca11ce60](#) > Edit routes

Edit routes

Destination	Target	Status	Propagated
172.50.0.0/18	local	Active	No
0.0.0.0/0	igw-05954ff3f2cbdd662	-	No

Add route

Cancel Preview Save changes

Subnet Associate → Explicite subnet associate with **public subnet**

[VPC](#) > [Route tables](#) > [rtb-072570401ca11ce60](#)

rtb-072570401ca11ce60

Actions

**Details** [Info](#)

Route table ID rtb-072570401ca11ce60	Main Yes	Explicit subnet associations subnet-04edc40e28f96282a / public-sub	Edge associations -
VPC vpc-015b63d29ad0baaf9   Jarvis-vpc	Owner ID 829912339674		

Routes Subnet associations Edge associations Route propagation Tags

Explicit subnet associations (1)

Find subnet association

1

Subnet ID	IPv4 CIDR	IPv6 CIDR
subnet-04edc40e28f96282a / public-sub	172.50.0.0/22	-

**Step 5 – Create two EC2 instance with Public & Private IP and another EC2 instance only with Private IP**

**Public Instance, we have enable auto assign IP or we can enable it from VPC→Subnets→Edit Subnet**

▼ Network settings

VPC - required [Info](#)

vpc-015b63d29ad0baaf9 (Jarvis-vpc)  
172.50.0.0/18

Subnet [Info](#)

subnet-04edc40e28f96282a public-sub  
VPC: vpc-015b63d29ad0baaf9 Owner: 829912339674  
Availability Zone: ap-south-1b IP addresses available: 1019

Create new subnet

Auto-assign public IP [Info](#)

Enable  
Enable  
Disable

specific traffic to reach your

Instances (1/1) [Info](#)

Connect

Instance state ▼

Actions ▼

Launch instances ▼

Search

< 1 > ⚙

<input checked="" type="checkbox"/>	Name ▼	Instance ID	Instance state ▼	Instance type ▼	Status check	Alarm status	Availability Zone ▼	Public IPv4 DI
<input checked="" type="checkbox"/>	public	<a href="#">i-04c250d0954faf70f</a>	Pending	t2.micro	-	No alarms +	ap-south-1b	-

Instance: i-04c250d0954faf70f (public)

Select an instance above

Details

Security

Networking

Storage

Status checks

Monitoring

Tags

▼ Instance summary [Info](#)

Instance ID i-04c250d0954faf70f (public)	Public IPv4 address 13.127.101.38   <a href="#">open address</a>	Private IPv4 addresses 172.50.0.244
IPv6 address -	Instance state Pending	Public IPv4 DNS -



**Private Instance** → here we off auto assign public IP

▼ **Network settings**

VPC - *required* [Info](#)

vpc-015b63d29ad0baaf9 (Jarvis-vpc)  
172.50.0.0/18

Subnet [Info](#)

subnet-07aeb5bcf281e6813 private-sub  
VPC: vpc-015b63d29ad0baaf9 Owner: 829912339674  
Availability Zone: ap-south-1b IP addresses available: 1019

Auto-assign public IP [Info](#)

Disable

Private instance created, Without public IP

Instances (1/2) [Info](#)

Search

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 D
<input type="checkbox"/>	public	i-04c250d0954fa70f	Running	t2.micro	2/2 checks passed	No alarms	ap-south-1b	-
<input checked="" type="checkbox"/>	private instance	i-036d4a0efe309c9c5	Pending	t2.micro	-	No alarms	ap-south-1b	-

Instance: i-036d4a0efe309c9c5 (private instance)

Select an instance above

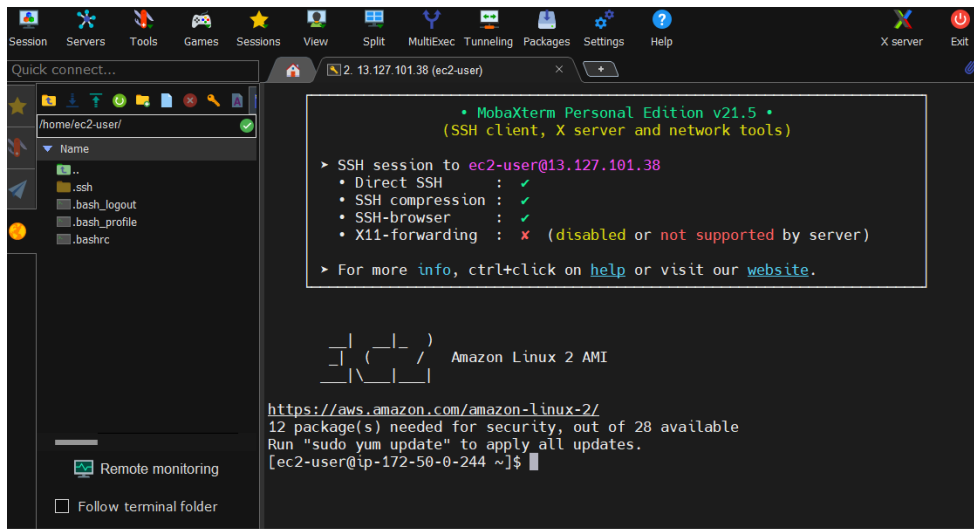
Details Security Networking Storage Status checks Monitoring Tags

▼ Instance summary [Info](#)

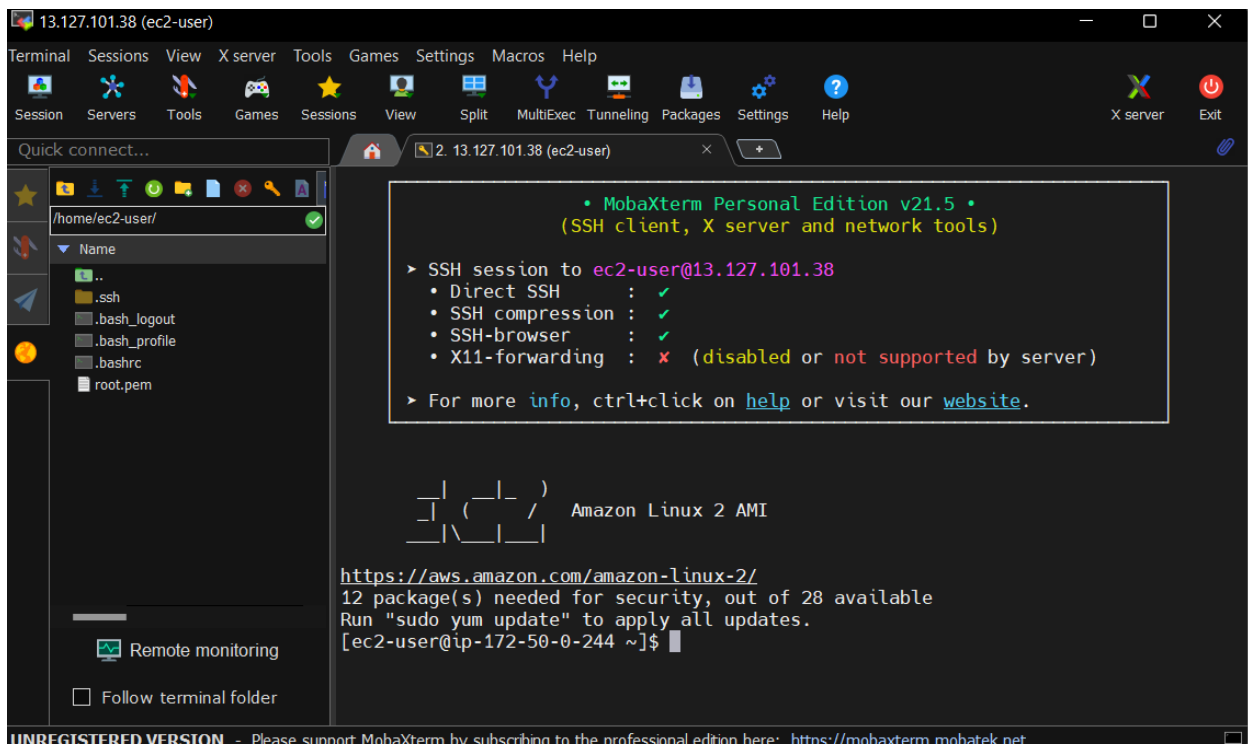
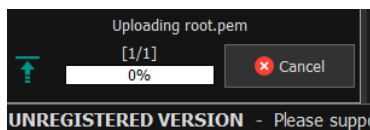
Instance ID	Public IPv4 address	Private IPv4 addresses
i-036d4a0efe309c9c5 (private instance)	-	172.50.7.67
IPv6 address	Instance state	Public IPv4 DNS
-	Pending	-

- Now firstly take SSH from public instance
- Upload key-pair in moba
- After that private instance use SSH **without having a public IP from Public Instance**
- After that we trying to ping public instance DONE.
- Trying to in private instance it's not working beacuse, we don't have internet their for that we have to take internet from public instance that's why we have to create and attach NAT Gateway.
- **Create NAT Gateway and attached to the public instance**
- **And also have to create route table.**
- **Edit route -> NAT Gateway -> select created NAT Gateway**
- **Subnet Associate -> we have to associate private instance subnet**
- After that try ping private instance SSH

Successfully able to get ssh from public instance with the help of public IP



Now take SSH from private instance for that firstly we have to upload key-pair in running session



Uploaded root.pem key-pair

Now we can use SSH from private instance with command

The screenshot shows the MobaXterm interface. The top menu bar includes Terminal, Sessions, View, X server, Tools, Games, Settings, Macros, and Help. Below the menu is a toolbar with icons for Session, Servers, Tools, Games, Sessions, View, Split, MultiExec, Tunneling, Packages, Settings, and Help. The main window displays a terminal session for the private instance (13.127.101.38, ec2-user). The terminal output shows the user running various commands: `ping 8.8.8.8`, `ls /home/ec2-user`, and `sudo ssh -i /home/ec2-user/root.pem ec2-user@172.50.7.67`. The output also shows the SSH session details, including the direct SSH connection, SSH compression, SSH browser, and X11-forwarding status. The terminal also displays the Amazon Linux 2 AMI logo and the URL <https://aws.amazon.com/amazon-linux-2/>.

```
13.127.101.38 (ec2-user)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect...
/home/ec2-user/
Name
..
.ssh
.bash_logout
.bash_profile
.bashrc
root.pem

MobaXterm Personal Edition v21.5
(SSh client, X server and network tools)

SSH session to ec2-user@13.127.101.38
  Direct SSH : ✓
  SSH compression : ✓
  SSH-browser : ✓
  X11-forwarding : ✗ (disabled or not supported by server)

For more info, ctrl+click on help or visit our website.

_ _ _ _ _
_ | ( _ _ ) /
_ | \ _ _ | _ | Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
12 package(s) needed for security, out of 28 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-50-0-244 ~]$ ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=110 time=1.77 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=110 time=1.68 ms
^C
--- 8.8.8.8 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 1.684/1.727/1.770/0.043 ms
[ec2-user@ip-172-50-0-244 ~]$ ls /home/ec2-user
root.pem
[ec2-user@ip-172-50-0-244 ~]$ sudo ssh -i /home/ec2-user/root.pem ec2-user@172.50.7.67
Warning: Identity file /home/ec2-user/root.pem not accessible: No such file or directory.
The authenticity of host '172.50.7.67 (172.50.7.67)' can't be established.
ECDSA key fingerprint is SHA256:dIyJZeGtIhuSVptu0IXl8TvlY0bXg1KUVkMfXmjt6Cw.
ECDSA key fingerprint is MD5:a0:07:21:ee:97:60:47:b5:21:46:cc:49:7e:af:61:60.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '172.50.7.67' (ECDSA) to the list of known hosts.
Permission denied (publickey,gssapi-keyex,gssapi-with-mic).
[ec2-user@ip-172-50-0-244 ~]$ sudo ssh -i /home/ec2-user/root.pem ec2-user@172.50.7.67
Warning: Identity file /home/ec2-user/root.pem not accessible: No such file or directory.
Permission denied (publickey,gssapi-keyex,gssapi-with-mic).
[ec2-user@ip-172-50-0-244 ~]$ sudo -i
[root@ip-172-50-0-244 ~]# ssh -i /home/ec2-user/root.pem ec2
ec2ifdown ec2ifscan ec2ifup ec2-metadata ec2udev-vbd ec2udev-vcpu
[root@ip-172-50-0-244 ~]# ssh -i /home/ec2-user/root.pem ec2-user@172.50.7.67

_ _ _ _ _
_ | ( _ _ ) /
_ | \ _ _ | _ | Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-50-7-67 ~]$ ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
```

On Public instance SSH

- ping 8.8.8.8

- upload key

- ls /home/ec2-user

- sudo -i

ssh -i /home/ec2-user/root.pem [ec2-user@172.50.7.67](#) [IP of private instance]

- ➔ Trying to in private instance it's not working because, we **don't have internet their for that we have to take internet from public instance** that's why we have to create and attach NAT Gateway.
- ➔ Create NAT Gateway and attached to the public instance
- ➔ And also have to create route table.
- ➔ Edit route -> NAT Gateway -> select created NAT Gateway
- ➔ Subnet Associate -> we have to associate private instance subnet
- ➔ After that try ping private instance SSH

VPC > NAT gateways > Create NAT gateway

## Create NAT gateway [Info](#)

A highly available, managed Network Address Translation (NAT) service that instances in private subnets can use to connect to services in other VPCs, on-premises networks, or the internet.

### NAT gateway settings

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

The name can be up to 256 characters long.

**Subnet**  
Select a subnet in which to create the NAT gateway.

subnet-04edc40e28f96282a (public-sub) ▼

**Connectivity type**  
Select a connectivity type for the NAT gateway.

☒ Public  
☐ Private

**Elastic IP allocation ID [Info](#)**  
Assign an Elastic IP address to the NAT gateway.

eipalloc-0fa0ba46d51bf87aa ▼ [Allocate Elastic IP](#)

### 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.

No tags associated with the resource.

[Add new tag](#)

You can add 50 more tags.

Cancel [Create NAT gateway](#)

While creating NAT Gateway, we have to **attach on public-subnet & Must have to Allocate Elastic IP**

After that we have to **create saperate Route Table for NAT gateway's Entry & Subnet Association (Private Subnet)**

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.

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

vpc-015b63d29ad0baaf9 (Jarvis-vpc) ▼

### 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**

You can add 49 more tags.

After that we have to make entry in tha route table

VPC > Route tables > rtb-0941e9feac2e99725 > Edit routes

## Edit routes

Destination	Target	Status	Propagated
172.50.0.0/18	<input type="text" value="local"/>	Active	No
<input type="text" value="0.0.0.0/0"/>	<input type="text" value="nat-0aaf5c9287b6d4ee6"/>	-	No <input type="button" value="Remove"/>

Associate the private subnet in NAT Gateway's Route Table

VPC > Route tables > rtb-0941e9feac2e99725 > Edit subnet associations

## 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
<input checked="" type="checkbox"/>	private-sub	subnet-07aeb5bcf281e6813	172.50.4.0/22	-	Main (rtb-072570401ca11ce60)
<input type="checkbox"/>	four	subnet-0b5a5a842c8b2c76	172.50.12.0/22	-	Main (rtb-072570401ca11ce60)
<input type="checkbox"/>	public-sub	subnet-04edc40c28f96282a	172.50.0.0/22	-	rtb-072570401ca11ce60
<input type="checkbox"/>	three	subnet-09ca0067ab043656d	172.50.8.0/22	-	Main (rtb-072570401ca11ce60)

**Selected subnets**

Now, we are trying to ping we can successfully able to ping, we get internet connection from public instance via NAT Gateway

The screenshot shows a terminal window titled "13.127.101.38 (ec2-user)". The terminal output shows the user running a series of commands to update the system and then ping the public IP 8.8.8.8. The ping is successful, showing a 0% packet loss and a response time of approximately 1.77 ms. The terminal also shows the user running a series of commands to install and configure the awscli package, and then running a series of commands to install and configure the awscli package. The terminal output shows the user running a series of commands to install and configure the awscli package, and then running a series of commands to install and configure the awscli package.

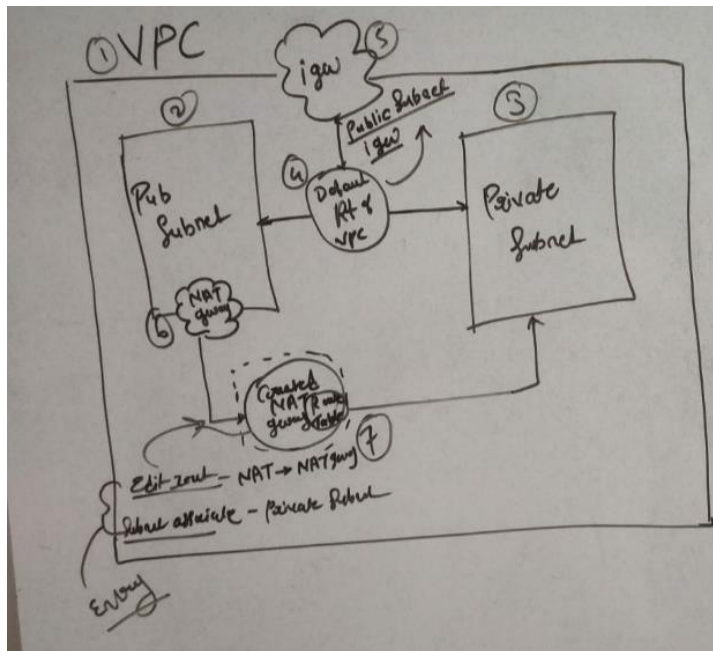
```
13.127.101.38 (ec2-user)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help

Quick connect...
/home/ec2-user/
Name
..
.ssh
.bash_logout
.bash_profile
.bashrc
root.pem

https://aws.amazon.com/amazon-linux-2/
12 package(s) needed for security, out of 28 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-50-0-244 ~]$ ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=110 time=1.77 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=110 time=1.68 ms
^C
--- 8.8.8.8 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 1.684/1.727/1.770/0.043 ms
[ec2-user@ip-172-50-0-244 ~]$ ls /home/ec2-user
root.pem
[ec2-user@ip-172-50-0-244 ~]$ sudo ssh -i home/ec2-user/root.pem ec2-user@172.50.7.67
Warning: Identity file home/ec2-user/root.pem not accessible: No such file or directory.
The authenticity of host '172.50.7.67 (172.50.7.67)' can't be established.
ECDSA key fingerprint is SHA256:diYjZegTihusVptu0Ix18TvlY0bXg1KUvkMfXmjt6Cw.
ECDSA key fingerprint is MD5:a0:07:21:ee:97:60:47:b5:21:46:cc:49:7e:af:61:60.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '172.50.7.67' (ECDSA) to the list of known hosts.
Permission denied (publickey,gssapi-keyex,gssapi-with-mic).
[ec2-user@ip-172-50-0-244 ~]$ sudo ssh -i home/ec2-user/root.pem ec2-user@172.50.7.67
Warning: Identity file home/ec2-user/root.pem not accessible: No such file or directory.
Permission denied (publickey,gssapi-keyex,gssapi-with-mic).
[ec2-user@ip-172-50-0-244 ~]$ sudo -i
[root@ip-172-50-0-244 ~]# ssh -i /home/ec2-user/root.pem ec2
ec2ifdown ec2ifscan ec2ifup ec2-metadata ec2udev-vbd ec2udev-vcpu
[root@ip-172-50-0-244 ~]# ssh -i /home/ec2-user/root.pem ec2-user@172.50.7.67

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-50-7-67 ~]$ ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
^C
--- 8.8.8.8 ping statistics ---
43 packets transmitted, 0 received, 100% packet loss, time 43000ms

[ec2-user@ip-172-50-7-67 ~]$ ^C
[ec2-user@ip-172-50-7-67 ~]$ ^C
[ec2-user@ip-172-50-7-67 ~]$ ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=109 time=2.09 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=109 time=1.82 ms
^C
--- 8.8.8.8 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 1.820/1.958/2.097/0.145 ms
[ec2-user@ip-172-50-7-67 ~]$
```



1-126 - Class A
127 - reserved for loopback
128-191 - Class B
192-223 - Class C
224-239 - reserved for multicasting
240-255 - Class E

Class A -> 8-32 NHHH
Class B -> 16-32 NNHH
Class C -> 24-32 NNNH