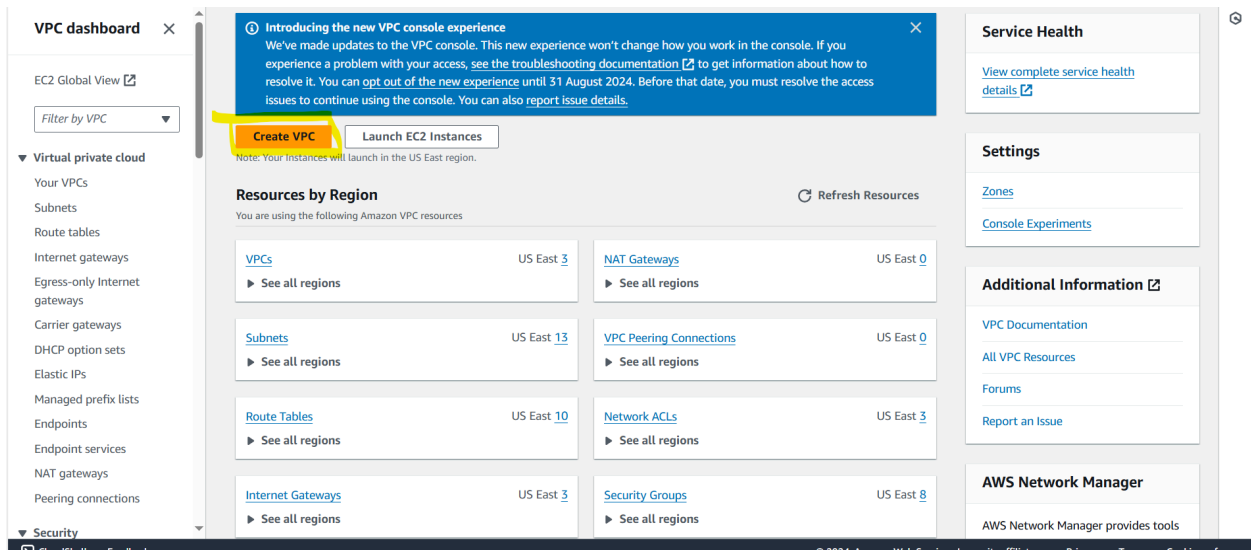
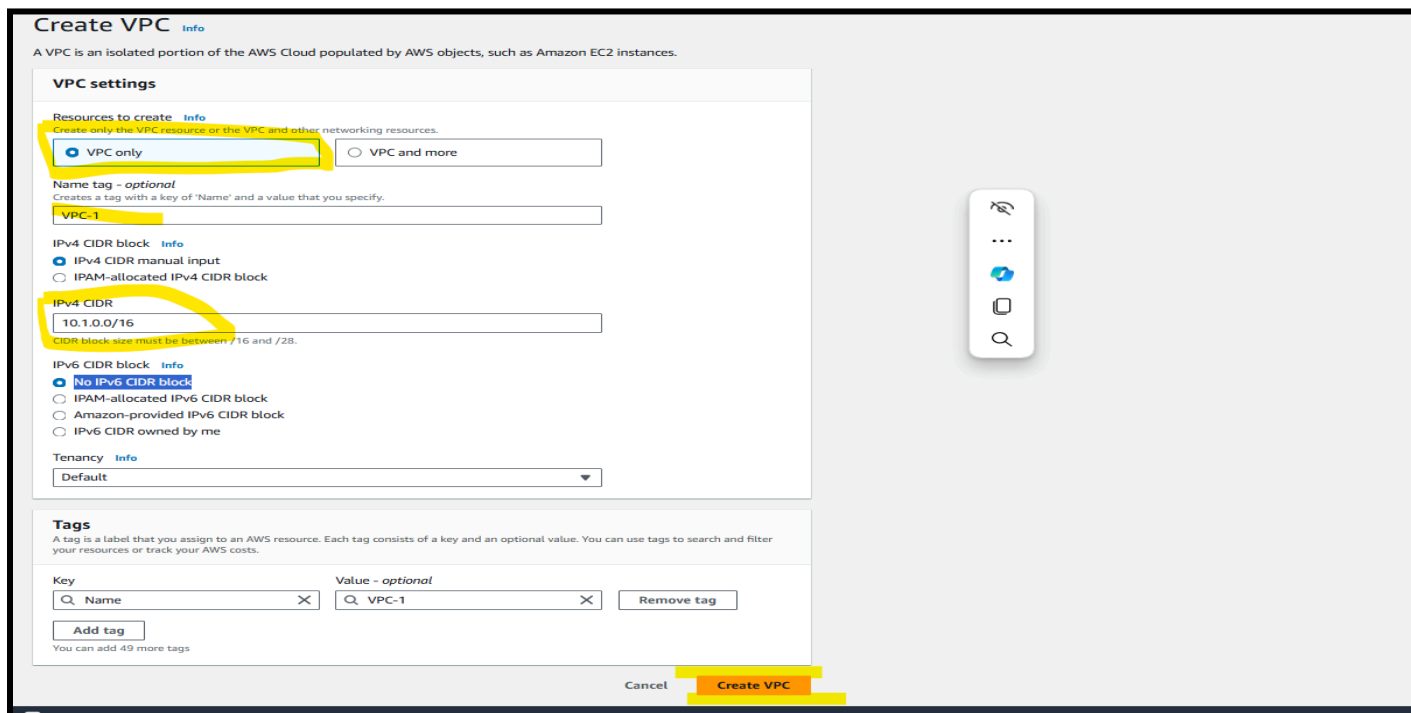


# How to Create A VPC with Public and Private Subnets AND IGW and Route Tables

- 1- Login to the AWS Console
- 2- Go to VPC Section
- 3- Click on Create VPC



- 4-Give VPC Name and Give VPC CIDR Range 10.1.0.0/16



- 5-Click on Create VPC
- 6-Click On Actions in VPC
- 7-Select the Edit VPC settings

VPC > Your VPCs > vpc-061c5033df8adede6

vpc-061c5033df8adede6 / VPC-1

**Details** [Info](#)

VPC ID vpc-061c5033df8adede6	State <span>Available</span>	DNS hostnames Disabled	DNS resolution Enabled
Tenancy Default	DHCP option set dopt-0d9487cf4c5111373	Main route table rtb-029b18fab0d3d89c7	Main network ACL acl-0bfc191598f8e165
Default VPC No	IPv4 CIDR 10.1.0.0/16	IPv6 pool -	IPv6 CIDR (Network border group) -
Network Address Usage metrics Disabled	Route 53 Resolver DNS Firewall rule groups -	Owner ID 637423512556	

Create flow log

Edit VPC settings

Edit CIDRs

Manage middlebox routes

Manage tags

Delete VPC

**Resource map** [Info](#)

**VPC** [show details](#)  
Your AWS virtual network  
VPC-1

**Subnets (0)**  
Subnets within this VPC

**Route tables (1)**  
Route network traffic to resources  
rtb-029b18fab0d3d89c7

**Network connections (0)**  
Connections to other networks

- 8-Check the Enable DNS Hostname

VPC > Your VPCs > vpc-061c5033df8adede6 > Edit VPC settings

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

**VPC details**

VPC ID  
vpc-061c5033df8adede6  
Name  
VPC-1

**DHCP settings**

DHCP option set [Info](#)  
dopt-0d9487cf4c5111373

**DNS settings**

☒ Enable DNS resolution [Info](#)  
☐ Enable DNS hostnames [Info](#)

**Network Address Usage metrics settings**

☐ Enable Network Address Usage metrics [Info](#)

Cancel

Save

VPC > Your VPCs > vpc-061c5033df8adede6 > Edit VPC settings

## Edit VPC settings [Info](#)

**VPC details**

VPC ID  
 vpc-061c5033df8adede6  
Name  
 VPC-1

**DHCP settings**

DHCP option set [Info](#)  
dopt-0d9487cf4c5111373

**DNS settings**

☒ Enable DNS resolution [Info](#)  
☒ Enable DNS hostnames [Info](#)

**Network Address Usage metrics settings**

☐ Enable Network Address Usage metrics [Info](#)

Cancel Save

9-Click on Save

10-Click on Create Subnets

VPC dashboard x You have successfully modified the settings for vpc-061c5033df8adede6 / VPC-1. Last updated 11 minutes ago Actions Create subnet

EC2 Global View Filter by VPC

Virtual private cloud  
Your VPCs  
**Subnets**  
Route tables  
Internet gateways  
Egress-only Internet gateways  
Carrier gateways  
DHCP option sets  
Elastic IPs  
Managed prefix lists  
Endpoints  
Endpoint services  
NAT gateways  
Peering connections

Security  
Network ACLs  
Security groups

**Subnets (13)** [Info](#)

Find resources by attribute or tag

<input type="checkbox"/>	Name	Subnet ID	State	VPC	IPv4 CIDR	IPv6 CIDR	IPv6 CIDR association ID	Available IPv4 addresses	Availability
<input type="checkbox"/>	sampi-private-2	subnet-050b7c509f104d7bf	Available	vpc-0b4f02b71833082a8   sampi	172.16.20.0/24	-	-	251	us-east-1
<input type="checkbox"/>	anji-private	subnet-02d1a9f2d42d73e1f	Available	vpc-0d623535716183340   anji	10.1.10.0/24	-	-	251	us-east-1
<input type="checkbox"/>	anji-db1	subnet-02c3a55d402ee49b6	Available	vpc-0d623535716183340   anji	10.1.5.0/24	-	-	251	us-east-1
<input type="checkbox"/>	anji-private2	subnet-041a7a98c2f223228	Available	vpc-0d623535716183340   anji	10.1.20.0/24	-	-	251	us-east-1
<input type="checkbox"/>	anji-public2	subnet-0e19bb7ba0256bb34	Available	vpc-0d623535716183340   anji	10.1.2.0/24	-	-	251	us-east-1
<input type="checkbox"/>	sampi-public-1	subnet-0d52f51657509920	Available	vpc-0b4f02b71833082a8   sampi	172.16.1.0/24	-	-	251	us-east-1
<input type="checkbox"/>	anji-public	subnet-015547c2b2b185a0b	Available	vpc-0d623535716183340   anji	10.1.1.0/24	-	-	251	us-east-1
<input type="checkbox"/>	sampi-private-1	subnet-0732ecf8e0ea29f8	Available	vpc-0b4f02b71833082a8   sampi	172.16.10.0/24	-	-	251	us-east-1
<input type="checkbox"/>	anji-db-2	subnet-05574b16f51a63ff0	Available	vpc-0d623535716183340   anji	10.1.6.0/24	-	-	251	us-east-1
<input type="checkbox"/>	gampa-private1	subnet-04a127850e08ca6df	Available	vpc-035b3b79ee45f1a28   gampa	172.25.10.0/24	-	-	251	us-east-1
<input type="checkbox"/>	sampi-public2	subnet-07c02f2dfabc119f3	Available	vpc-0b4f02b71833082a8   sampi	172.16.2.0/24	-	-	251	us-east-1
<input type="checkbox"/>	gampa-public-2	subnet-08ec0f6db0b9edc27	Available	vpc-035b3b79ee45f1a28   gampa	172.25.2.0/24	-	-	251	us-east-1

Select a subnet

11-Select VPC

VPC > Subnets > Create subnet

## Create subnet [Info](#)

**VPC**

VPC ID  
Create subnets in this VPC.  
vpc-061c5033df8adede6 (VPC-1)

**Associated VPC CIDRs**

IPv4 CIDRs  
10.1.0.0/16

## 12-Give Subnet Name and IP range

**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.  
  
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**  
 65,536 IPs  
< > ^ v

**Tags - optional**

Key	Value - optional
<input type="text" value="Q Name"/>	<input type="text" value="VPC-1-public-1"/>

You can add 49 more tags.

## 13-Like You can create how many you want I am, taking here 6 Subnets

**Subnets (6)** [Info](#)

Last updated less than a minute ago

<input type="checkbox"/>	Name	Subnet ID	State	VPC	IPv4 CIDR	IPv6 CIDR	IPv6 CIDR association ID	Available IPv4 addresses	Availability Zone
<input type="checkbox"/>	VPC-1-private-2	<a href="#">subnet-0802b947a523fd56b</a>	Available	<a href="#">vpc-061c5033df8adede6</a>   VPC-1	10.1.20.0/24	-	-	251	us-east-1b
<input type="checkbox"/>	VPC-1-public-2	<a href="#">subnet-01b0ccc78286a124a</a>	Available	<a href="#">vpc-061c5033df8adede6</a>   VPC-1	10.1.2.0/24	-	-	251	us-east-1b
<input type="checkbox"/>	VPC-1-DB-2	<a href="#">subnet-012139dccc6dk732d</a>	Available	<a href="#">vpc-061c5033df8adede6</a>   VPC-1	10.1.60.0/24	-	-	251	us-east-1b
<input type="checkbox"/>	VPC-1-public-1	<a href="#">subnet-064b5b07f40b1aebc</a>	Available	<a href="#">vpc-061c5033df8adede6</a>   VPC-1	10.1.1.0/24	-	-	251	us-east-1a
<input type="checkbox"/>	VPC-1-private-1	<a href="#">subnet-0b69daea59b37b521</a>	Available	<a href="#">vpc-061c5033df8adede6</a>   VPC-1	10.1.10.0/24	-	-	251	us-east-1a
<input type="checkbox"/>	VPC-1-DB-1	<a href="#">subnet-0addfabe265764ab3</a>	Available	<a href="#">vpc-061c5033df8adede6</a>   VPC-1	10.1.50.0/24	-	-	251	us-east-1a

## 14-Click on Create Internet Gateway

[VPC](#) > [Internet gateways](#) > Create internet gateway

## Create internet gateway [Info](#)

An internet gateway is a virtual router that connects a VPC to the internet. To create a new internet gateway specify the name for the gateway below.

### Internet gateway settings

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

### 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	
<input type="text" value="Name"/>	<input type="text" value="VPC-1-IGW"/>	<input type="button" value="Remove"/>
<input type="button" value="Add new tag"/>		

You can add 49 more tags.

## 15-Attach the IGW to VPC

[VPC](#) > [Internet gateways](#) > Attach to VPC (igw-0a74fb751618f295f)

## Attach to VPC (igw-0a74fb751618f295f) [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

## 16-Click on Create Internet Gateway

[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.

**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.

17-Here I am Taking 3 Route Tables VPC-1-Public and VPC-1-Private and VPC-1-DB

**Route tables** (3) [Info](#)

Last updated 2 minutes ago

<input type="checkbox"/>	Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC	Owner ID
<input type="checkbox"/>	VPC-1-Public	<a href="#">rtb-0f6994e67522177b3</a>	-	-	No	<a href="#">vpc-061c5033df8adede6</a>   <a href="#">VPC-1</a>	637423512556
<input type="checkbox"/>	VPC-1-Private	<a href="#">rtb-03cf71102324da8ca</a>	-	-	No	<a href="#">vpc-061c5033df8adede6</a>   <a href="#">VPC-1</a>	637423512556
<input type="checkbox"/>	VPC-1-DB	<a href="#">rtb-053b32fa33173e8ae</a>	-	-	No	<a href="#">vpc-061c5033df8adede6</a>   <a href="#">VPC-1</a>	637423512556

18-Click on VPC-1-Public click on Edit subnet associations

Route tables (1/3) [info](#) Last updated 3 minutes ago [Actions](#) [Create route table](#)

[rtb-0f6994e67522177b3](#) [rtb-03cf71102324da8ca](#) [rtb-053b32fa33173e8ae](#) [Clear filters](#)

Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC	Owner ID
<input checked="" type="checkbox"/> VPC-1-Public	rtb-0f6994e67522177b3	-	-	No	vpc-061c5033df8ade66   VPC-1	637423512556
<input type="checkbox"/> VPC-1-Private	rtb-03cf71102324da8ca	-	-	No	vpc-061c5033df8ade66   VPC-1	637423512556
<input type="checkbox"/> VPC-1-DB	rtb-053b32fa33173e8ae	-	-	No	vpc-061c5033df8ade66   VPC-1	637423512556

**rtb-0f6994e67522177b3 / VPC-1-Public**

[Details](#) [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.			

**Subnets without explicit associations (6)** [Edit subnet associations](#)

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

## 19-Add your public subnets VPC-1-public-1 and VPC-1-Public-2

VPC > Route tables > [rtb-0f6994e67522177b3](#) > Edit subnet associations

**Edit subnet associations**

Change which subnets are associated with this route table.

**Available subnets (2/6)** [Filter subnet associations](#)

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
<input type="checkbox"/> VPC-1-private-2	subnet-0802b947a523fd56b	10.1.20.0/24	-	Main (rtb-029b18fab0c3d89c7)
<input checked="" type="checkbox"/> VPC-1-public-2	subnet-01b0cc78286a124a	10.1.2.0/24	-	Main (rtb-029b18fab0c3d89c7)
<input type="checkbox"/> VPC-1-DB-2	subnet-012139dc6dc732d	10.1.60.0/24	-	Main (rtb-029b18fab0c3d89c7)
<input checked="" type="checkbox"/> VPC-1-public-1	subnet-064b5b0740b1aeb3	10.1.10.0/24	-	Main (rtb-029b18fab0c3d89c7)
<input type="checkbox"/> VPC-1-private-1	subnet-0b69daa93b37b521	10.1.10.0/24	-	Main (rtb-029b18fab0c3d89c7)
<input type="checkbox"/> VPC-1-DB-1	subnet-0a0dfab2c65764ab3	10.1.50.0/24	-	Main (rtb-029b18fab0c3d89c7)

**Selected subnets**

[subnet-01b0cc78286a124a / VPC-1-public-2](#) [subnet-064b5b0740b1aeb3 / VPC-1-public-1](#)

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

## 20-Like add Remaing two tables add private into private subnets and DB into DB subnets

## 21-Select the VPC-1-Public select the click on a route to add intent gateway

Route tables (1/3) [info](#)

Last updated: less than a minute ago [Refresh](#) [Actions](#) [Create route table](#)

rtb-0f6994e67522177b3

rtb-03c771102324da8ca

rtb-053b32fa33173e8ae

Clear filters

< 1 > ⌂

	Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC	Owner ID
<input checked="" type="checkbox"/>	VPC-1-Public	rtb-0f6994e67522177b3	2 subnets	-	No	vpc-061c5033df8adede6   VPC-1	637423512556
<input type="checkbox"/>	VPC-1-Private	rtb-03c771102324da8ca	-	-	No	vpc-061c5033df8adede6   VPC-1	637423512556
<input type="checkbox"/>	VPC-1-DB	rtb-053b32fa33173e8ae	-	-	No	vpc-061c5033df8adede6   VPC-1	637423512556

rtb-0f6994e67522177b3 / VPC-1-Public

Details Routes Subnet associations Edge associations Route propagation Tags

Routes (1)

< 1 > ⌂

Destination	Target	Status	Propagated
10.1.0.0/16	local	Active	No

VPC > Route tables > rtb-0f6994e67522177b3 > Edit routes

Edit routes

Destination

10.1.0.0/16

Target

local

Internet Gateway

Status

Active

Propagated

No

Add route

Remove

Cancel

Preview

Save changes

## 21-Create Two Nat-Gateways



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-064b5b07f40b1aecb (VPC-1-public-1) ▼

**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-0c2e69fd95b3d51d4 ▼ Allocate Elastic IP

► **Additional settings** [Info](#)

### 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	
<input type="text" value="Name"/>	<input type="text" value="Private-subnets-NAT"/>	<input type="button" value="Remove"/>

CloudShell Feedback © 202

## 22-Like one more Create

✔ Elastic IP address 18.233.32.228 (eipalloc-0e0ac1cbbfd2da5ff) allocated.

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-01b0ccc78286a124a (VPC-1-public-2) ▼

**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-0e0ac1cbbfd2da5ff ▼ Allocate Elastic IP

► **Additional settings** [Info](#)

### 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	
<input type="text" value="Name"/>	<input type="text" value="DB-Subnet-NAT"/>	<input type="button" value="Remove"/>

## 23-Click on VPC-1-Private Select the Route add Nat-Gateway Private-Subnet-NAT

Route tables (1/3) [Info](#)

Last updated 3 minutes ago [Actions](#) [Create route table](#)

Find resources by attribute or tag

rtb-0f6994e67522177b3

rtb-03cf71102324da8ca

rtb-053b32fa33173e8ae

Clear filters

< 1 >

<input type="checkbox"/>	Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC	Owner ID
<input type="checkbox"/>	VPC-1-Public	rtb-0f6994e67522177b3	2 subnets	-	No	vpc-061c5033df8ade6   VPC-1	637423512556
<input checked="" type="checkbox"/>	VPC-1-Private	rtb-03cf71102324da8ca	-	-	No	vpc-061c5033df8ade6   VPC-1	637423512556
<input type="checkbox"/>	VPC-1-DB	rtb-053b32fa33173e8ae	-	-	No	vpc-061c5033df8ade6   VPC-1	637423512556

rtb-03cf71102324da8ca / VPC-1-Private

Details

Routes

Subnet associations

Edge associations

Route propagation

Tags

Routes (1)

Both Edit routes

< 1 >

Destination	Target	Status	Propagated
10.1.0.0/16	local	Active	No

VPC > Route tables > rtb-03cf71102324da8ca > Edit routes

Edit routes

Destination

10.1.0.0/16

Target

local

Status

Active

Propagated

No

Q 0.0.0.0/0

X

Q local

X

NAT Gateway

X

Q nat-058f32f1f838daa61

X

Add route

Remove

Cancel

Preview

Save changes

23-Like VPC-1-DB click on Route add DB-Subnet-NAT

**Route tables (1/3)** [Info](#)

Last updated less than a minute ago [Actions](#) [Create route table](#)

Find resources by attribute or tag

[rtb-0f6994e67522177b3](#)
[rtb-03cf71102324da8ca](#)
[rtb-053b32fa33173e8ae](#)
[Clear filters](#)

<input checked="" type="checkbox"/>	Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC	Owner ID
<input type="checkbox"/>	VPC-1-Public	<a href="#">rtb-0f6994e67522177b3</a>	2 subnets	-	No	<a href="#">vpc-061c5033df8adede6</a>   VPC-1	637423512556
<input type="checkbox"/>	VPC-1-Private	<a href="#">rtb-03cf71102324da8ca</a>	-	-	No	<a href="#">vpc-061c5033df8adede6</a>   VPC-1	637423512556
<input checked="" type="checkbox"/>	VPC-1-DB	<a href="#">rtb-053b32fa33173e8ae</a>	-	-	No	<a href="#">vpc-061c5033df8adede6</a>   VPC-1	637423512556

### rtb-053b32fa33173e8ae / VPC-1-DB

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

**Routes (1)** [Both](#) [Edit routes](#)

Filter routes

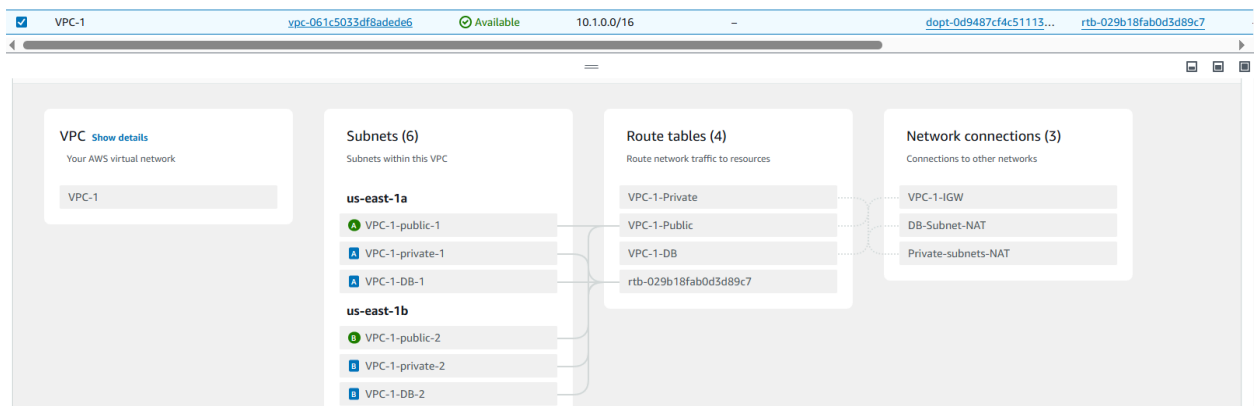
Destination	Target	Status	Propagated
10.1.0.0/16	local	Active	No

VPC > Route tables > [rtb-053b32fa33173e8ae](#) > Edit routes

### Edit routes

Destination	Target	Status	Propagated
10.1.0.0/16	local	Active	No
0.0.0.0/0	NAT Gateway	-	No

Now you can see the Full VPC Diagram





If you want Public IP whenever you want to launch the server you can select the subnets and do this

VPC > Subnets > subnet-01b0ccc78286a124a > Edit subnet settings

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

**Subnet**

Subnet ID	Name
 subnet-01b0ccc78286a124a	 VPC-1-public-2

**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**

Enable DNS64 to allow IPv6-only services in Amazon VPC to communicate with IPv4-only services and networks.

☐ **Enable DNS64** [Info](#)

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