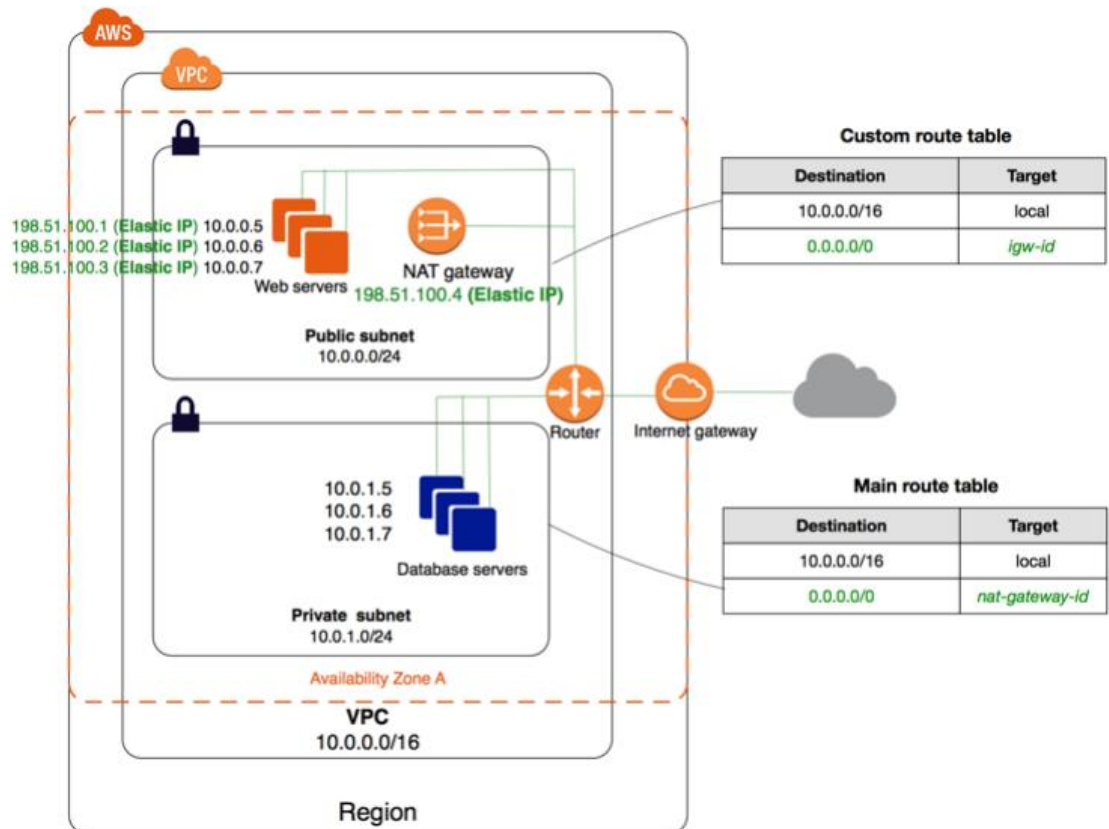


VPC with public and private subnets (NAT)



1st Step

Create vpc

[VPCs](#) > Create VPC

Create VPC

A VPC is an isolated portion of the AWS cloud populated by AWS objects, such as Amazon EC2 instances. You must specify an IPv4 address range for your VPC. Specify the IPv4 address range as a Classless Inter-Domain Routing (CIDR) block; for example, 10.0.0.0/16. You cannot specify an IPv4 CIDR block larger than /16. You can optionally associate an IPv6 CIDR block with the VPC.

Name tag ⓘ

IPv4 CIDR block* ⓘ

IPv6 CIDR block ☒ No IPv6 CIDR Block ⓘ
☐ Amazon provided IPv6 CIDR block
☐ IPv6 CIDR owned by me

Tenancy ⓘ

* Required

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

2nd step

How to two subnet

1. Public subnet
2. Private subnet

How to create Public subnet

[Subnets](#) > Create subnet

Create subnet

Specify your subnet's IP address block in CIDR format; for example, 10.0.0.0/24. IPv4 block sizes must be between a /16 netmask and /28 netmask, and can be the same size as your VPC. An IPv6 CIDR block must be a /64 CIDR block.

Name tag ⓘ

VPC* ⓘ

Availability Zone ⓘ

VPC CIDRs	CIDR	Status	Status Reason
	10.0.0.0/16	associated	

IPv4 CIDR block* ⓘ

* Required

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

How to create private subnet

[Subnets](#) > Create subnet

Create subnet

Specify your subnet's IP address block in CIDR format; for example, 10.0.0.0/24. IPv4 block sizes must be between a /16 netmask and /28 netmask, and can be the same size as your VPC. An IPv6 CIDR block must be a /64 CIDR block.

Name tag ⓘ

VPC* ⓘ

Availability Zone ⓘ

VPC CIDRs	CIDR	Status	Status Reason
	10.0.0.0/16	associated	

IPv4 CIDR block* ⓘ

* Required

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

3rd step

How to create Internet Gateway

[Internet gateways](#) > Create internet gateway

Create internet gateway

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.

Name tag ⓘ

* Required

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

How to attach Internet Gateway

[Create internet gateway](#) [Actions](#) ↻ ⚙ ?

⏪ < 1 to 2 of 2 > ⏩

<input type="checkbox"/>	Name	ID	Status	VPC	Owner
<input checked="" type="checkbox"/>	IGW-VPC1	igw-b0d0ce0za10ea...	detached	-	288900961078
<input type="checkbox"/>		igw-76a73c0d	attached	vpc-f3c7f389	288900961078

Delete internet gateway

Attach to VPC

Detach from VPC

Add/Edit Tags

How to attach VPC

[Internet gateways](#) > Attach to VPC

Attach to VPC

Attach an internet gateway to a VPC to enable communication with the internet. Specify the VPC you would like to attach below.

VPC* ⓘ

▶ [AWS Command Line Interface command](#)

* Required

[Cancel](#) [Attach](#)

4th step

How to create two custom route table

1. Public –route
2. Private-route

How to create public route

[Route Tables](#) > Create route table

Create route table

A route table specifies how packets are forwarded between the subnets within your VPC, the internet, and your VPN connection.

Name tag ⓘ

VPC* ↕ ⓘ

* Required

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

How to create private route

[Route Tables](#) > Create route table

Create route table

A route table specifies how packets are forwarded between the subnets within your VPC, the internet, and your VPN connection.

Name tag ⓘ

VPC* ↕ ⓘ

* Required

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

5th step

How to edit subnet associations

How to click public-route

Create route tableActions

Filter by tags and attributes or search by keyword

1 to 4 of 4

	Name	Route Table ID	Explicit subnet association	Edge associations	Main	VPC ID	Owner
<input type="checkbox"/>		rtb-045eed7a	-	-	Yes	vpc-f3c7f389	288900961078
<input checked="" type="checkbox"/>	PUBLIC-R...	rtb-067425255b25ea8d2	-	-	No	vpc-0a1e8af9c7e81c3ce ...	288900961078
<input type="checkbox"/>		rtb-075a398cd83d65a96	-	-	Yes	vpc-0a1e8af9c7e81c3ce ...	288900961078
<input type="checkbox"/>	PRIVATE-R...	rtb-0c05b2b08c0ff0c67	-	-	No	vpc-0a1e8af9c7e81c3ce ...	288900961078

Route Table: rtb-067425255b25ea8d2

SummaryRoutesSubnet AssociationsEdge AssociationsRoute PropagationTags

Edit subnet associations

None found

Subnet ID	IPv4 CIDR	IPv6 CIDR
-----------	-----------	-----------

How to select public-subnet

Route Tables > Edit subnet associations

Edit subnet associations

Route table rtb-067425255b25ea8d2 (PUBLIC-ROUTE)

Associated subnets subnet-0b89e918b38aacea8

Filter by attributes or search by keyword

1 to 2 of 2

	Subnet ID	IPv4 CIDR	IPv6 CIDR	Current Route Table
<input type="checkbox"/>	subnet-012ec3aa8926b7d5f PRIVATE-...	10.0.1.0/24	-	Main
<input checked="" type="checkbox"/>	subnet-0b89e918b38aacea8 PUBLIC-...	10.0.0.0/24	-	Main

* Required

CancelSave

How to click routes

Create route table

Actions

Filter by tags and attributes or search by keyword

< 1 to 4 of 4 >

	Name	Route Table ID	Explicit subnet association	Edge associations	Main	VPC ID	Owner
<input type="checkbox"/>		rtb-045eed7a	-	-	Yes	vpc-f3c7f389	288900961078
<input checked="" type="checkbox"/>	PUBLIC-R...	rtb-067425255b25ea8d2	subnet-0b89e918b38aacea8	-	No	vpc-0a1e8af9c7e81c3ce ...	288900961078
<input type="checkbox"/>		rtb-075a398cd83d65a96	-	-	Yes	vpc-0a1e8af9c7e81c3ce ...	288900961078
<input type="checkbox"/>	PRIVATE-R...	rtb-0c05b2b08c0ff0c67	-	-	No	vpc-0a1e8af9c7e81c3ce ...	288900961078

Route Table: rtb-067425255b25ea8d2

SummaryRoutesSubnet AssociationsEdge AssociationsRoute PropagationTags

Edit routes

ViewAll routes

Destination	Target	Status	Propagated
10.0.0.0/16	local	active	No

How to click edit routes

Route Tables > Edit routes

Edit routes

Destination	Target	Status	Propagated
10.0.0.0/16	local	active	No
0.0.0.0/0	igw-08d5eb2af66a8da93		No

Add route

* Required

CancelSave routes

How to click private route

Create route tableActions

Filter by tags and attributes or search by keyword

<>1 to 4 of 4>

	Name	Route Table ID	Explicit subnet association	Edge associations	Main	VPC ID	Owner
<input type="checkbox"/>		rtb-045eed7a	-	-	Yes	vpc-f3c7f389	288900961078
<input type="checkbox"/>	PUBLIC-R...	rtb-067425255b25ea8d2	subnet-0b89e918b38aacea8	-	No	vpc-0a1e8af9c7e81c3ce ...	288900961078
<input type="checkbox"/>		rtb-075a398cd83d65a96	-	-	Yes	vpc-0a1e8af9c7e81c3ce ...	288900961078
<input checked="" type="checkbox"/>	PRIVATE-R...	rtb-0c05b2b08c0ff0c67	-	-	No	vpc-0a1e8af9c7e81c3ce ...	288900961078

Route Table: rtb-0c05b2b08c0ff0c67

Summary

Routes

Subnet Associations

Edge Associations

Route Propagation

Tags

Edit subnet associations

<>None found>

Subnet ID	IPv4 CIDR	IPv6 CIDR
-----------	-----------	-----------

How to select private subnet

Route Tables > Edit subnet associations

Edit subnet associations

Route table rtb-0c05b2b08c0ff0c67 (PRIVATE-ROUTE)

Associated subnets subnet-012ec3aa8926b7d5f

Filter by attributes or search by keyword

<>1 to 2 of 2>

	Subnet ID	IPv4 CIDR	IPv6 CIDR	Current Route Table
<input checked="" type="checkbox"/>	subnet-012ec3aa8926b7d5f PRIVATE-...	10.0.1.0/24	-	Main
<input type="checkbox"/>	subnet-0b89e918b38aacea8 PUBLIC-...	10.0.0.0/24	-	rtb-067425255b25ea8d2

* Required

CancelSave

How to create two instance

1st instance

1. Choose AMI2. Choose Instance Type3. Configure Instance4. Add Storage5. Add Tags6. Configure Security Group7. Review

Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances1Launch into Auto Scaling Group

Purchasing optionRequest Spot instances

Networkvpc-0a1e8af9c7e81c3ce | VPC-1Create new VPC

Subnetsubnet-012ec3aa8926b7d5f | PRIVATE-SUBNET | u251 IP Addresses availableCreate new subnet

Auto-assign Public IPUse subnet setting (Disable)

Placement groupAdd instance to placement group

Capacity ReservationOpenCreate new Capacity Reservation

IAM roleNoneCreate new IAM role

Shutdown behaviorStop

Stop - Hibernate behaviorEnable hibernation as an additional stop behavior

Enable termination protectionProtect against accidental termination

MonitoringEnable CloudWatch detailed monitoring

CancelPreviousReview and LaunchNext: Add Storage

How to create security group

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group:Create a new security groupSelect an existing security group

Security group namePRIVATE-SG

Descriptionlaunch-wizard-4 created 2020-05-16T21:34:16.559+05:30

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Anywhere0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop
All ICMP - IPv	ICMP	0 - 65535	Anywhere0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop
HTTP	TCP	80	Anywhere0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop

Add Rule

Warning

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

2nd instance

1. Choose AMI2. Choose Instance Type3. Configure Instance4. Add Storage5. Add Tags6. Configure Security Group7. Review

Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances ⓘ

1

Launch into Auto Scaling Group ⓘ

Purchasing option ⓘ

☐ Request Spot instances

Network ⓘ

vpc-0a1e8af9c7e81c3ce | VPC-1

Create new VPC

Subnet ⓘ

subnet-0b89e918b38aacea8 | PUBLIC-SUBNET | us ⓘ

Create new subnet

Auto-assign Public IP ⓘ

Enable

Placement group ⓘ

☐ Add Instance to placement group

Capacity Reservation ⓘ

Open

Create new Capacity Reservation

IAM role ⓘ

None

Create new IAM role

Shutdown behavior ⓘ

Stop

Stop - Hibernate behavior ⓘ

☐ Enable hibernation as an additional stop behavior

Enable termination protection ⓘ

☐ Protect against accidental termination

Monitoring ⓘ

☐ Enable CloudWatch detailed monitoring

Additional changes only

CancelPreviousReview and LaunchNext: Add Storage

How to create security group

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: ⓘ

☒ Create a new security group

☐ Select an existing security group

Security group name: PUBLIC-SG

Description: launch-wizard-4 created 2020-05-16T21:38:27.286+05:30

Type ⓘ	Protocol ⓘ	Port Range ⓘ	Source ⓘ	Description ⓘ	
SSH	TCP	22	Anywhere 0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop	✕
All ICMP - IPv	ICMP	0 - 65535	Anywhere 0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop	✕
HTTP	TCP	80	Anywhere 0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop	✕

Add Rule

Launch Instance Connect Actions

Filter by tags and attributes or search by keyword

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public IP	IPv6 IPs
DB-SERVER	i-04de5c249a4e27f21	t2.micro	us-east-1f	running	2/2 checks ...	None		-	-
WEB-SERVER	i-0feca1b757bf6c003	t2.micro	us-east-1f	pending	Initializing	None		3.234.253.208	-

Instance: i-0feca1b757bf6c003 (WEB-SERVER) Public IP: 3.234.253.208

Description Status Checks Monitoring Tags

Instance ID	i-0feca1b757bf6c003	Public DNS (IPv4)	-
Instance state	pending	IPv4 Public IP	3.234.253.208
Instance type	t2.micro	IPv6 IPs	-
Finding	Opt-in to AWS Compute Optimizer for recommendations. Learn more	Elastic IPs	-
Private DNS	ip-10-0-0-47.ec2.internal	Availability zone	us-east-1f
Private IPs	10.0.0.47	Security groups	PUBLIC-SG , view inbound rules , view outbound rules
Secondary private IPs	-	Scheduled events	-
VPC ID	vpc-0a1e8af9c7e81c3ce (VPC-1)	AMI ID	amzn2-ami-hvm-2.0.20200406.0-x86_64-gp2 (ami-0323c3dd2da7fb37d)
Subnet ID	subnet-0b89e918b38aacea8 (PUBLIC-SUBNET)	Platform details	Linux/UNIX

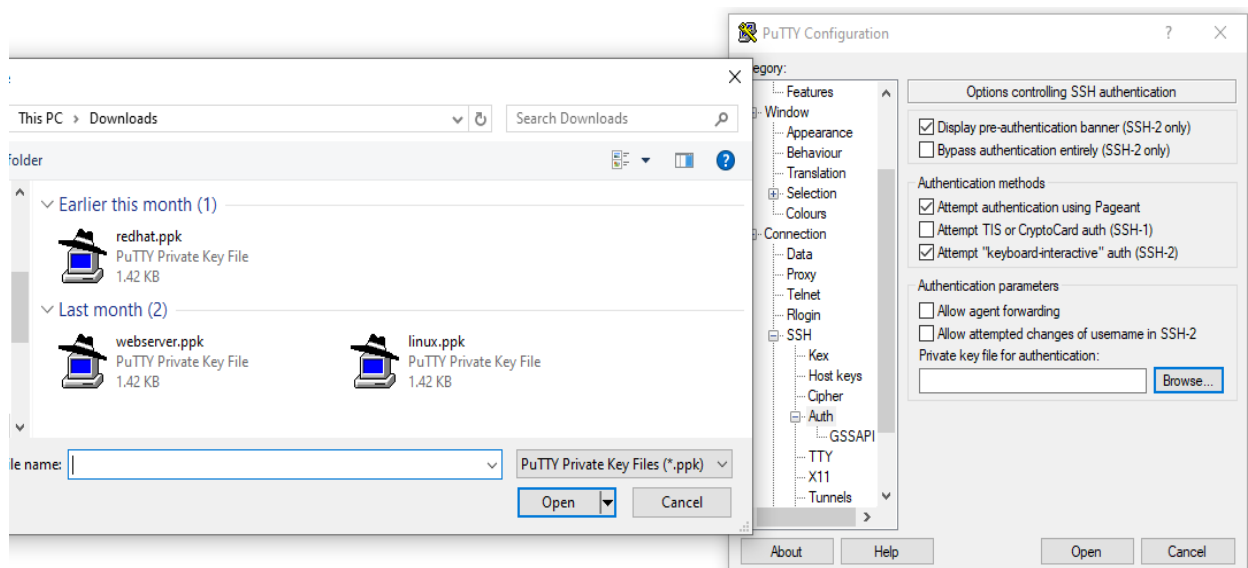
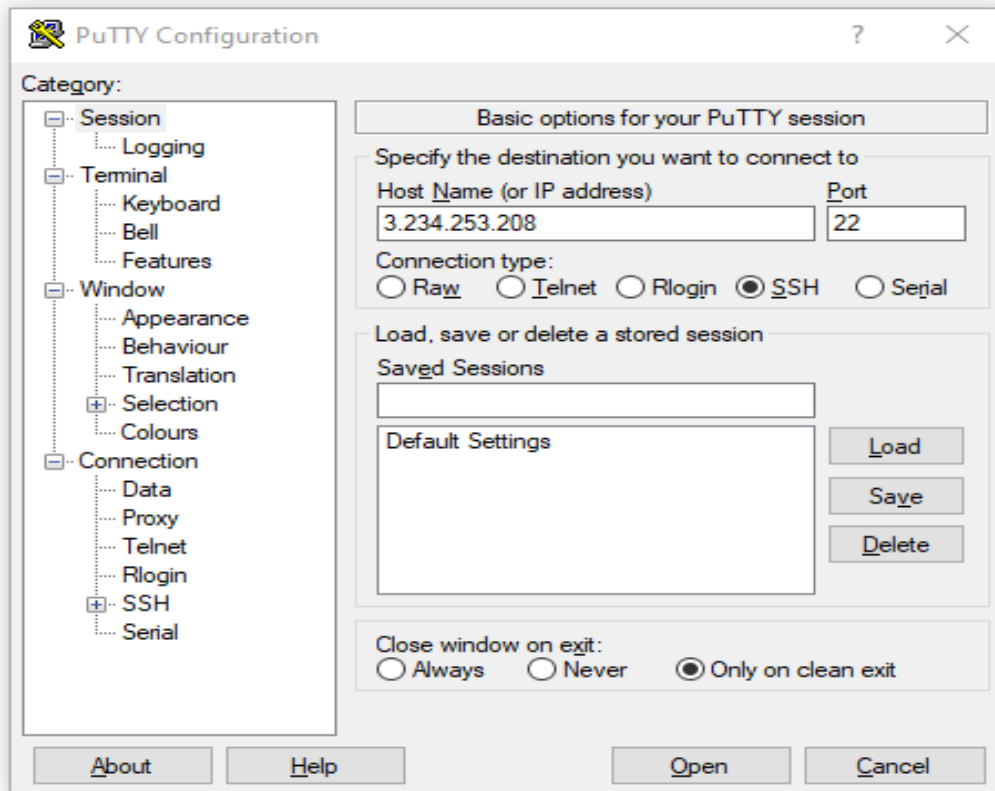
How to open cmd

How to ping web server

Cmd > ping 3.234.253.208

How to open putty

How to access web server instance



How to login name

Username :- ec2-user

\$ ping www.google.com

How to ping db-server instance

\$ ping 10.0.1.245

How to ssh db-server

```
$ vi dbserver.pem
```

```
$ chmod 600 dbserver.pem
```

```
$ ssh ec2-user@10.0.0.1.245 -i dbserver.pem
```

```
$ ping www.google.com (not ping google.com )
```

6th step

How to create NAT Gateway

[NAT Gateways](#) > Create NAT Gateway

Create NAT Gateway

Create a NAT gateway and assign it an Elastic IP address. [Learn more.](#)

Subnet* subnet-0b89e918b38aacea8

Elastic IP Allocation ID* eipalloc-0efdec54d1dce76f5

Elastic IP address (34.205.104.250) allocated.

Key (128 characters maximum)

Value (256 characters maximum)

This resource currently has no tags

Add Tag 50 remaining (Up to 50 tags maximum)

* Required

Cancel

Create a NAT Gateway

Create NAT Gateway Actions

Filter by tags and attributes or search by keyword

1 to 1 of 1

	Name	NAT Gateway ID	Status	Status Message	Elastic IP Address	Private IP Address	Network Interface	VPC	Subnet
	INTERNET...	nat-0f26b8a1da21...	available	-	34.205.104.250	10.0.0.42	eni-0e8a67597f6...	vpc-0a1e8af9c7e...	subnet-0b89e918...

Go to route table

Create route table Actions

Filter by tags and attributes or search by keyword 1 to 4 of 4

	Name	Route Table ID	Explicit subnet association	Edge associations	Main	VPC ID	Owner
<input type="checkbox"/>		rtb-045eed7a	-	-	Yes	vpc-f3c7f389	288900961078
<input type="checkbox"/>	PUBLIC-R...	rtb-067425255b25ea8d2	subnet-0b89e918b38aacea8	-	No	vpc-0a1e8af9c7e81c3ce ...	288900961078
<input type="checkbox"/>		rtb-075a398cd83d65a96	-	-	Yes	vpc-0a1e8af9c7e81c3ce ...	288900961078
<input checked="" type="checkbox"/>	PRIVATE-R...	rtb-0c05b2b08c0ff0c67	subnet-012ec3aa8926b7d5f	-	No	vpc-0a1e8af9c7e81c3ce ...	288900961078

Route Table: rtb-0c05b2b08c0ff0c67

Summary Routes Subnet Associations Edge Associations Route Propagation Tags

Edit routes

View All routes

Destination	Target	Status	Propagated
10.0.0.0/16	local	active	No

Edit routes select the target NAT GATEWAY

Route Tables > Edit routes

Edit routes

Destination	Target	Status	Propagated
10.0.0.0/16	local	active	No
0.0.0.0/0	nat-0f26b8a1da21e10ca		No

Add route

* Required Cancel Save routes

How to access db-server

\$ ssh [ec2-user@10.0.0.1.245](#) -i dbserver.pem

\$ ping [www.google.com](#)

