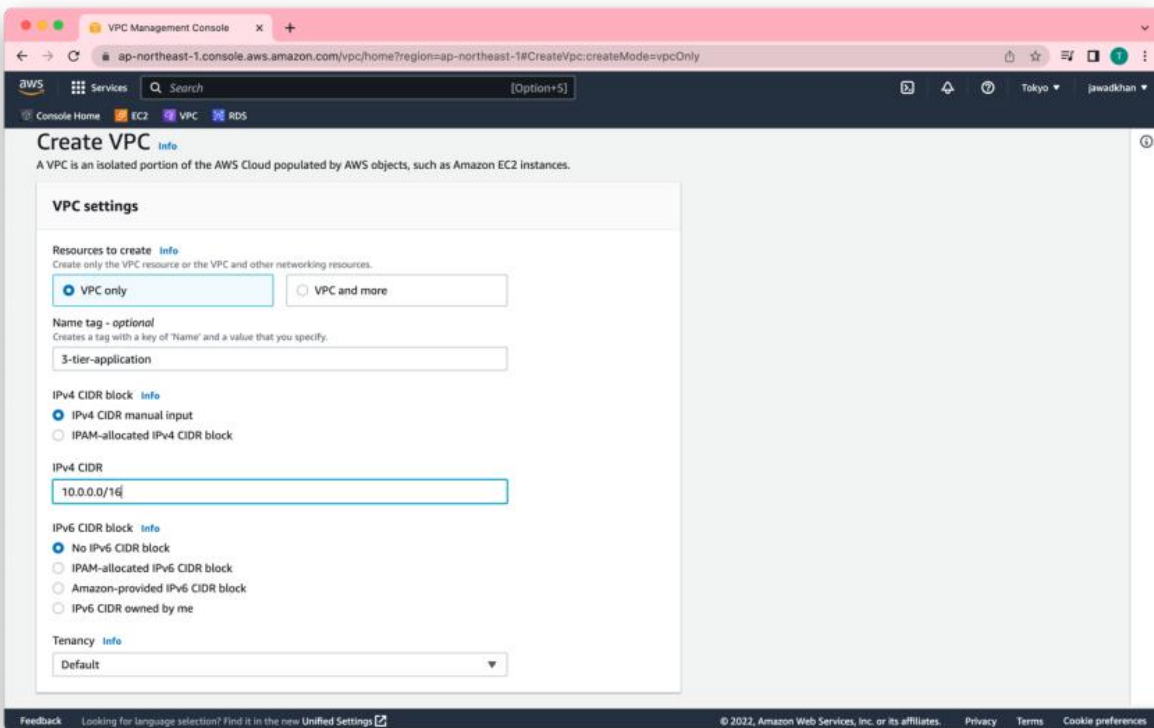


## 3Tier App on AWS

Command to move Private key Over cloud:

scp -i CloudProject.pem complete-path-till-file [ubuntu@machinepublic-ip:/home/ubuntu/](mailto:ubuntu@machinepublic-ip:/home/ubuntu/)

## Create a virtual private cloud



The screenshot shows the AWS VPC Management Console 'Create VPC' page. The page title is 'Create VPC' with an 'Info' link. Below the title is a description: 'A VPC is an isolated portion of the AWS Cloud populated by AWS objects, such as Amazon EC2 instances.' The 'VPC settings' section contains the following fields:

- Resources to create:** Two radio buttons are present: 'VPC only' (selected) and 'VPC and more'.
- Name tag - optional:** A text input field with the value '3-tier-application'.
- IPv4 CIDR block:** Two radio buttons are present: 'IPv4 CIDR manual input' (selected) and 'IPAM-allocated IPv4 CIDR block'.
- IPv4 CIDR:** A text input field with the value '10.0.0.0/16'.
- IPv6 CIDR block:** Four radio buttons are present: 'No IPv6 CIDR block' (selected), 'IPAM-allocated IPv6 CIDR block', 'Amazon-provided IPv6 CIDR block', and 'IPv6 CIDR owned by me'.
- Tenancy:** A dropdown menu with the value 'Default'.

The footer of the console shows 'Feedback', a link to 'Looking for language selection? Find it in the new Unified Settings', and copyright information: '© 2022, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences'.

## Create the subnets (2 Public, 4 Private)

VPC Management Console

ap-northeast-1.console.aws.amazon.com/vpc/home?region=ap-northeast-1#CreateSubnet:

ServicesSearch[Option+5]

Console HomeEC2VPCRDS

VPCSubnetsCreate subnet

1

Create subnetinfo

VPC

VPC ID  
Create subnets in this VPC.  
vpc-03caeb8bfcc18775e (3-tier-application)

Associated VPC CIDRs  
IPv4 CIDRs  
10.0.0.0/16

Subnet settings

Specify the CIDR blocks and Availability Zone for the subnet.

Subnet 1 of 6

Subnet name  
Create a tag with a key of 'Name' and a value that you specify.  
web-tier-subnet-1  
The name can be up to 256 characters long.

Availability Zoneinfo  
Choose the zone in which your subnet will reside, or let Amazon choose one for you.  
Asia Pacific (Tokyo) / ap-northeast-1a

FeedbackLooking for language selection? Find it in the new Unified Settings

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VPC Management Console

ap-northeast-1.console.aws.amazon.com/vpc/home?region=ap-northeast-1#CreateSubnet:

ServicesSearch[Option+5]

Console HomeEC2VPCRDS

Subnet settings

Specify the CIDR blocks and Availability Zone for the subnet.

Subnet 1 of 6

Subnet name  
Create a tag with a key of 'Name' and a value that you specify.  
web-tier-subnet-1  
The name can be up to 256 characters long.

Availability Zoneinfo  
Choose the zone in which your subnet will reside, or let Amazon choose one for you.  
Asia Pacific (Tokyo) / ap-northeast-1a

IPv4 CIDR blockinfo  
10.0.1.0/24

Tags - optional

Key	Value - optional	
Name	web-tier-subnet-1	Remove

Add new tag  
You can add 49 more tags.

Remove

Subnet 2 of 6

Subnet name

FeedbackLooking for language selection? Find it in the new Unified Settings

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VPC Management Console

ap-northeast-1.console.aws.amazon.com/vpc/home?region=ap-northeast-1#CreateSubnet:

ServicesSearch[Option+5]

Console HomeEC2VPCRDS

TokyoJawadkhan

Subnet 2 of 6

Subnet name

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

web-tier-subnet-2

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 (Tokyo) / ap-northeast-1c

IPv4 CIDR block

Info

10.0.2.0/24

Tags - optional

Key

Value - optional

Remove

Name

web-tier-subnet-2

Remove

Add new tag

You can add 49 more tags.

Remove

Subnet 3 of 6

Subnet name

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

app-tier-subnet-1

The name can be up to 256 characters long.

Feedback

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VPC Management Console

ap-northeast-1.console.aws.amazon.com/vpc/home?region=ap-northeast-1#CreateSubnet:

ServicesSearch[Option+5]

Console HomeEC2VPCRDS

TokyoJawadkhan

Subnet 3 of 6

Subnet name

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

app-tier-subnet-1

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 (Tokyo) / ap-northeast-1a

IPv4 CIDR block

Info

10.0.3.0/24

Tags - optional

Key

Value - optional

Remove

Name

app-tier-subnet-1

Remove

Add new tag

You can add 49 more tags.

Remove

Subnet 4 of 6

Subnet name

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

app-tier-subnet-2

The name can be up to 256 characters long.

Feedback

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VP Management Console

ap-northeast-1.console.aws.amazon.com/vpc/home?region=ap-northeast-1#CreateSubnet:

ServicesSearch[Option+5]

Console HomeEC2VPCRDS

TokyoJawadkhan

Subnet 4 of 6

Subnet name

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

app-tier-subnet-2

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 (Tokyo) / ap-northeast-1c

IPv4 CIDR block

Info

10.0.4.0/24

Tags - optional

Key

Value - optional

Remove

Name

app-tier-subnet-2

Remove

Add new tag

You can add 49 more tags.

Remove

Subnet 5 of 6

Subnet name

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

db-tier-subnet-1

The name can be up to 256 characters long.

Feedback

Looking for language selection? Find it in the new Unified Settings

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VP Management Console

ap-northeast-1.console.aws.amazon.com/vpc/home?region=ap-northeast-1#CreateSubnet:

ServicesSearch[Option+5]

Console HomeEC2VPCRDS

TokyoJawadkhan

Subnet 5 of 6

Subnet name

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

db-tier-subnet-1

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 (Tokyo) / ap-northeast-1a

IPv4 CIDR block

Info

10.0.5.0/24

Tags - optional

Key

Value - optional

Remove

Name

db-tier-subnet-1

Remove

Add new tag

You can add 49 more tags.

Remove

Subnet 6 of 6

Subnet name

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

db-tier-subnet-2

The name can be up to 256 characters long.

Feedback

Looking for language selection? Find it in the new Unified Settings

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VPC Management Console

ap-northeast-1.console.aws.amazon.com/vpc/home?region=ap-northeast-1#CreateSubnet:

Subnet 6 of 6

Subnet name

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

db-tier-subnet-2

The name can be up to 256 characters long.

Availability Zone

Choose the zone in which your subnet will reside, or let Amazon choose one for you.

Asia Pacific (Tokyo) / ap-northeast-1c

IPv4 CIDR block

10.0.6.0/24

Tags - optional

Key

Name

Value - optional

db-tier-subnet-2

Remove

Add new tag

You can add 49 more tags.

Remove

Add new subnet

Cancel Create subnet

Feedback Looking for language selection? Find it in the new Unified Settings

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VPC Management Console

ap-northeast-1.console.aws.amazon.com/vpc/home?region=ap-northeast-1#subnets:VpcId=vpc-03caeb8bfcc18775e;sort=desc:tag:Name

VPC dashboard

EC2 Global View

Filter by VPC:

Select a 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 (6)

Filter subnets

VPC: vpc-03caeb8bfcc18775e

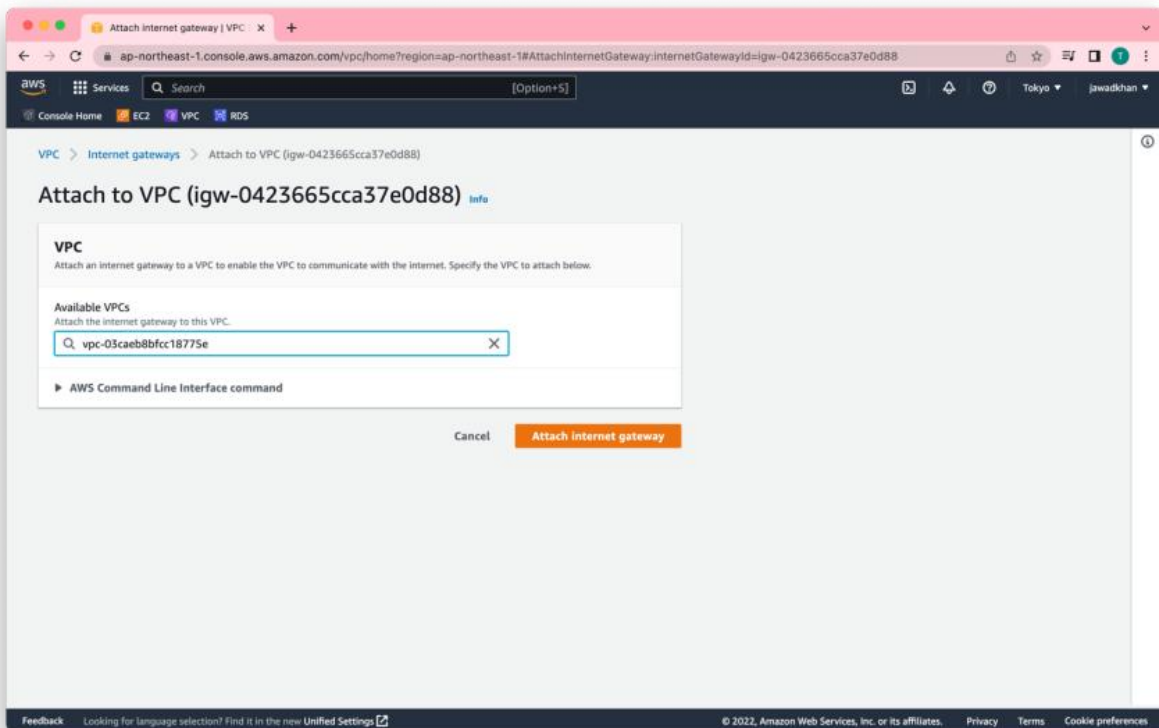
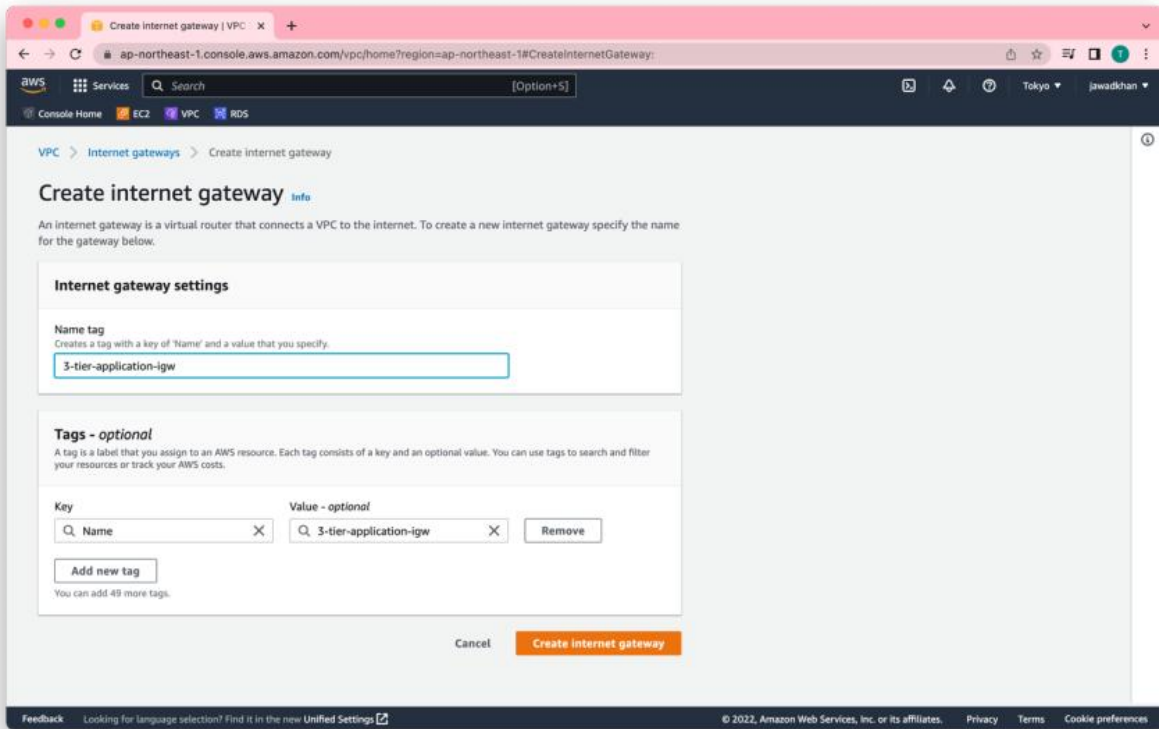
Clear filters

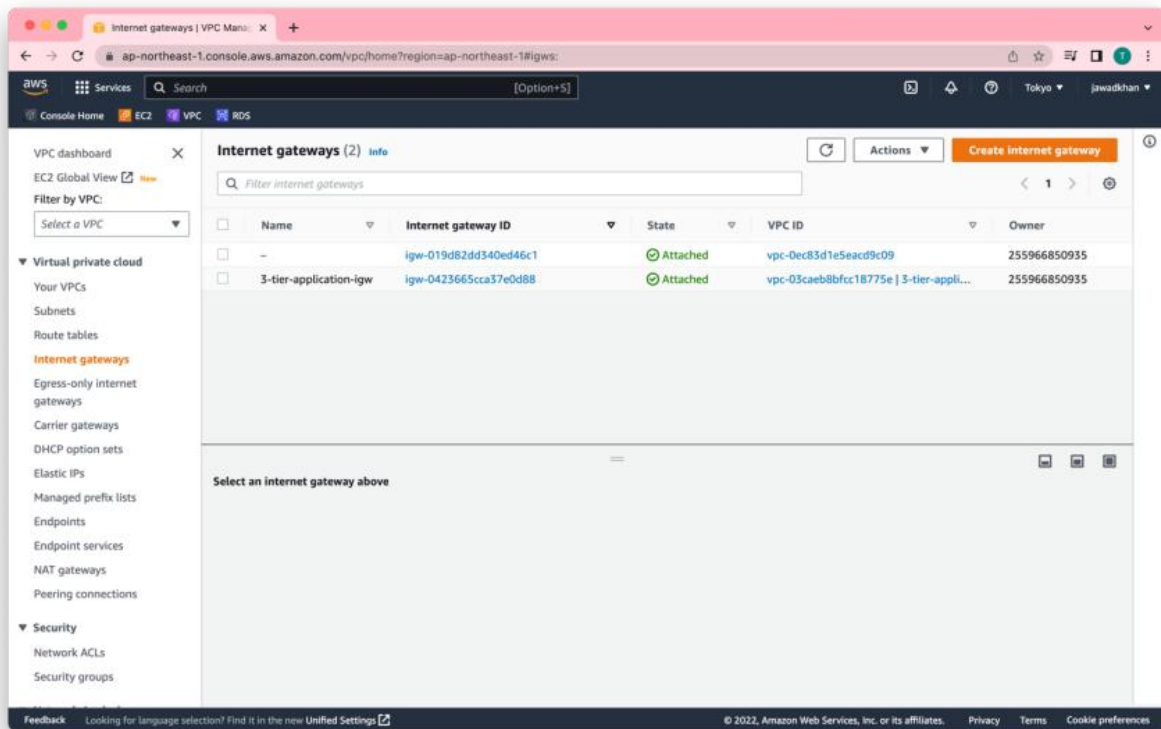
	Name	Subnet ID	State	VPC	IPv4 CIDR	IPv6
<input type="checkbox"/>	web-tier-subnet-2	subnet-0c5c9be411840a8a8	Available	vpc-03caeb8bfcc18775e   3-ti...	10.0.2.0/24	-
<input type="checkbox"/>	web-tier-subnet-1	subnet-0474a472bba2a9c3	Available	vpc-03caeb8bfcc18775e   3-ti...	10.0.1.0/24	-
<input type="checkbox"/>	db-tier-subnet-2	subnet-0fd46b5e2ff3a0c95	Available	vpc-03caeb8bfcc18775e   3-ti...	10.0.6.0/24	-
<input type="checkbox"/>	db-tier-subnet-1	subnet-05e9131da23afc988	Available	vpc-03caeb8bfcc18775e   3-ti...	10.0.5.0/24	-
<input type="checkbox"/>	app-tier-subnet-2	subnet-023e8ed0b60582ea5	Available	vpc-03caeb8bfcc18775e   3-ti...	10.0.4.0/24	-
<input type="checkbox"/>	app-tier-subnet-1	subnet-004f47493a5458983	Available	vpc-03caeb8bfcc18775e   3-ti...	10.0.3.0/24	-

Feedback Looking for language selection? Find it in the new Unified Settings

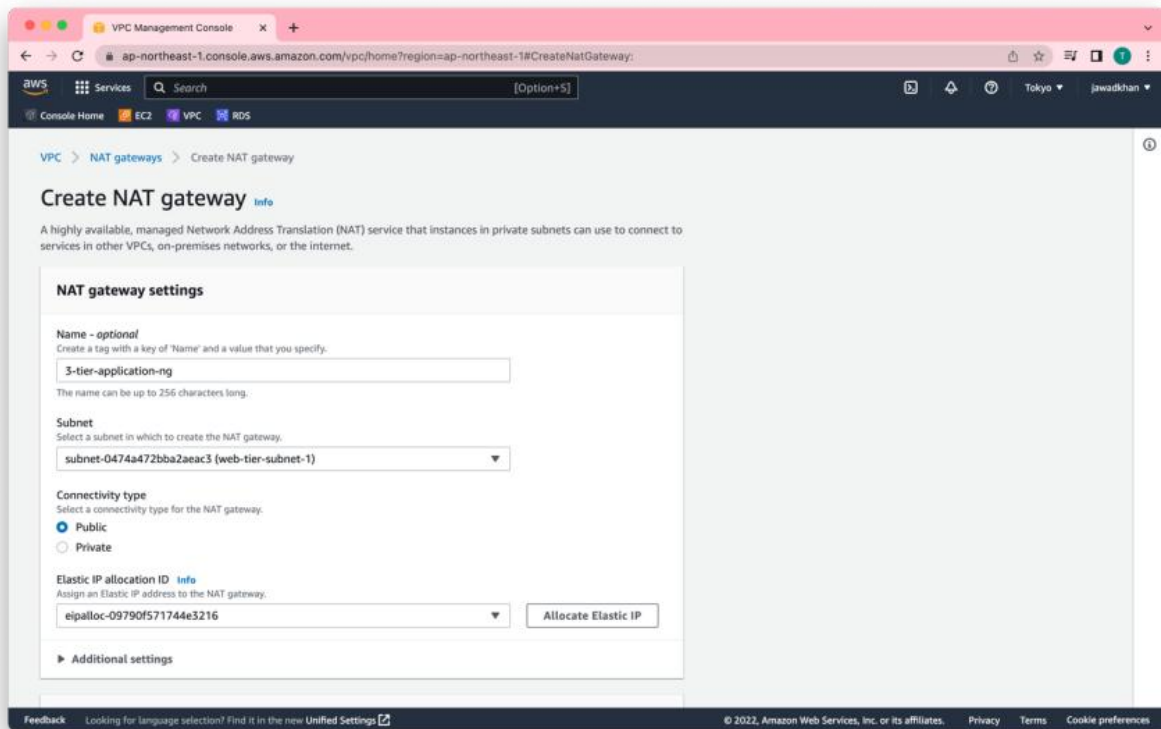
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Create an internet gateway





## Create a NAT gateway



## Create route tables



VPC Management Console

ap-northeast-1.console.aws.amazon.com/vpc/home?region=ap-northeast-1#CreateRouteTable

ServicesSearch[Option+5]

Console HomeEC2VPCRDS

TokyoJawadkhan

## 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-03caeb8bfcc18775e (3-tier-application)

**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

Remove

Add new tag

You can add 49 more tags.

CancelCreate route table

FeedbackLooking for language selection? Find it in the new Unified Settings.© 2022, Amazon Web Services, Inc. or its affiliates. PrivacyTermsCookie preferences

VPC Management Console

ap-northeast-1.console.aws.amazon.com/vpc/home?region=ap-northeast-1#CreateRouteTable

ServicesSearch[Option+5]

Console HomeEC2VPCRDS

TokyoJawadkhan

## 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-03caeb8bfcc18775e (3-tier-application)

**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

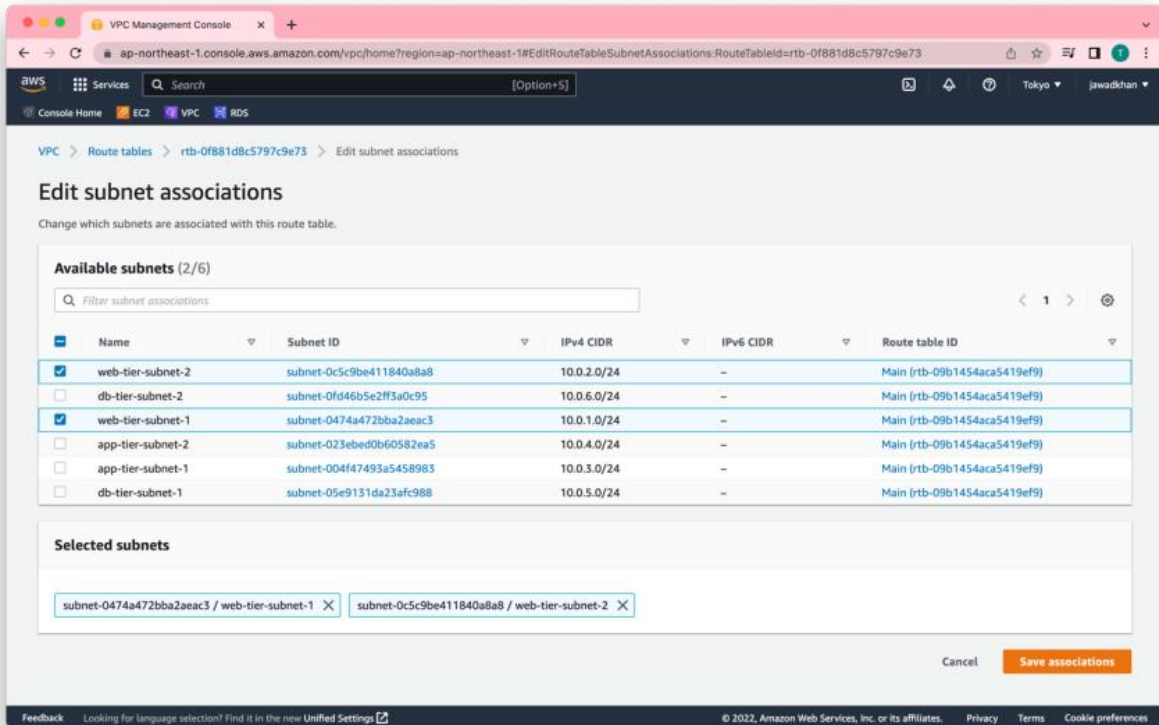
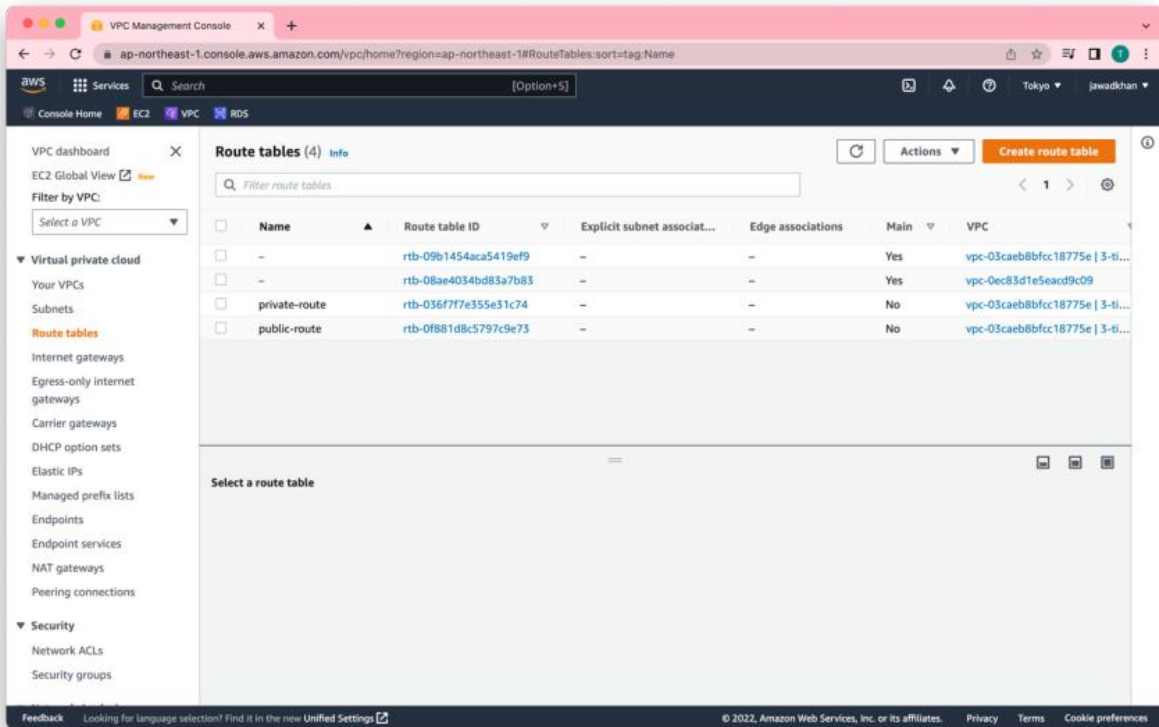
Remove

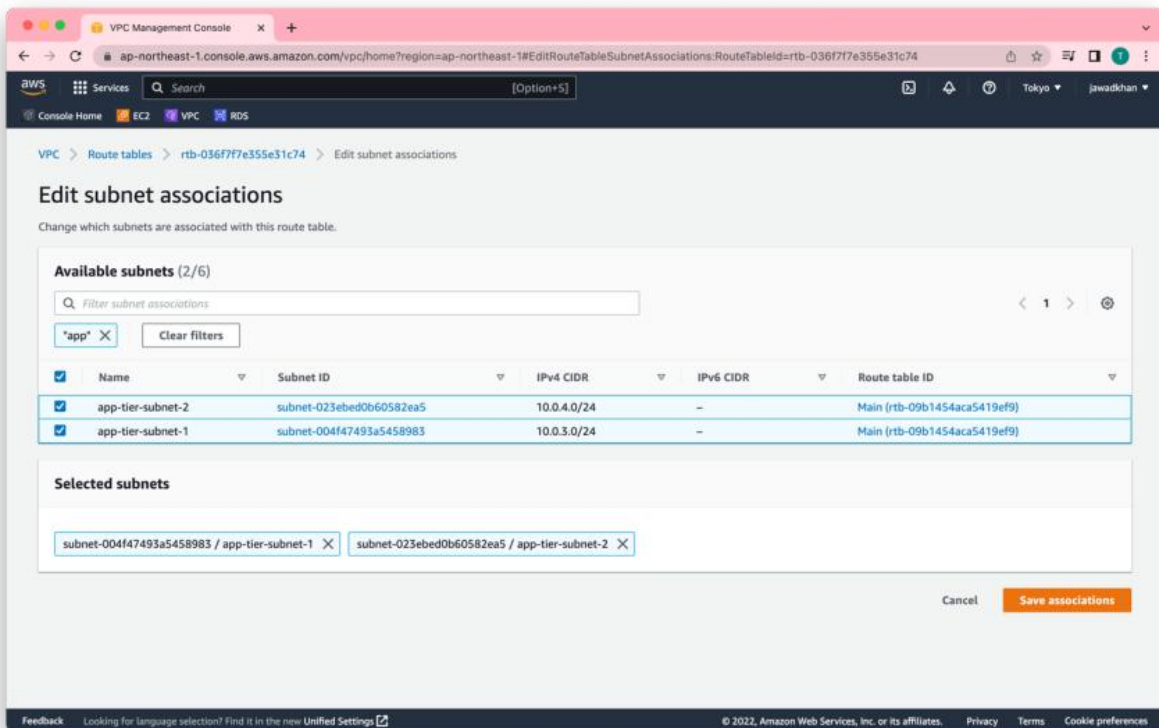
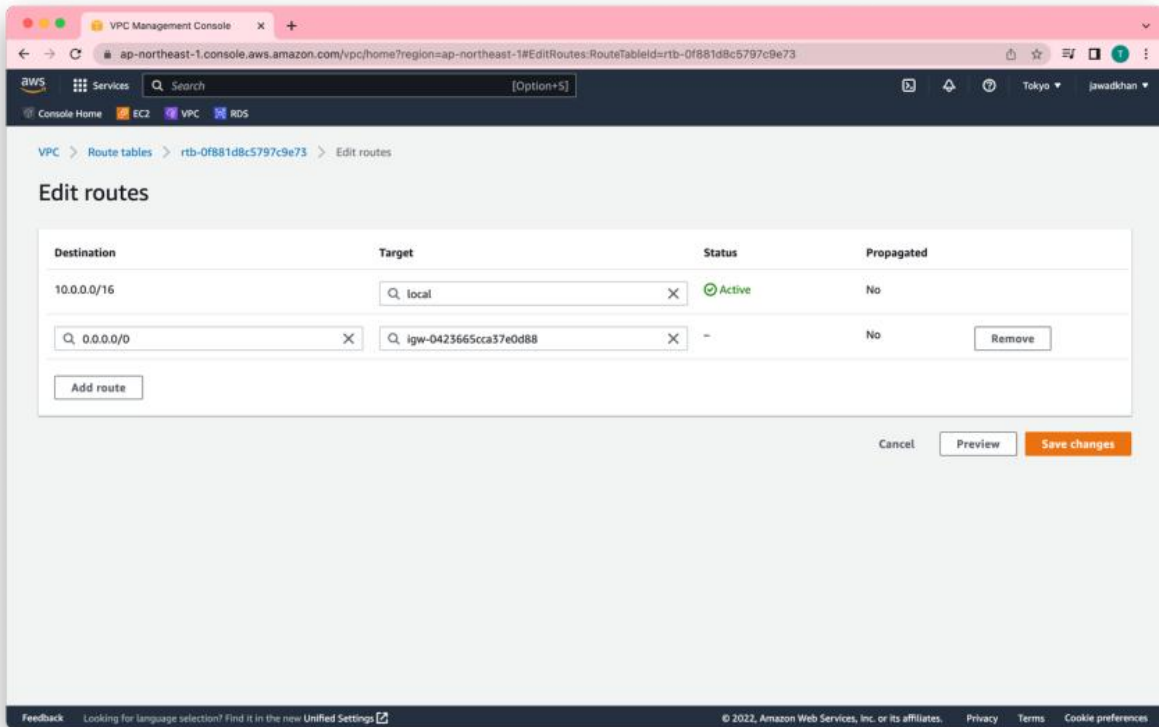
Add new tag

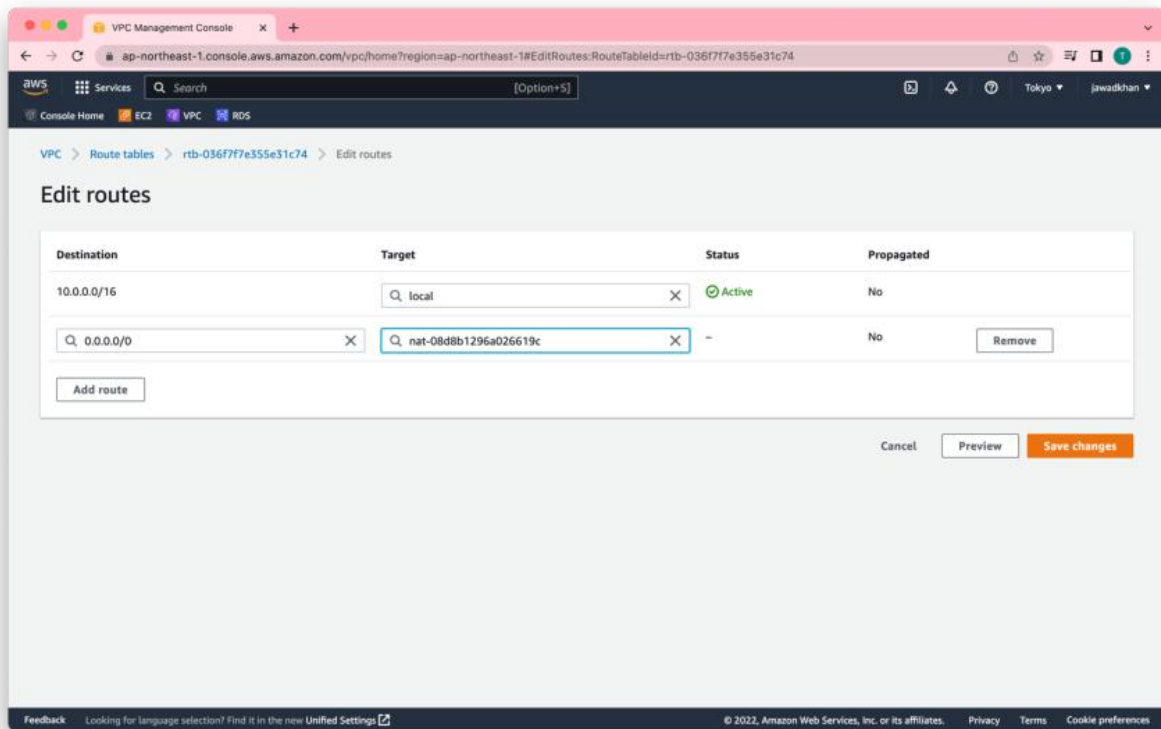
You can add 49 more tags.

CancelCreate route table

FeedbackLooking for language selection? Find it in the new Unified Settings.© 2022, Amazon Web Services, Inc. or its affiliates. PrivacyTermsCookie preferences







**Launch an EC2 instances**



Launch an instance | EC2 Man... X

ap-northeast-1.console.aws.amazon.com/ec2/home?region=ap-northeast-1#LaunchInstances:

Services Search [Option+S]

Console Home EC2 VPC RDS Tokyo Jawadkhan

Security group name - required

web-sg

This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and \_./[!@#%&\*~`+&()-]{3}

Description - required Info

Allows SSH and HTTP access

Inbound security groups rules

Security group rule 1 (TCP, 22, 0.0.0.0/0)

Remove

Type Info ssh

Protocol Info TCP

Port range Info 22

Source type Info Anywhere

Source Info Add CIDR, prefix list or security 0.0.0.0/0 X

Description - optional Info e.g. SSH for admin desktop

Security group rule 2 (TCP, 80, 0.0.0.0/0)

Remove

Type Info HTTP

Protocol Info TCP

Port range Info 80

Source type Info Anywhere

Source Info Add CIDR, prefix list or security 0.0.0.0/0 X

Description - optional Info e.g. SSH for admin desktop

Summary

Number of instances Info 1

Software Image (AMI) Amazon Linux 2 Kernel 5.10 AMI...read more ami-072bfb8ae2c884cc4

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, 30 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GB of bandwidth to the internet.

Cancel Launch instance

Feedback Looking for language selection? Find it in the new Unified Settings

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Launch an instance | EC2 Man... X

ap-northeast-1.console.aws.amazon.com/ec2/home?region=ap-northeast-1#LaunchInstances:

Services Search [Option+S]

Console Home EC2 VPC RDS Tokyo Jawadkhan

Select

Metadata version Info Select

Metadata response hop limit Info Select

Allow tags in metadata Info Select

User data Info

```
#!/bin/bash
yum update -y
amazon-linux-extras install -y lamp-mariadb10.2-php7.2 php7.2
yum install -y httpd mariadb-server
systemctl start httpd
systemctl enable httpd
usermod -a -G apache ec2-user
chown -R ec2-user:apache /var/www
chmod 2775 /var/www
find /var/www -type d -exec chmod 2775 {} \;
find /var/www -type f -exec chmod 0664 {} \;
echo "<?php phpinfo(); ?>" > /var/www/html/phpinfo.php
```

☐ User data has already been base64 encoded

Summary

Number of instances Info 1

Software Image (AMI) Amazon Linux 2 Kernel 5.10 AMI...read more ami-072bfb8ae2c884cc4

Virtual server type (instance type) t2.micro

Firewall (security group) New security group

Storage (volumes) 1 volume(s) - 8 GiB

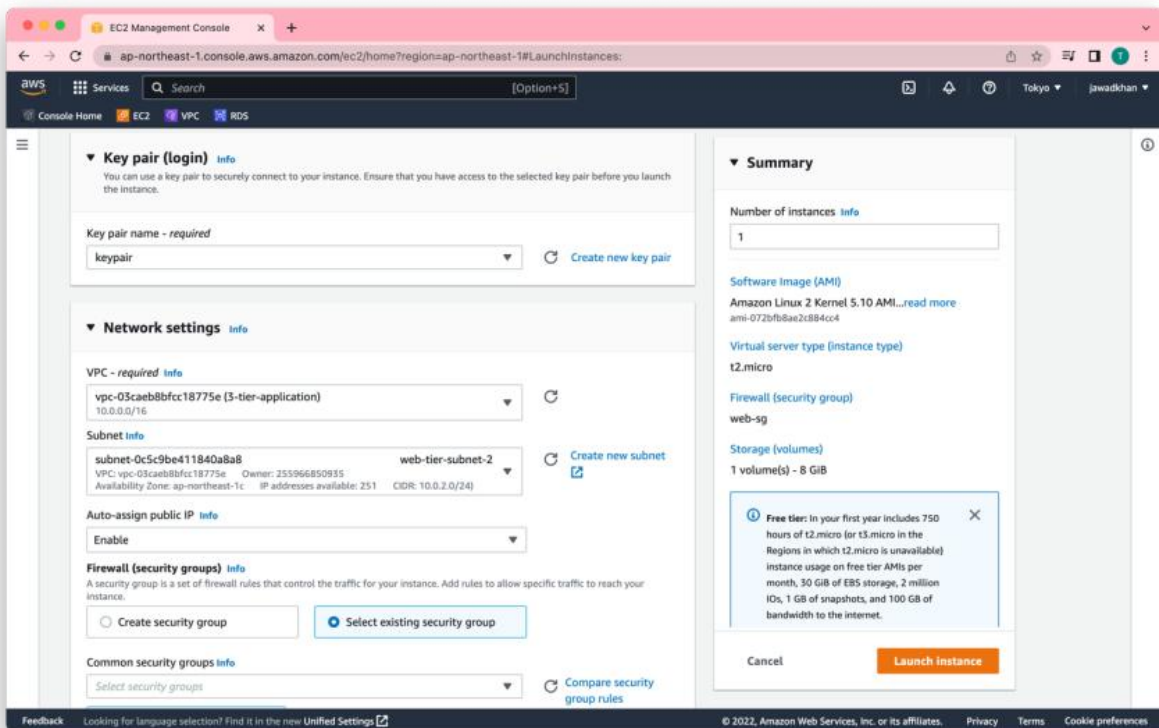
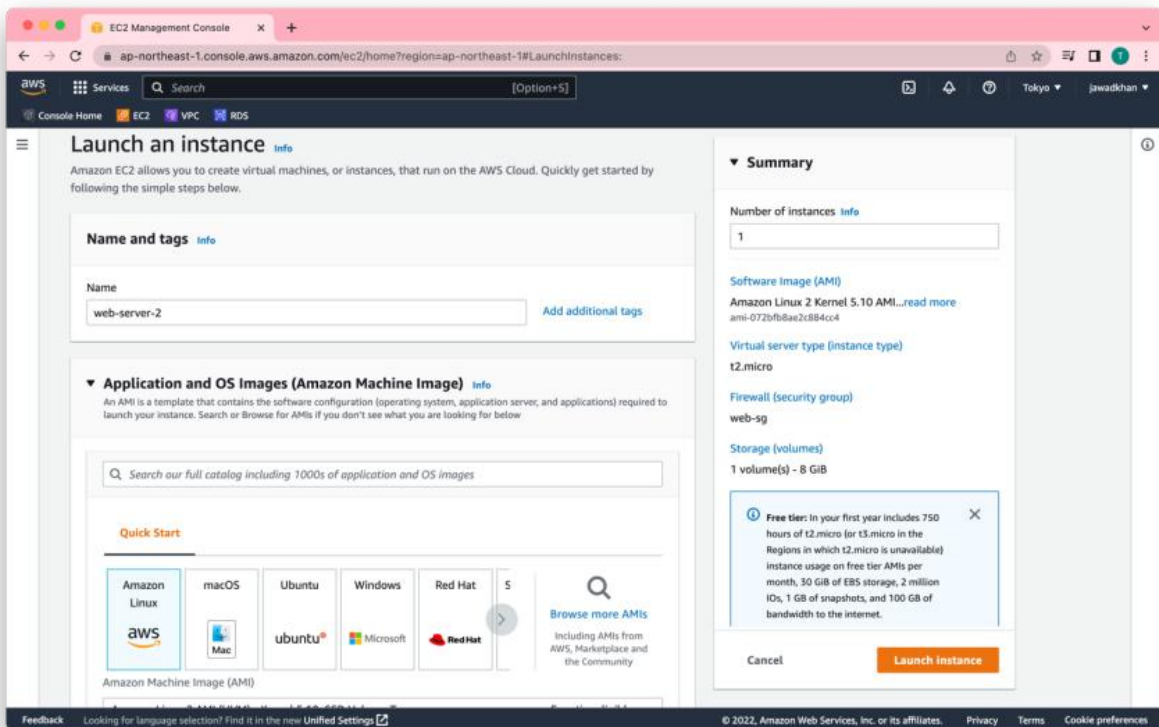
Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GB of bandwidth to the internet.

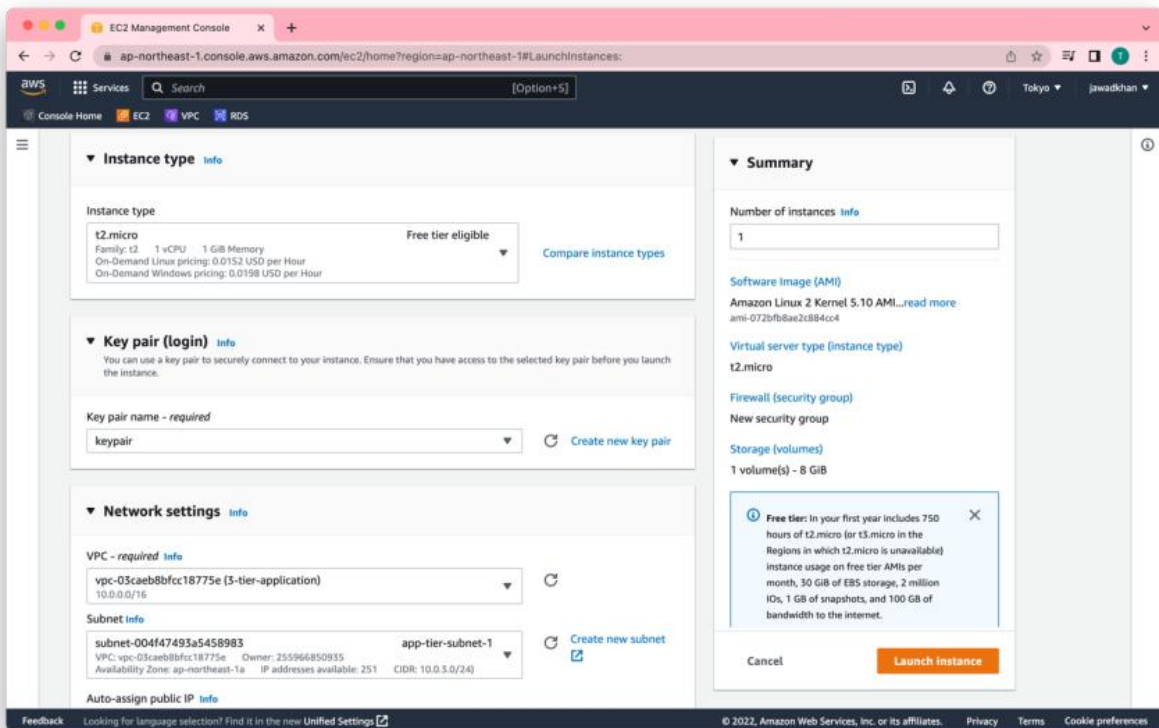
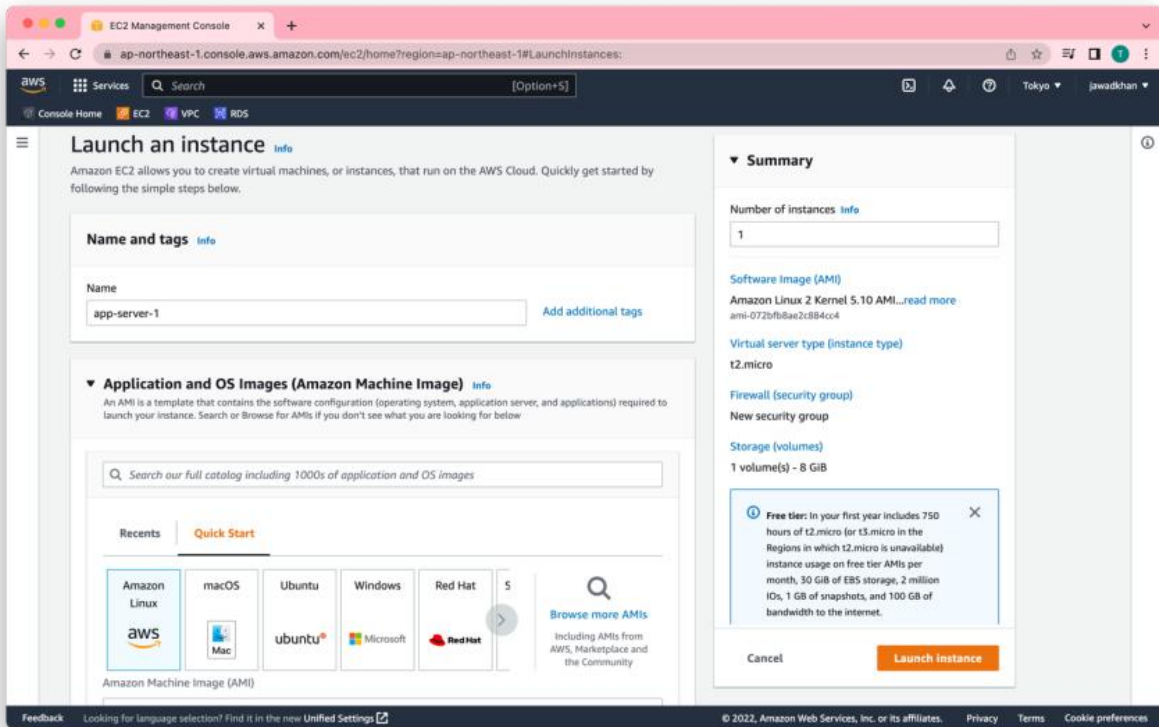
Cancel Launch instance

Feedback Looking for language selection? Find it in the new Unified Settings

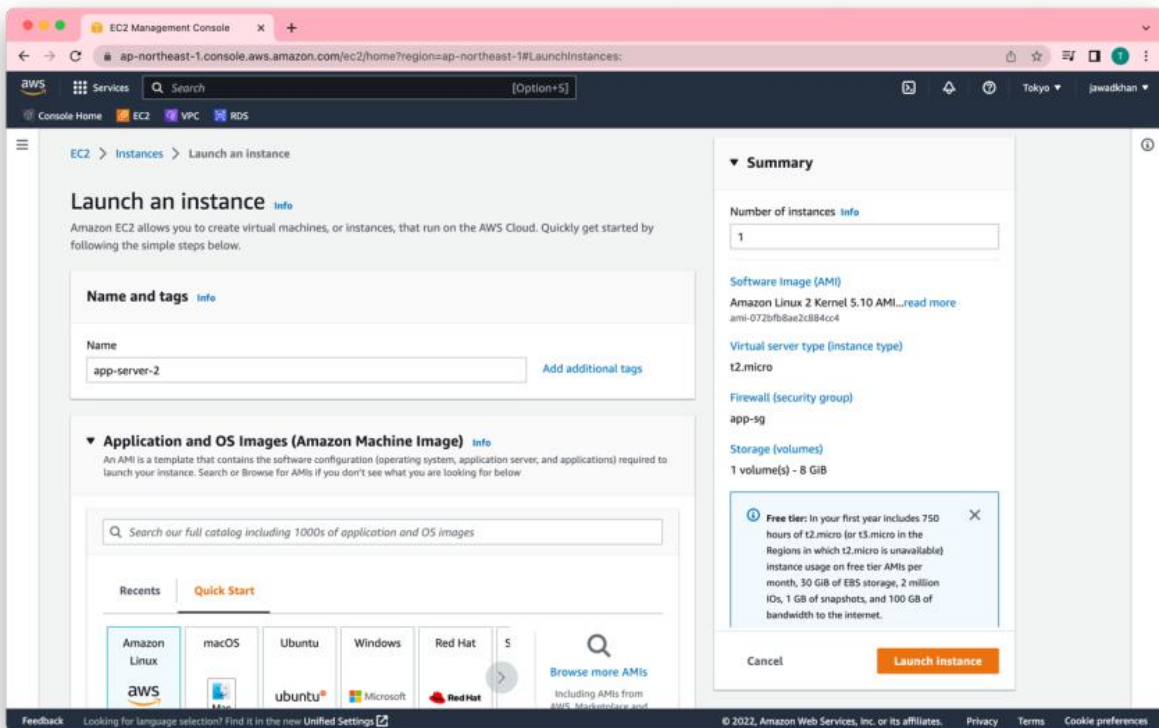
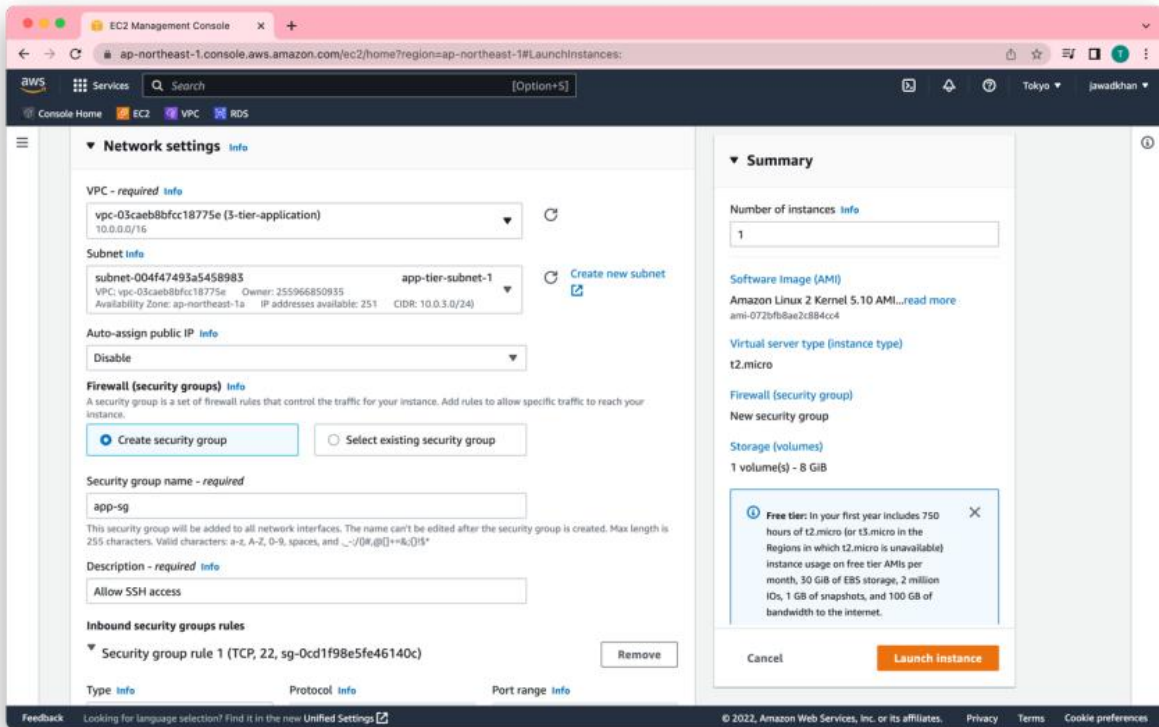
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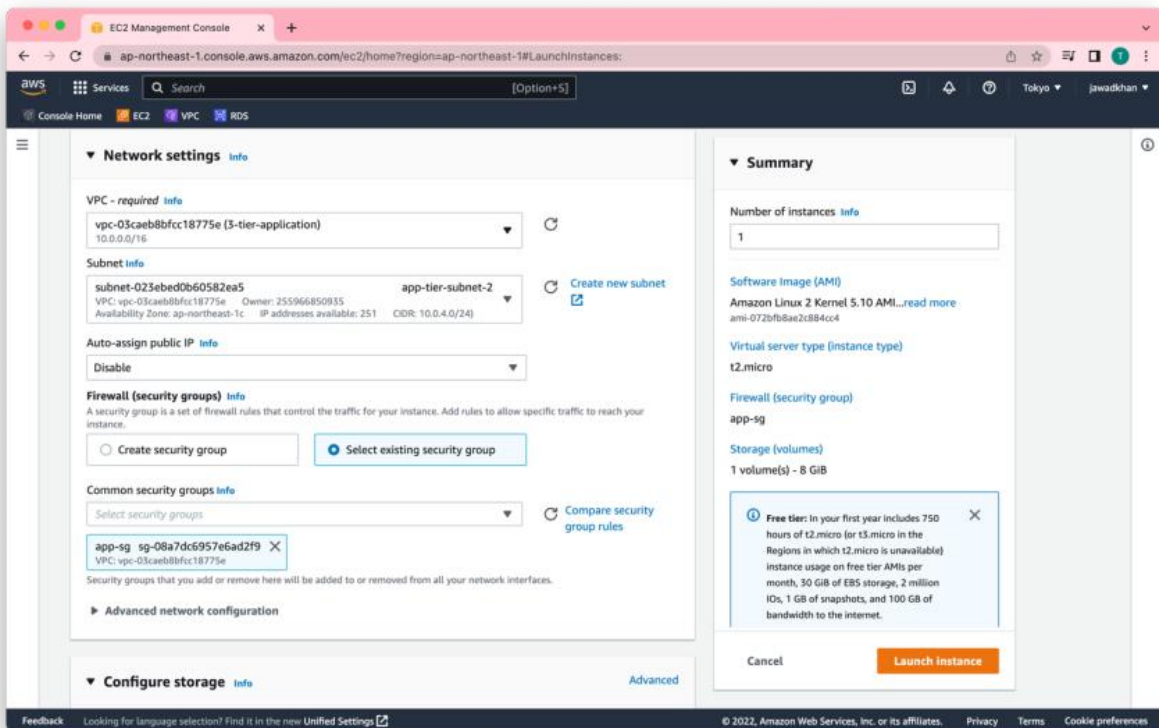
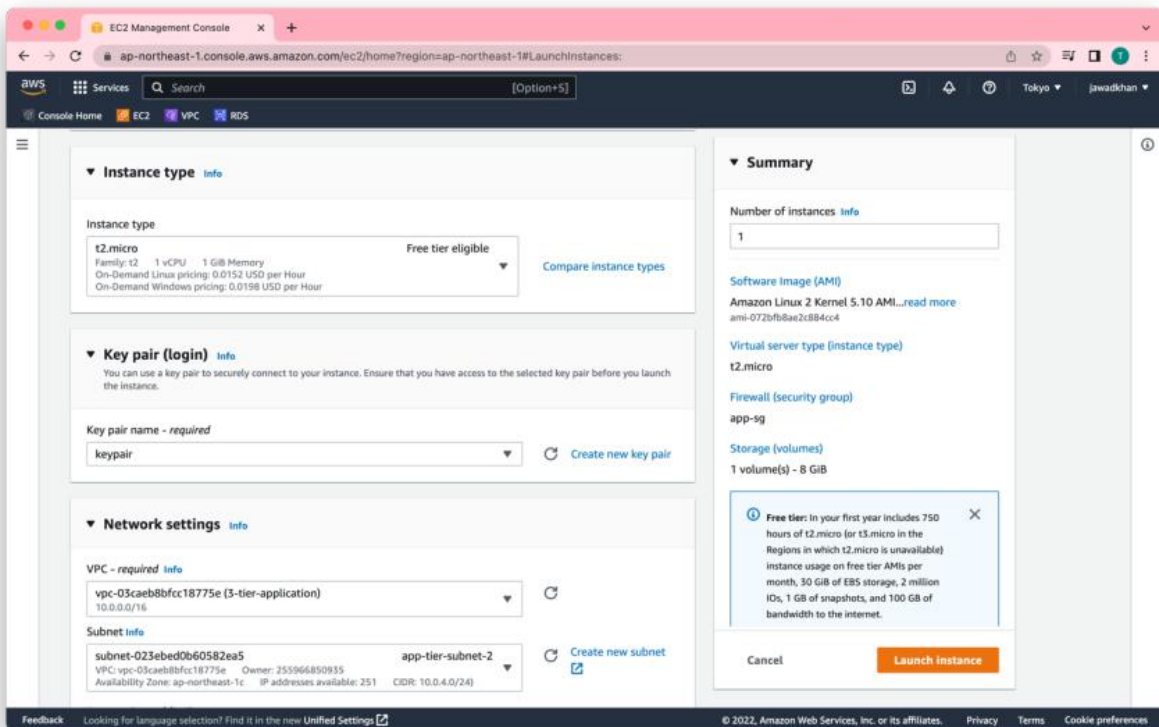




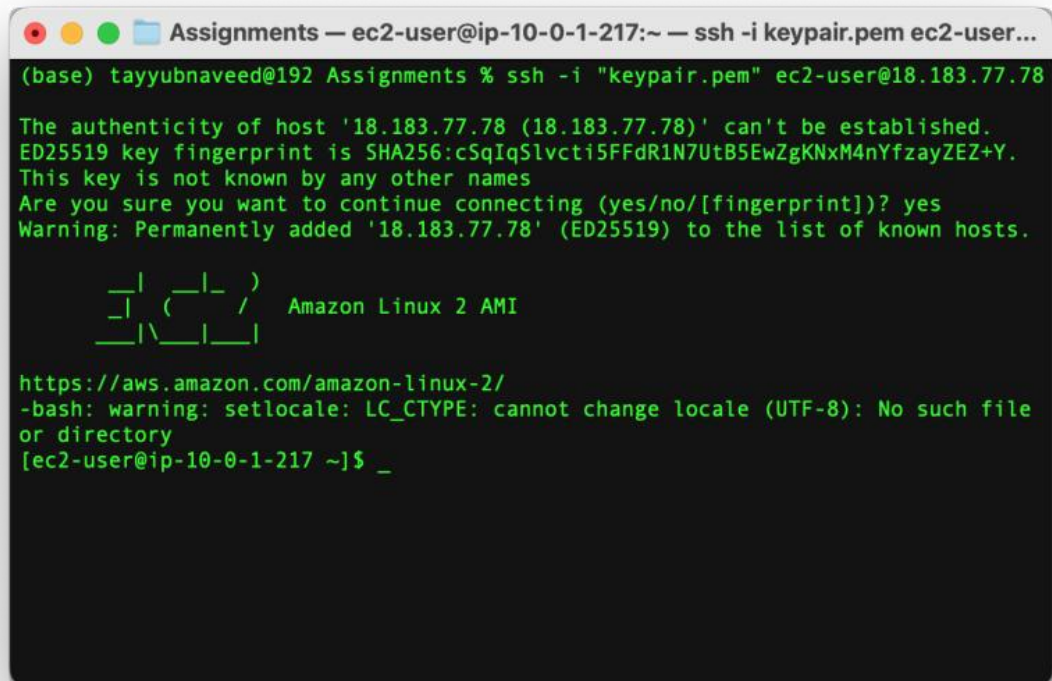








## Connecting with EC2 instance (web-server-1) through terminal



```
Assignments — ec2-user@ip-10-0-1-217:~ — ssh -i keypair.pem ec2-user...
(base) tayyubnaheed@192 Assignments % ssh -i "keypair.pem" ec2-user@18.183.77.78

The authenticity of host '18.183.77.78 (18.183.77.78)' can't be established.
ED25519 key fingerprint is SHA256:cSqIqSlvcti5FFdR1N7UtB5EwZgKNxM4nYfzayZYZ+Y.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '18.183.77.78' (ED25519) to the list of known hosts.

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

https://aws.amazon.com/amazon-linux-2/
-bash: warning: setlocale: LC_CTYPE: cannot change locale (UTF-8): No such file
or directory
[ec2-user@ip-10-0-1-217 ~]$ _
```

**Connecting with EC2 instance (app-server-1) from EC2 instance (web-server-1) through terminal**

```
Assignments — ec2-user@ip-10-0-3-254:~ — ssh -i keypair.pem ec2-use...
[ec2-user@ip-10-0-1-217 ~]$ chmod 400 keypair.pem
[ec2-user@ip-10-0-1-217 ~]$ ssh -i "keypair.pem" ec2-user@10.0.3.254
The authenticity of host '10.0.3.254 (10.0.3.254)' can't be established.
ECDSA key fingerprint is SHA256:H8WxKE0b0s+WXv/t7TuB1PWnXbE8F298oAd9a30CFVQ.
ECDSA key fingerprint is MD5:3f:f9:32:e9:b7:c0:54:d7:20:4c:4d:ea:3e:6f:67:da.
[Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '10.0.3.254' (ECDSA) to the list of known hosts.

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

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-10-0-3-254 ~]$ _
```

**Create an application load balancer (ALB)**

Load balancers | EC2 Management Console

EC2 Management Console

ap-northeast-1.console.aws.amazon.com/ec2/home?region=ap-northeast-1#CreateSecurityGroup

Services Search [Option+5]

Console Home EC2 VPC RDS Tokyo Jawadkhan

## Create security group Info

A security group acts as a virtual firewall for your instance to control inbound and outbound traffic. To create a new security group, complete the fields below.

### Basic details

Security group name Info

alb-sg

Name cannot be edited after creation.

Description Info

Application load balancer security group

VPC Info

vpc-03caeb8bfcc18775e

### Inbound rules Info

Type <small>Info</small>	Protocol <small>Info</small>	Port range <small>Info</small>	Source <small>Info</small>	Description - optional <small>Info</small>
Custom TCP	TCP	0	Anywh... 0.0.0.0/0	

Add rule

Delete

Feedback

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Load balancers | EC2 Management Console

Target groups | EC2 Management Console

ap-northeast-1.console.aws.amazon.com/ec2/home?region=ap-northeast-1#CreateTargetGroup:protocol=HTTP:vpc=vpc-03caeb8bfcc18775e

Services Search [Option+5]

Console Home EC2 VPC RDS Tokyo Jawadkhan

EC2 > Target groups > Create target group

Step 1  
Specify group details

Step 2  
Register targets

## Specify group details

Your load balancer routes requests to the targets in a target group and performs health checks on the targets.

### Basic configuration

Settings in this section cannot be changed after the target group is created.

Choose a target type

☒ Instances

- Supports load balancing to instances within a specific VPC.
- Facilitates the use of [Amazon EC2 Auto Scaling](#) to manage and scale your EC2 capacity.

☐ IP addresses

- Supports load balancing to VPC and on-premises resources.
- Facilitates routing to multiple IP addresses and network interfaces on the same instance.
- Offers flexibility with microservice based architectures, simplifying inter-application communication.
- Supports IPv6 targets, enabling end-to-end IPv6 communication, and IPv4-to-IPv6 NAT.

☐ Lambda function

- Facilitates routing to a single Lambda function.
- Accessible to Application Load Balancers only.

☐ Application Load Balancer

- Offers the flexibility for a Network Load Balancer to accept and route TCP requests within a specific VPC.

Feedback

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Load balancers | EC2 Management console

Target groups | EC2 Management console

ap-northeast-1.console.aws.amazon.com/ec2/home?region=ap-northeast-1#CreateTargetGroup:protocol=HTTP;vpc=vpc-03caeb8bfc18775e

Services

Search

[Option+5]

Console Home

EC2

VPC

RDS

Target group name

load-balancer-tg1

A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.

Protocol

HTTP

Port

80

VPC

Select the VPC with the instances that you want to include in the target group.

3-tier-application

vpc-03caeb8bfc18775e

IPv4: 10.0.0.0/16

Protocol version

☒ HTTP1

Send requests to targets using HTTP/1.1. Supported when the request protocol is HTTP/1.1 or HTTP/2.

☐ HTTP2

Send requests to targets using HTTP/2. Supported when the request protocol is HTTP/2 or gRPC, but gRPC-specific features are not available.

☐ gRPC

Send requests to targets using gRPC. Supported when the request protocol is gRPC.

Health checks

The associated load balancer periodically sends requests, per the settings below, to the registered targets to test their status.

Health check protocol

HTTP

Health check path

Use the default path of "/" to ping the root, or specify a custom path if preferred.

Feedback

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Load balancers | EC2 Management console

Target groups | EC2 Management console

ap-northeast-1.console.aws.amazon.com/ec2/home?region=ap-northeast-1#CreateTargetGroup:protocol=HTTP;vpc=vpc-03caeb8bfc18775e

Services

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Console Home

EC2

VPC

RDS

EC2 > Target groups > Create target group

Step 1

Specify group details

Step 2

Register targets

Register targets

This is an optional step to create a target group. However, to ensure that your load balancer routes traffic to this target group you must register your targets.

Available instances (2/4)

Filter resources by property or value

	Instance ID	Name	State	Security groups	Zone	Subnet ID
<input checked="" type="checkbox"/>	i-0e14ea0fb333c382c	app-server-2	running	app-sg	ap-northeast-1c	subnet-023ebd0b60582ea5
<input type="checkbox"/>	i-0ab2880adfe46ed12	web-server-2	running	web-sg	ap-northeast-1c	subnet-0c5c9be411840a8a8
<input checked="" type="checkbox"/>	i-0ec41f0a298e308ce	app-server-1	running	app-sg	ap-northeast-1a	subnet-004f47493a5458983
<input type="checkbox"/>	i-0b804cd774c5818af	web-server-1	running	web-sg	ap-northeast-1a	subnet-0474a472bba2aeac3

2 selected

Ports for the selected instances

Ports for routing traffic to the selected instances.

80

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Load balancers | EC2 Manager

ap-northeast-1.console.aws.amazon.com/ec2/home?region=ap-northeast-1#CreateALBWizard:

ServicesSearch[Option+S]

Console HomeEC2VPCRDSTokyoJawadkhan

EC2 > Load balancers > Create Application Load Balancer

## Create Application Load Balancer

The Application Load balancer distributes incoming HTTP and HTTPS traffic across multiple targets such as Amazon EC2 instances, microservices, and containers, based on request attributes. When the load balancer receives a connection request, it evaluates the listener rules in priority order to determine which rule to apply, and if applicable, it selects a target from the target group for the rule action.

► How Elastic Load balancing works

### Basic configuration

Load balancer name

Name must be unique within your AWS account and cannot be changed after the load balancer is created.

3-tier-application-load-balancer

A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.

Scheme

Scheme cannot be changed after the load balancer is created.

☒ Internet-facing

An internet-facing load balancer routes requests from clients over the internet to targets. Requires a public subnet. [Learn more](#)

☐ Internal

An internal load balancer routes requests from clients to targets using private IP addresses.

IP address type

Select the type of IP addresses that your subnets use.

☒ IPv4

Recommended for internal load balancers.

☐ Dualstack

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Load balancers | EC2 Manager

ap-northeast-1.console.aws.amazon.com/ec2/home?region=ap-northeast-1#CreateALBWizard:

ServicesSearch[Option+S]

Console HomeEC2VPCRDSTokyoJawadkhan

EC2 > Load balancers > Create Application Load Balancer

## Network mapping

The load balancer routes traffic to targets in the selected subnets, and in accordance with your IP address settings.

VPC

Select the virtual private cloud (VPC) for your targets. Only VPCs with an internet gateway are enabled for selection. The selected VPC cannot be changed after the load balancer is created. To confirm the VPC for your targets, view your [target groups](#).

3-tier-application

vpc-03cae80bfc18775e

IPv4: 10.0.0.0/16

Mappings

Select at least two Availability Zones and one subnet per zone. The load balancer routes traffic to targets in these Availability Zones only. Availability Zones that are not supported by the load balancer or the VPC are not available for selection.

☒ ap-northeast-1a

Subnet

subnet-0474a472bba2a0c3

web-tier-subnet-1

IPv4 settings

Assigned by AWS

☒ ap-northeast-1c

Subnet

subnet-0c5c9be411840a8a8

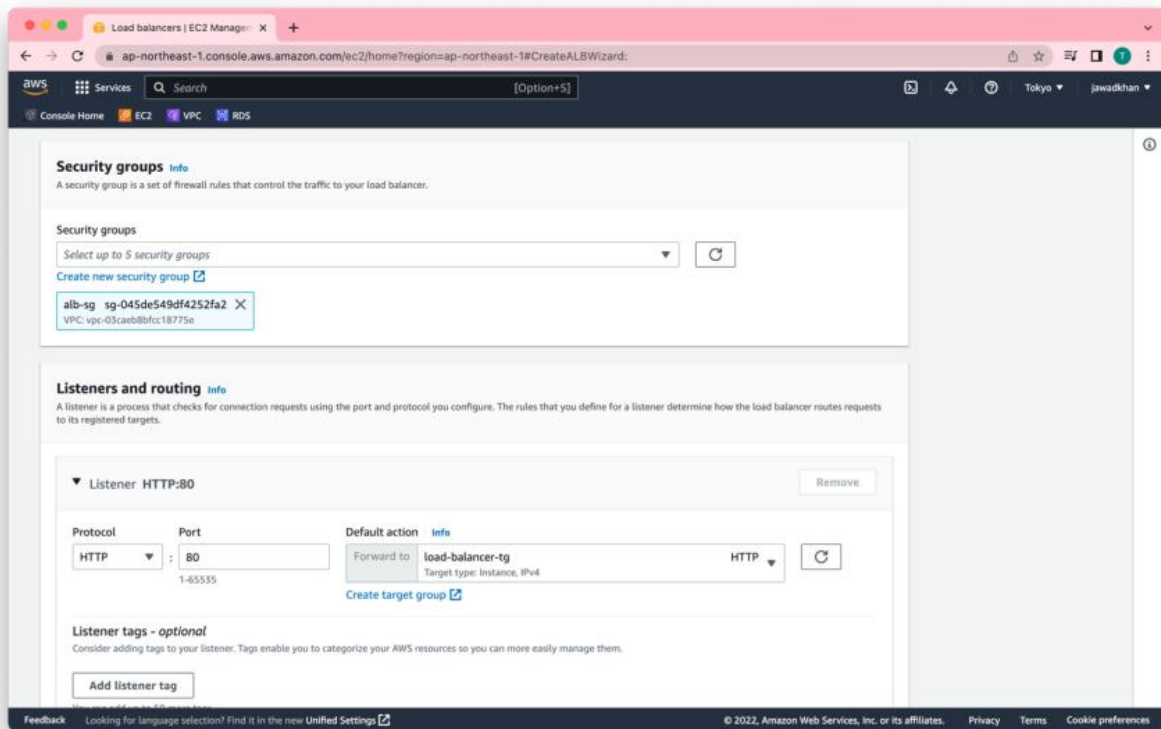
web-tier-subnet-2

IPv4 settings

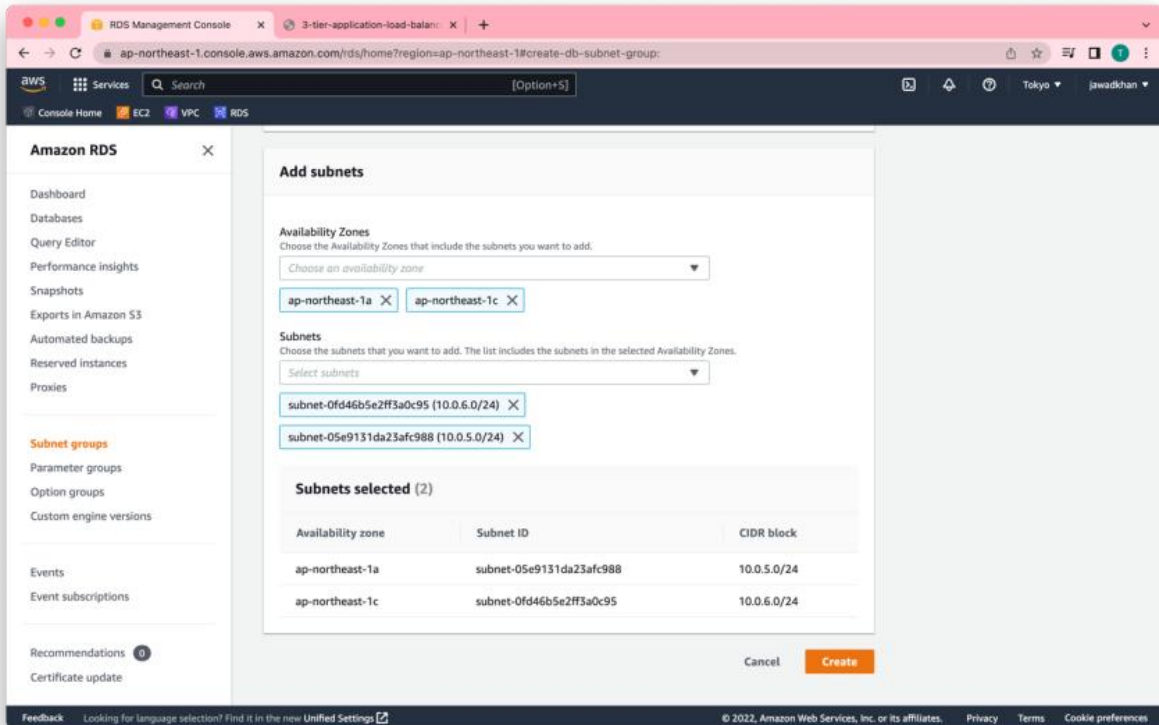
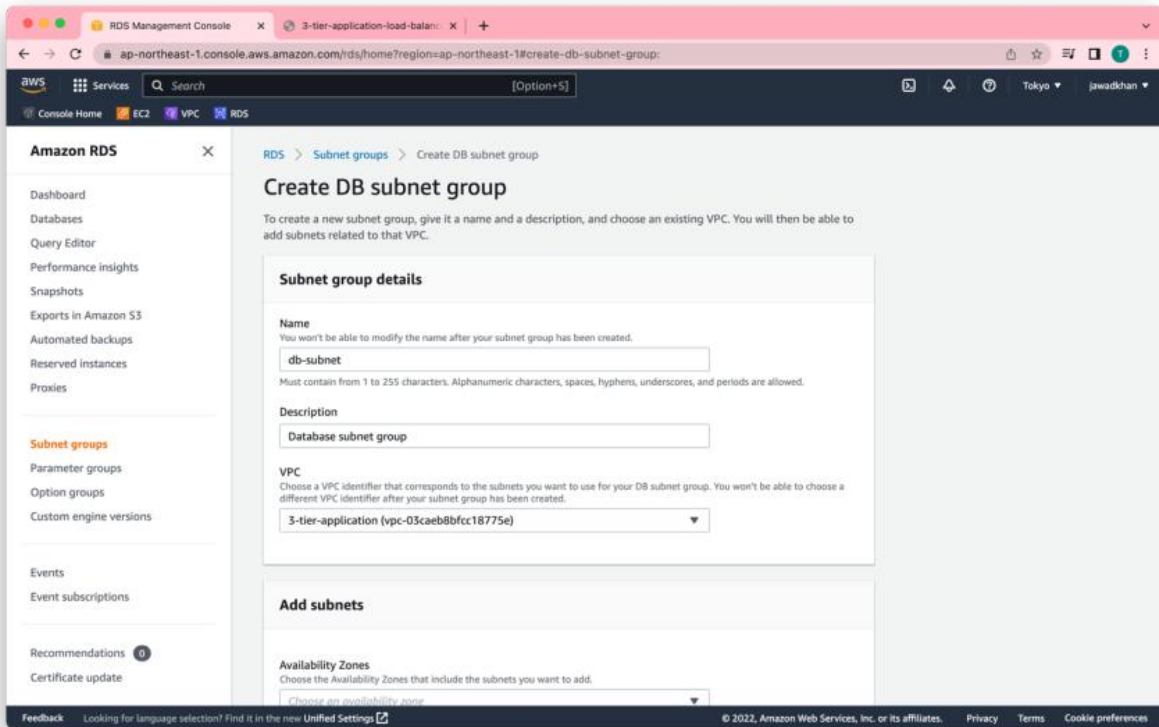
FeedbackLooking for language selection? Find it in the new Unified Settings

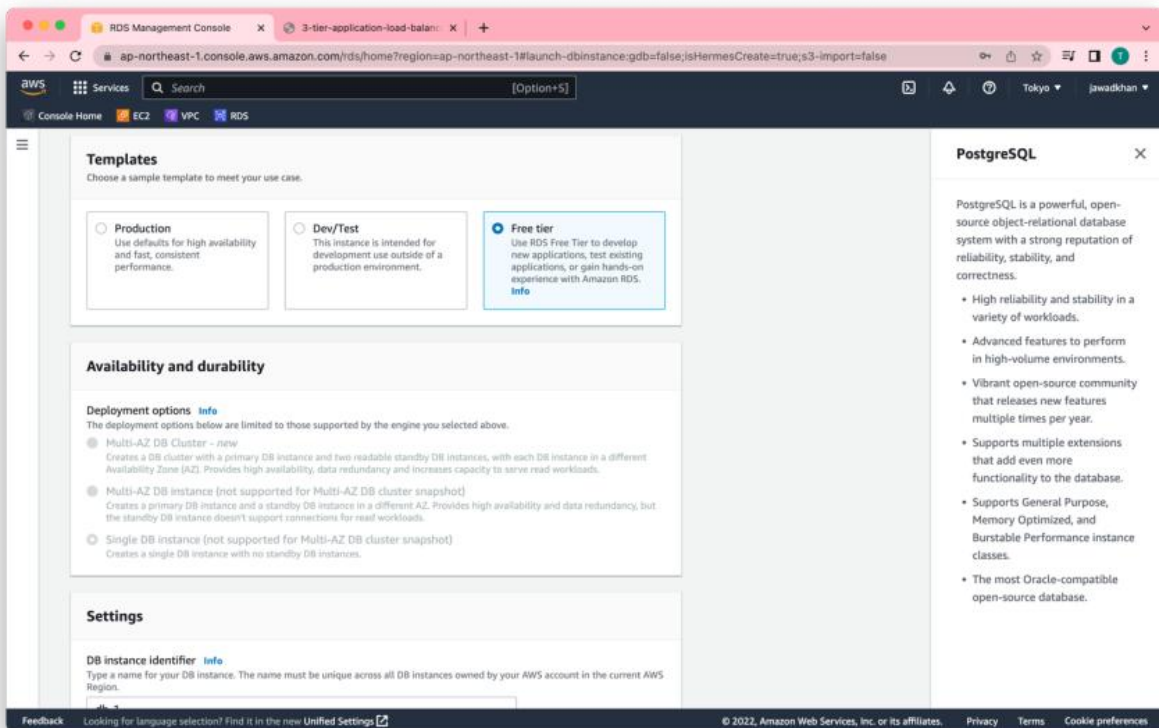
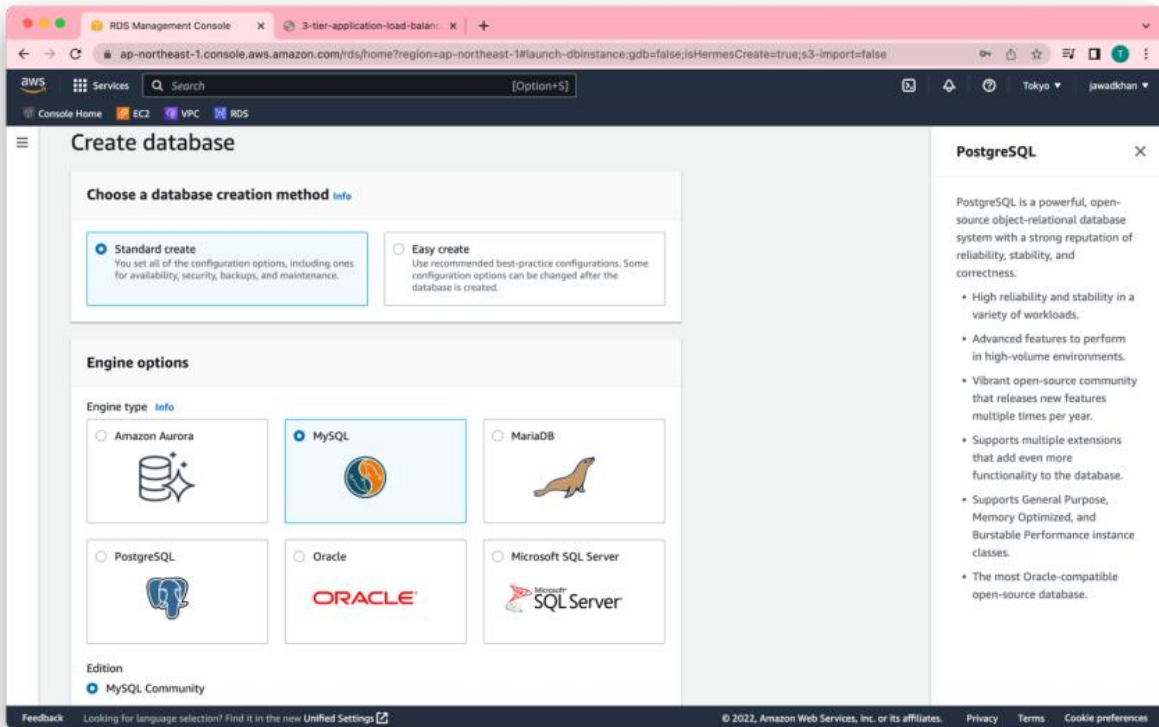
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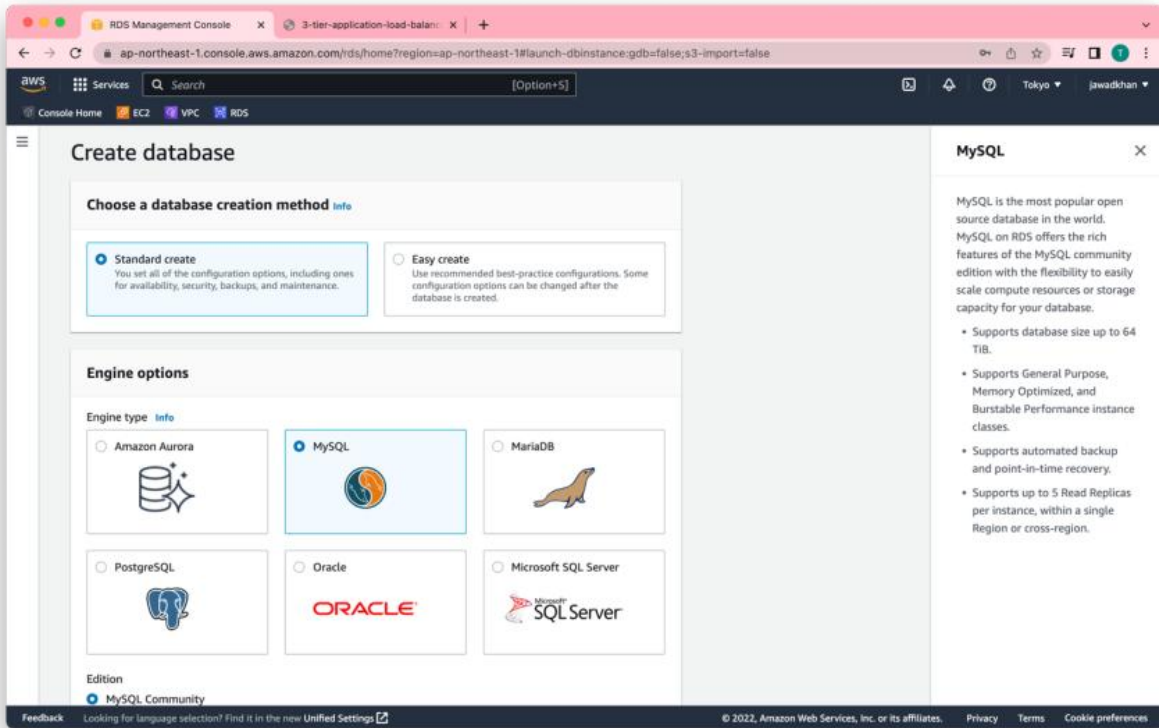
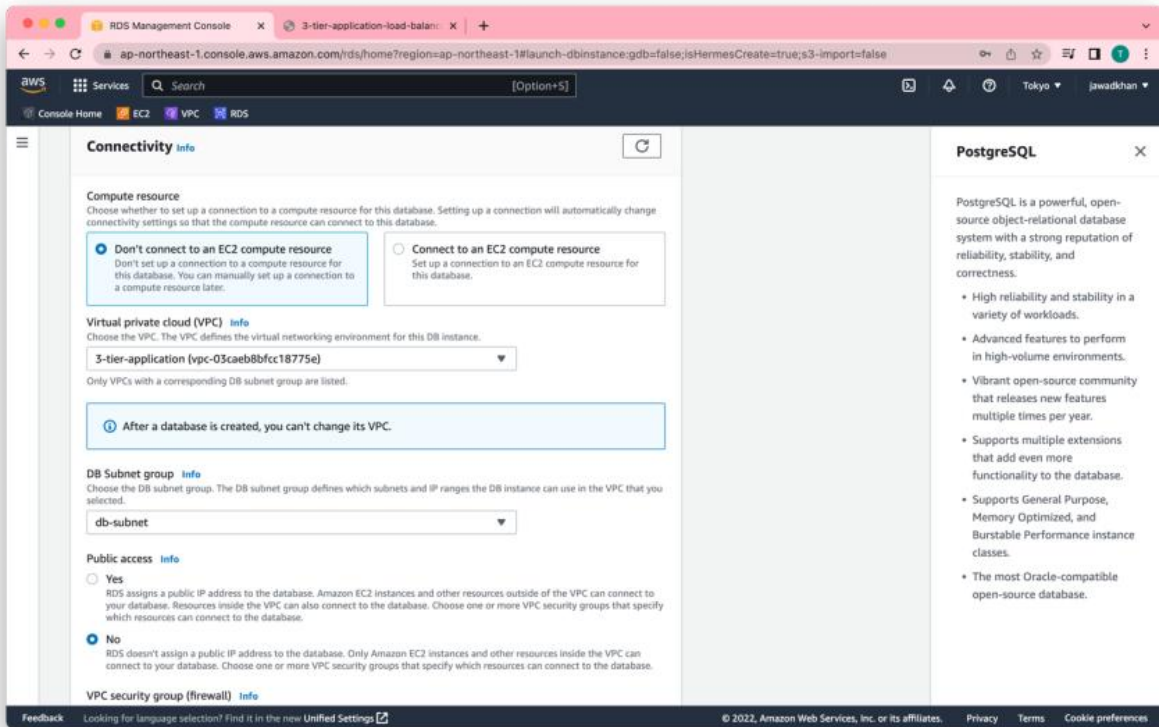


**Launch RDS instances (db-1, db-2)**





The screenshot shows the AWS Management Console interface for configuring a PostgreSQL instance. The top navigation bar includes the AWS logo, 'Services', a search bar, and a region dropdown set to 'Tokyo'. The main content area is titled 'Instance configuration' and includes a note about limited options. It features three main sections: 'DB instance class' with a dropdown set to 'db.t3.micro', 'Storage' with a dropdown set to 'General Purpose SSD (gp2)' and an 'Allocated storage' input set to '200 GiB', and 'Storage autoscaling' which is currently disabled. A right-hand sidebar provides additional information about PostgreSQL, including its definition and a list of features like high reliability, advanced features, vibrant community, multiple extensions, and support for various instance classes.





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ap-northeast-1.console.aws.amazon.com/rds/home?region=ap-northeast-1#launch-dbinstance:gdb=false;s3-import=false

Services

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Console Home

EC2

VPC

RDS

Settings

DB instance identifier

Info

Type a name for your DB instance. The name must be unique across all DB instances owned by your AWS account in the current AWS Region.

db-2

The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 60 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

Credentials Settings

Master username

Info

Type a login ID for the master user of your DB instance.

admin

1 to 16 alphanumeric characters. First character must be a letter.

☐ Auto generate a password

Amazon RDS can generate a password for you, or you can specify your own password.

Master password

Info

\*\*\*\*\*

Constraints: At least 8 printable ASCII characters. Can't contain any of the following: / (slash), ' (single quote), " (double quote) and @ (at sign).

Confirm master password

Info

\*\*\*\*\*

Instance configuration

The DB instance configuration options below are limited to those supported by the engine that you selected above.

DB instance class

Info

MySQL

MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.

- Supports database size up to 64 TiB.
- Supports General Purpose, Memory Optimized, and Burstable Performance instance classes.
- Supports automated backup and point-in-time recovery.
- Supports up to 5 Read Replicas per instance, within a single Region or cross-region.

Feedback

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ap-northeast-1.console.aws.amazon.com/rds/home?region=ap-northeast-1#launch-dbinstance:gdb=false;s3-import=false

Services

Search

[Option+5]

Console Home

EC2

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Connectivity

Info

Compute resource

Choose whether to set up a connection to a compute resource for this database. Setting up a connection will automatically change connectivity settings so that the compute resource can connect to this database.

☒ Don't connect to an EC2 compute resource

Don't set up a connection to a compute resource for this database. You can manually set up a connection to a compute resource later.

☐ Connect to an EC2 compute resource

Set up a connection to an EC2 compute resource for this database.

Virtual private cloud (VPC)

Info

Choose the VPC. The VPC defines the virtual networking environment for this DB instance.

3-tier-application (vpc-03caeb8bfc18775e)

Only VPCs with a corresponding DB subnet group are listed.

After a database is created, you can't change its VPC.

DB Subnet group

Info

Choose the DB subnet group. The DB subnet group defines which subnets and IP ranges the DB instance can use in the VPC that you selected.

db-subnet

Public access

Info

☐ Yes

RDS assigns a public IP address to the database. Amazon EC2 instances and other resources outside of the VPC can connect to your database. Resources inside the VPC can also connect to the database. Choose one or more VPC security groups that specify which resources can connect to the database.

☒ No

RDS doesn't assign a public IP address to the database. Only Amazon EC2 instances and other resources inside the VPC can connect to your database. Choose one or more VPC security groups that specify which resources can connect to the database.

VPC security group (firewall)

Info

Choose one or more VPC security groups to allow access to your database. Make sure that the security group rules allow the

MySQL

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