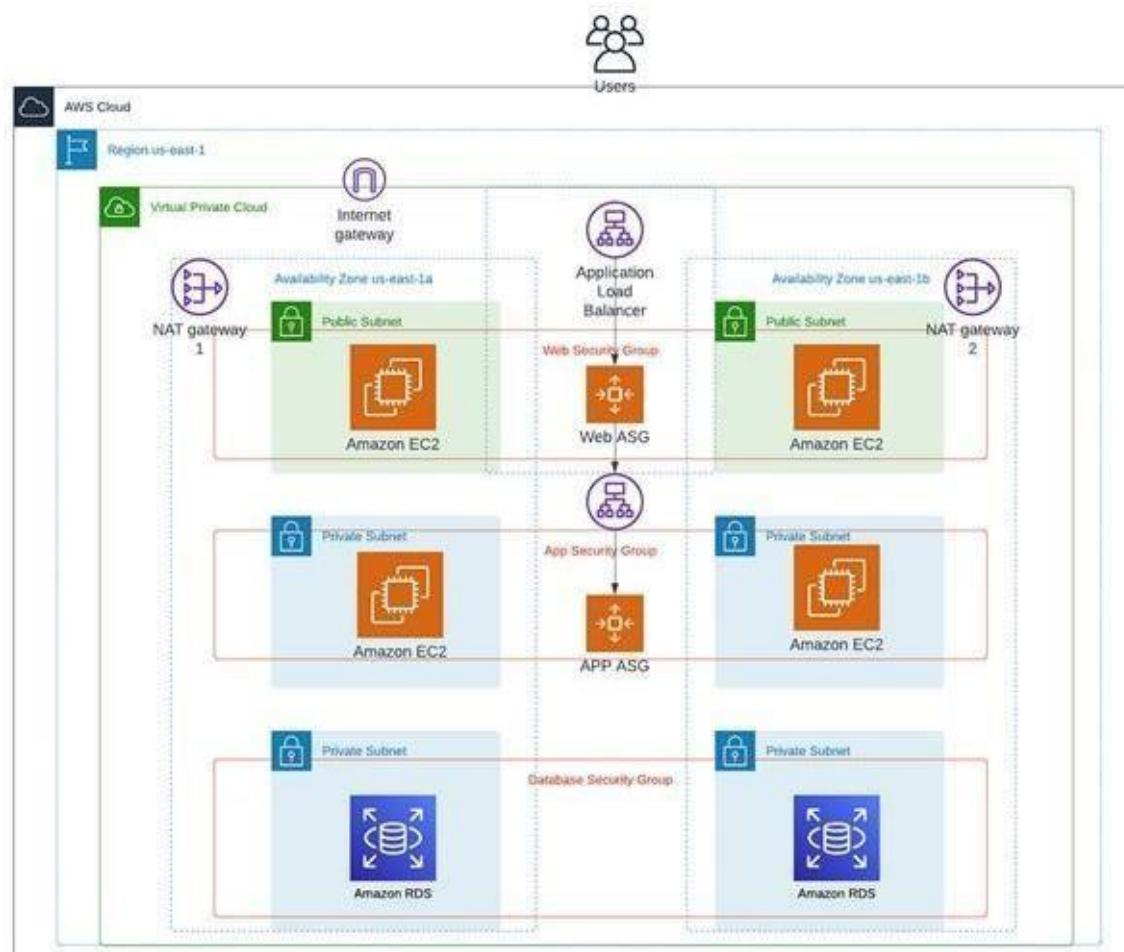


# AWS THREE-TIRE ARCHITECTURE PROJECT



This base network consists of:

- A VPC.
- Two (2) public subnets spread across two availability zones (Web Tier).
- Two (2) private subnets spread across two availability zones (Application Tier).
- Two (2) private subnets spread across two availability zones (Database Tier).
- One (1) public route table that connects the public subnets to an internet gateway.
- One (1) private route table that will connect the Application Tier private subnets and a NAT gateway.

## CREATE VPC:

**IPV4 CIDR: 30.0.0.0/16**

### VPC settings

Resources to create [Info](#)

Create only the VPC resource or the VPC and other networking resources.

VPC only

VPC and more

Name tag - *optional*

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

my-vpc-01

IPv4 CIDR block [Info](#)

IPv4 CIDR manual input

IPAM-allocated IPv4 CIDR block

IPv4 CIDR

30.0.0.0/16

CIDR block size must be between /16 and /28.

IPv6 CIDR block [Info](#)

No IPv6 CIDR block

IPAM-allocated IPv6 CIDR block

Amazon-provided IPv6 CIDR block

IPv6 CIDR owned by me

You successfully created vpc-0aaeab94506ae58ab / my-vpc-01

X

## CREATE SUBNET: 1

NAME: public-subnet-1

IPV4: 30.0.0.0/24

### Create subnet Info

**VPC**

VPC ID  
Create subnets in this VPC.  
vpc-0aaeab94506ae58ab (my-vpc-01)

**Associated VPC CIDRs**

IPv4 CIDRs  
30.0.0.0/16

### Subnet settings

Specify the CIDR blocks and Availability Zone for the subnet.

#### Subnet 1 of 1

##### Subnet name

##### Availability Zone Info

##### IPv4 VPC CIDR block Info

##### IPv4 subnet CIDR block

You have successfully created 1 subnet: subnet-01888b49138cad19f

Subnets (1) <small>Info</small>					
<input type="text"/> Find resources by attribute or tag					
<input type="button"/> Actions <small>▼</small> <input type="button"/> Create subnet					
Name	Subnet ID	State	VPC	IPv4 CIDR	
public-subnet-1	subnet-01888b49138cad19f	Available	vpc-0aaeab94506ae58ab   my...	30.0.0.0/24	

## CREATE SUBNET: 2

NAME: public-subnet-2

IPV4: 30.0.30.0/24

**Create subnet** Info

**VPC**

VPC ID  
Create subnets in this VPC.  
vpc-0aaeab94506ae58ab (my-vpc-01) ▾

**Associated VPC CIDRs**

IPv4 CIDRs  
30.0.0.0/16

**Subnet settings**  
Specify the CIDR blocks and Availability Zone for the subnet.

**Subnet 1 of 1**

**Subnet name**  
Create a tag with a key of 'Name' and a value that you specify.  
public-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.  
US East (N. Virginia) / us-east-1b ▾

**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.  
30.0.0.0/16 ▾

**IPv4 subnet CIDR block**  
30.0.30.0/24 256 IPs

**Subnets (1)** Info

You have successfully created 1 subnet: subnet-004cfac61c3e0ac8

Name	Subnet ID	State	VPC	IPv4 CIDR
public-subnet-2	subnet-004cfac61c3e0ac8	Available	vpc-0aaeab94506ae58ab   my...	30.0.30.0/24

## CREATE SUBNET: 03

NAME: **private-subnet-1**

IPV4: **30.0.31.0/24**

### Create subnet Info

**VPC**

VPC ID  
Create subnets in this VPC.

vpc-0aaeab94506ae58ab (my-vpc-01)

**Associated VPC CIDRs**

IPv4 CIDRs  
30.0.0.0/16

**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.

private-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.

US East (N. Virginia) / us-east-1a

#### 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.

30.0.0.0/16

#### IPv4 subnet CIDR block

30.0.31.0/24

256 IPs

⌚ You have successfully created 1 subnet: subnet-0d030917db08b0320

#### Subnets (1) Info

Q Find resources by attribute or tag

Subnet ID : subnet-0d030917db08b0320 X

Clear filters

C Actions ▾ Create subnet X

< 1 > ⌂

Name	Subnet ID	State	VPC	IPv4 CIDR
private-subnet-1	subnet-0d030917db08b0320	Available	vpc-0aaeab94506ae58ab   my...	30.0.31.0/24

## CREATE SUBNET: 04

NAME: private-subnet-2

IPV4: 30.0.32.0/24

Create subnet [Info](#)

**VPC**

VPC ID  
Create subnets in this VPC.

Associated VPC CIDRs

IPv4 CIDRs  
30.0.0.0/16

### 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

256 IPs

⌚ You have successfully created 1 subnet: subnet-07161977e84caaa69

#### Subnets (1) [Info](#)

[Clear filters](#)[Actions ▾](#)[Create subnet](#)[Clear filters](#)[Actions ▾](#) Name

Subnet ID

State

VPC

IPv4 CIDR

 private-subnet-2

subnet-07161977e84caaa69

Available

vpc-0aaeab94506ae58ab | my...

30.0.32.0/24

## CREATE SUBNET: 05

NAME: private-subnet-RDS1

IPV4: 30.0.33.0/24

Create subnet [Info](#)

**VPC**

VPC ID  
Create subnets in this VPC.  
vpc-0aaeab94506ae58ab (my-vpc-01)

**Associated VPC CIDRs**

IPv4 CIDRs  
30.0.0.0/16

**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.  
private-subnet-RDS1

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.  
US East (N. Virginia) / us-east-1a

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.  
30.0.0.0/16

IPv4 subnet CIDR block  
30.0.33.0/24 256 IPs

⌚ You have successfully created 1 subnet: subnet-0bbe90324890ab516

Subnets (1) <a href="#">Info</a>						
<input type="text"/> Find resources by attribute or tag						
<input type="button"/> Actions <a href="#">Create subnet</a>						
<input type="checkbox"/>	Name	Subnet ID	State	VPC	IPv4 CIDR	
<input type="checkbox"/>	private-subnet-RDS1	subnet-0bbe90324890ab516	<span>Available</span>	vpc-0aaeab94506ae58ab   my-...	30.0.33.0/24	

## CREATE SUBNET: 06

NAME: private-subnet-RDS2

IPV4:30.0.34.0/24

### Create subnet Info

**VPC**

VPC ID  
Create subnets in this VPC.

vpc-0aaeab94506ae58ab (my-vpc-01)

**Associated VPC CIDRs**

IPv4 CIDRs  
30.0.0.0/16

### 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.

private-subnet-RDS2

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.

US East (N. Virginia) / us-east-1b

##### 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.

30.0.0.0/16

##### IPv4 subnet CIDR block

30.0.34.0/24

256 IPs

⌚ You have successfully created 1 subnet: subnet-00b7e09dd901ccab3

### Subnets (1) Info

Find resources by attribute or tag

Subnet ID : subnet-00b7e09dd901ccab3

<input type="checkbox"/>	Name	Subnet ID	State	VPC	IPv4 CIDR
<input type="checkbox"/>	private-subnet-RDS2	subnet-00b7e09dd901ccab3	Available	vpc-0aaeab94506ae58ab   my-...	30.0.34.0/24

Here are the created subnets with availability zones 1a and 1b

Subnets (12) <a href="#">Info</a>						
	Name	Subnet ID	State	VPC	IPv4 CIDR	IPv6 CIDR
<input type="checkbox"/>	public-subnet-1	subnet-01888b49138cad19f	<span>Available</span>	vpc-0aaeab94506ae58ab   my...	30.0.0.0/24	-
<input type="checkbox"/>	public-subnet-2	subnet-004cface61c3e0ac8	<span>Available</span>	vpc-0aaeab94506ae58ab   my...	30.0.30.0/24	-
<input type="checkbox"/>	private-subnet-1	subnet-0d030917db08b0320	<span>Available</span>	vpc-0aaeab94506ae58ab   my...	30.0.31.0/24	-
<input type="checkbox"/>	private-subnet-2	subnet-07161977e84caa69	<span>Available</span>	vpc-0aaeab94506ae58ab   my...	30.0.32.0/24	-
<input type="checkbox"/>	private-subnet-RDS1	subnet-0bbe90324890ab516	<span>Available</span>	vpc-0aaeab94506ae58ab   my...	30.0.33.0/24	-
<input type="checkbox"/>	private-subnet-RDS2	subnet-00b7e09dd901ccab3	<span>Available</span>	vpc-0aaeab94506ae58ab   my...	30.0.34.0/24	-

## CREATE INTERNET GATEWAY AND ATTACH TO VPC:

NAME: IGW-1

### 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="IGW-1"/> <span>X</span>

**Add new tag**  
You can add 49 more tags.

Cancel Create internet gateway

<b>The following internet gateway was created: igw-0804d9b3e107594b4 - IGW-1. You can now attach to a VPC to enable the VPC to communicate with the internet.</b>					
<a href="#">Attach to a VPC</a> <span>X</span>					
<a href="#">VPC</a> > <a href="#">Internet gateways</a> > igw-0804d9b3e107594b4					
<b>igw-0804d9b3e107594b4 / IGW-1</b>					
<p><b>Details</b> <a href="#">Info</a></p> <table> <tr> <td>Internet gateway ID <input type="text" value="igw-0804d9b3e107594b4"/></td> <td>State <span>Detached</span></td> <td>VPC ID -</td> <td>Owner <input type="text" value="918694989556"/></td> </tr> </table>		Internet gateway ID <input type="text" value="igw-0804d9b3e107594b4"/>	State <span>Detached</span>	VPC ID -	Owner <input type="text" value="918694989556"/>
Internet gateway ID <input type="text" value="igw-0804d9b3e107594b4"/>	State <span>Detached</span>	VPC ID -	Owner <input type="text" value="918694989556"/>		

Internet gateways (1/2) <a href="#">Info</a>				Actions ▾	<a href="#">Create internet gateway</a>
Name	Internet gateway ID	State	VPC ID		
-	<a href="#">igw-0089955e81313a033</a>	<span>Attached</span>	<a href="#">vpc-017a8f</a>		
<input checked="" type="checkbox"/> IGW-1	<a href="#">igw-0804d9b3e107594b4</a>	<span>Detached</span>	-		

## Attach to VPC (igw-0804d9b3e107594b4) [Info](#)

### VPC

Attach an internet gateway to a VPC to enable the VPC to communicate with the internet. Specify the VPC to attach below.

#### Available VPCs

Attach the internet gateway to this VPC.



▶ AWS Command Line Interface command

[Cancel](#)
[Attach internet gateway](#)

⌚ Internet gateway igw-0804d9b3e107594b4 successfully attached to vpc-0aaeab94506ae58ab				X			
<a href="#">VPC</a> > <a href="#">Internet gateways</a> > <a href="#">igw-0804d9b3e107594b4</a>				<a href="#">Actions ▾</a>			
<b>igw-0804d9b3e107594b4 / IGW-1</b>							
<a href="#">Details</a> <a href="#">Info</a> <table border="1"> <tr> <td>Internet gateway ID <a href="#">igw-0804d9b3e107594b4</a></td> <td>State <span>Attached</span></td> <td>VPC ID <a href="#">vpc-0aaeab94506ae58ab   my-vpc-01</a></td> <td>Owner <a href="#">918694989556</a></td> </tr> </table>				Internet gateway ID <a href="#">igw-0804d9b3e107594b4</a>	State <span>Attached</span>	VPC ID <a href="#">vpc-0aaeab94506ae58ab   my-vpc-01</a>	Owner <a href="#">918694989556</a>
Internet gateway ID <a href="#">igw-0804d9b3e107594b4</a>	State <span>Attached</span>	VPC ID <a href="#">vpc-0aaeab94506ae58ab   my-vpc-01</a>	Owner <a href="#">918694989556</a>				

## CREATE NAT GATEWAY

NAME: NGW-1

### 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.

NGW-1

The name can be up to 256 characters long.

##### Subnet

Select a subnet in which to create the NAT gateway.

subnet-0d030917db08b0320 (private-subnet-1)



##### Connectivity type

Select a connectivity type for the NAT gateway.

- Public
- Private

⌚ NAT gateway nat-01ef25c1a8d1b4ddf | NGW-1 was created successfully. X

VPC > [NAT gateways](#) > nat-01ef25c1a8d1b4ddf

nat-01ef25c1a8d1b4ddf / NGW-1 Actions ▾

#### Details

NAT gateway ID <a href="#">nat-01ef25c1a8d1b4ddf</a>	Connectivity type Private	State <span style="color: #ccc;">Pending</span>	State message <a href="#">Info</a> -
NAT gateway ARN <a href="#">arn:aws:ec2:us-east-1:91869498956:natgateway/nat-01ef25c1a8d1b4ddf</a>	Primary public IPv4 address -	Primary private IPv4 address -	Primary network interface ID -
VPC <a href="#">vpc-0aaeab94506ae58ab / my-vpc-01</a>	Subnet <a href="#">subnet-0d030917db08b0320 / private-subnet-1</a>	Created <span style="color: #ccc;">Monday, April 22, 2024 at 17:10:42 GMT+5:30</span>	Deleted -

## CREATE ROUTE TABLE: 01

NAME: public-route

### 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.

public-route

VPC  
The VPC to use for this route table.

vpc-0aaeab94506ae58ab (my-vpc-01)

#### Tags

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key	Value - <i>optional</i>	Remove
<input type="text"/> Name	<input type="text"/> public-route	X Remove

Add new tag

Route table rtb-077c42a908b00f73d | public-route was created successfully.

VPC > Route tables > rtb-077c42a908b00f73d / public-route

Actions ▾

Details <small>Info</small>	
Route table ID <input type="text"/> rtb-077c42a908b00f73d	Main <input type="checkbox"/> No
VPC <input type="text"/> vpc-0aaeab94506ae58ab   my-vpc-01	Owner ID <input type="text"/> 918694989556
Explicit subnet associations -	Edge associations -

## Here I edit the public route and attach internet gateway

**Route tables (1/3) Info**

Name	Route table ID	Explicit subnet associations	Edge associations
-	rtb-0abbcfda3790fecbf	-	-
-	rtb-051968c25e7a3004b	-	-
<input checked="" type="checkbox"/> public-route	rtb-077c42a908b00f73d	-	-

**Actions**

- View details
- Set main route table
- Edit subnet associations
- Edit edge associations
- Edit route propagation
- Edit routes**
- Manage tags
- Delete route table

**Edit routes**

Destination	Target	Status	Propagated
30.0.0/16	local	Active	No
Q 0.0.0.0	Internet Gateway	-	No
	Q igw-0804d9b3e107594b4		

**Add route**

**Cancel** **Preview** **Save changes**

⌚ Updated routes for rtb-077c42a908b00f73d / public-route successfully

▶ Details

## EDIT THE SUBNET ASSOCIATIONS AND ATTACH THE TWO PUBLIC SUBNETS TO PUBLIC ROUTE TABLE

**Route tables (1/3) Info**

Name	Route table ID	Explicit subnet associations	Edge associations
-	rtb-0abbcfda3790fecbf	-	-
-	rtb-051968c25e7a3004b	-	-
<input checked="" type="checkbox"/> public-route	rtb-077c42a908b00f73d	-	-

**Actions**

- View details
- Set main route table
- Edit subnet associations**
- Edit edge associations
- Edit route propagation
- Edit routes
- Manage tags
- Delete route table

**Edit subnet associations**

Change which subnets are associated with this route table.

**Available subnets (2/6)**

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
<input checked="" type="checkbox"/> public-subnet-1	subnet-01888b49138cad19f	30.0.0.0/24	-	Main (rtb-051968c25e7a3004b)
<input checked="" type="checkbox"/> public-subnet-2	subnet-004cfac61c3e0ac8	30.0.30.0/24	-	Main (rtb-051968c25e7a3004b)
<input type="checkbox"/> private-subnet-1	subnet-0d030917edb8b0320	30.0.31.0/24	-	Main (rtb-051968c25e7a3004b)
<input type="checkbox"/> private-subnet-2	subnet-07161977e84caa69	30.0.32.0/24	-	Main (rtb-051968c25e7a3004b)
<input type="checkbox"/> private-subnet-RDS1	subnet-0bbe90324890ab516	30.0.33.0/24	-	Main (rtb-051968c25e7a3004b)
<input type="checkbox"/> private-subnet-RDS2	subnet-00b7e09dd901ccab3	30.0.34.0/24	-	Main (rtb-051968c25e7a3004b)

**Selected subnets**

subnet-01888b49138cad19f / public-subnet-1 X	subnet-004cfac61c3e0ac8 / public-subnet-2 X
--	---

**Cancel** **Save associations**

⌚ You have successfully updated subnet associations for rtb-077c42a908b00f73d / public-route.

Route tables (1/3) <a href="#">Info</a>						
<input type="button" value="C"/> Actions ▾ <a href="#">Create route table</a>						
Name	Route table ID	Explicit subnet assoc...	Edge associations	Main	VPC	
-	rtb-0abbefda3790fecbf	-	-	Yes	vpc-017a8b8cb3e288760	
-	rtb-051968c25e7a3004b	-	-	Yes	vpc-0aaeab94506ae58ab	
<input checked="" type="checkbox"/> public-route	rtb-077c42a908b00f73d	2 subnets	-	No	vpc-0aaeab94506ae58ab	

## NOW CREATE THE PRIVATE ROUTE TABLE:

NAME: private-route

### 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.

private-route

##### VPC

The VPC to use for this route table.

vpc-0aaeab94506ae58ab (my-vpc-01)

#### Tags

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

##### Key

##### Value - optional

Name

private-route

[Remove](#)

[Add new tag](#)

⌚ Route table rtb-0180956d5df8eeaba | private-route was created successfully.

[VPC](#) > [Route tables](#) > rtb-0180956d5df8eeaba

rtb-0180956d5df8eeaba / private-route

[Actions ▾](#)

#### Details [Info](#)

Route table ID  
[rtb-0180956d5df8eeaba](#)

Main  
 No

Explicit subnet associations  
-

Edge associations  
-

VPC  
[vpc-0aaeab94506ae58ab | my-vpc-01](#)

Owner ID  
[91869498556](#)

## HERE I EDIT SUBNET ASSOCIATION AND ATTACH FOUR PRIVATE SUBNETS TO THE PRIVATE ROUTE TABLE

Route tables (1/4) [Info](#)

Name	Route table ID	Explicit subnet associations	Edge associations
-	<a href="#">rtb-0abbcfda3790fecbf</a>	-	-
-	<a href="#">rtb-051968c25e7a3004b</a>	-	-
public-route	<a href="#">rtb-077c42a908b00f73d</a>	2 subnets	-
<input checked="" type="checkbox"/> private-route	<a href="#">rtb-0180956d5df8eeaba</a>	-	-

Actions ▾ [Create route table](#)

- [View details](#)
- [Set main route table](#)
- [Edit subnet associations](#) 8cb3e288760
- [Edit edge associations](#)
- [Edit route propagation](#)
- [Edit routes](#)
- [Manage tags](#)

**Edit subnet associations**

Change which subnets are associated with this route table.

Available subnets (4/6)

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
public-subnet-1	<a href="#">subnet-01888b49138cad19f</a>	30.0.0.0/24	-	<a href="#">rtb-077c42a908b00f73d / public-route</a>
public-subnet-2	<a href="#">subnet-004cface61c3e0a8</a>	30.0.30.0/24	-	<a href="#">rtb-077c42a908b00f73d / public-route</a>
<input checked="" type="checkbox"/> private-subnet-1	<a href="#">subnet-0d030917db08b0320</a>	30.0.31.0/24	-	Main ( <a href="#">rtb-051968c25e7a3004b</a> )
<input checked="" type="checkbox"/> private-subnet-2	<a href="#">subnet-07161977e84caa69</a>	30.0.32.0/24	-	Main ( <a href="#">rtb-051968c25e7a3004b</a> )
<input checked="" type="checkbox"/> private-subnet-RDS1	<a href="#">subnet-0bbe90324890ab516</a>	30.0.33.0/24	-	Main ( <a href="#">rtb-051968c25e7a3004b</a> )
<input checked="" type="checkbox"/> private-subnet-RDS2	<a href="#">subnet-00b7e09dd901ccab3</a>	30.0.34.0/24	-	Main ( <a href="#">rtb-051968c25e7a3004b</a> )

Selected subnets

[subnet-0d030917db08b0320 / private-subnet-1](#) [subnet-07161977e84caa69 / private-subnet-2](#) [subnet-0bbe90324890ab516 / private-subnet-RDS1](#) [subnet-00b7e09dd901ccab3 / private-subnet-RDS2](#)

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

✓ You have successfully updated subnet associations for [rtb-0180956d5df8eeaba / private-route](#).

Route tables (1/4) [Info](#)

Name	Route table ID	Explicit subnet associations	Edge associations	Main	VPC
-	<a href="#">rtb-0abbcfda3790fecbf</a>	-	-	Yes	<a href="#">vpc-017a8b8cb3e288760</a>
-	<a href="#">rtb-051968c25e7a3004b</a>	-	-	Yes	<a href="#">vpc-0aaeab94506ae58ab</a>
public-route	<a href="#">rtb-077c42a908b00f73d</a>	2 subnets	-	No	<a href="#">vpc-0aaeab94506ae58ab</a>
<input checked="" type="checkbox"/> private-route	<a href="#">rtb-0180956d5df8eeaba</a>	4 subnets	-	No	<a href="#">vpc-0aaeab94506ae58ab</a>

## NOW EDIT THE PRIVATE ROUTE TABLE AND ATTACH NAT GATEWAY

Route tables (1/4) [Info](#)

Name	Route table ID	Explicit subnet associations	Edge associations
-	<a href="#">rtb-0abbcfda3790fecbf</a>	-	-
-	<a href="#">rtb-051968c25e7a3004b</a>	-	-
public-route	<a href="#">rtb-077c42a908b00f73d</a>	2 subnets	-
<input checked="" type="checkbox"/> private-route	<a href="#">rtb-0180956d5df8eeaba</a>	4 subnets	-

Actions ▾ [Create route table](#)

- [View details](#)
- [Set main route table](#)
- [Edit subnet associations](#)
- [Edit edge associations](#)
- [Edit route propagation](#)
- [Edit routes](#) 94506ae58ab
- [Manage tags](#)
- [Delete route table](#)

## Edit routes

Destination	Target	Status	Propagated
30.0.0.0/16	local	Active	No
Q_ 0.0.0.0/0	NAT Gateway	-	No
	Q_ nat-01ef25c1a8d1b4ddf	X	
<input type="button" value="Add route"/>			
<input type="button" value="Cancel"/> <input type="button" value="Preview"/> <input type="button" value="Save changes"/>			

**HERE I GO TO ACTION AND EDIT SUBNET SETTINGS TO ENABLE AUTO-ASSIGN PUBLIC IPV4 ADDRESS**

Subnets (1/12) <a href="#">Info</a>				
<input type="text"/> Find resources by attribute or tag				
Name	Subnet ID	State	VPC	Actions
-	subnet-06effd87207bd7c95	Available	vpc-017a8b8cb3e288760	<a href="#">View details</a> <a href="#">Create flow log</a> <a href="#">Edit subnet settings</a> <a href="#">Edit IPv6 CIDRs</a> <a href="#">Edit network ACL association</a> <a href="#">Edit route table association</a> <a href="#">Edit CIDR reservations</a>
-	subnet-00a7824704d2541fd	Available	vpc-017a8b8cb3e288760	
<input checked="" type="checkbox"/> public-subnet-1	subnet-01888b49138cad19f	Available	vpc-0aaeab94506ae58ab   my	
public-subnet-2	subnet-004cfac61c3e0ac8	Available	vpc-0aaeab94506ae58ab   my	
private-subnet-1	subnet-0d030917db08b0320	Available	vpc-0aaeab94506ae58ab   my	

⌚ Updated routes for rtb-0180956d5df8eeaba / private-route successfully
✖

▶ Details

VPC > Route tables > rtb-0180956d5df8eeaba

**rtb-0180956d5df8eeaba / private-route**

[Actions ▾](#)

Details <a href="#">Info</a>			
Route table ID <a href="#">rtb-0180956d5df8eeaba</a>	Main <a href="#">No</a>	Explicit subnet associations 4 subnets	Edge associations -
VPC <a href="#">vpc-0aaeab94506ae58ab   my-vpc-01</a>	Owner ID <a href="#">918694989556</a>		

## Edit subnet settings Info

### Subnet

Subnet ID  
 subnet-01888b49138cad19f

Name  
 public-subnet-1

### 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](#)

⌚ You have successfully changed subnet settings:  
◦ Enable auto-assign public IPv4 address



**NOTE: HERE SAME PROCESS TO THE REMAINING FIVE SUBNETS**

## CREATES SECURITY GROUPS: 02

### FIRST SECURITY GROUP NAME: security-group11

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](#)  
security-group11

Name cannot be edited after creation.

Description [Info](#)  
nothing

VPC [Info](#)  
vpc-0aaeab94506ae58ab (my-vpc-01)

**Inbound rules** [Info](#)

Type <a href="#">Info</a>	Protocol <a href="#">Info</a>	Port range <a href="#">Info</a>	Source <a href="#">Info</a>	Description - optional <a href="#">Info</a>	Delete
SSH	TCP	22	Anyw... ▾	0.0.0.0/0 X	<a href="#">Delete</a>
HTTP	TCP	80	Anyw... ▾	0.0.0.0/0 X	<a href="#">Delete</a>

[Add rule](#)

## SECOND SECURITY GROUP NAME: security-group22

### 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  
 Name cannot be edited after creation.

Description Info

VPC Info

#### 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>
SSH	TCP	22	Anyw... ▾	<input type="text"/> 0.0.0.0/X <span style="border: 1px solid #ccc; padding: 2px;">Delete</span>
HTTP	TCP	80	Anyw... ▾	<input type="text"/> 0.0.0.0/X <span style="border: 1px solid #ccc; padding: 2px;">Delete</span>

Add rule

⌚ Security group (sg-0ac831d068540ff9b | security-group22) was created successfully  
▶ Details X

## NOW LAUNCH TWO TEMPLATES:

FIRST TEMPLATE NAME: **public-template**

### Create launch template

Creating a launch template allows you to create a saved instance configuration that can be reused, shared and launched at a later time. Templates can have multiple versions.

#### Launch template name and description

Launch template name - *required*

public-template

Must be unique to this account. Max 128 chars. No spaces or special characters like '&', '\*', '@'.

Template version description

nothing

Max 255 chars

Auto Scaling guidance | [Info](#)

Select this if you intend to use this template with EC2 Auto Scaling

Provide guidance to help me set up a template that I can use with EC2 Auto Scaling

#### ▼ Application and OS Images (Amazon Machine Image) [Info](#)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below.

 *Search our full catalog including 1000s of application and OS images*

Recents

Quick Start

Don't include  
in launch  
template

Amazon

Linux



macOS



Ubuntu



Windows



Red H



Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Amazon Linux 2023 AMI

ami-04e5276ebb8451442 (64-bit (x86), uefi-preferred) / ami-09e060bed64ca0c04 (64-bit (Arm), uefi)

Virtualization: hvm ENA enabled: true Root device type: ebs

Free tier eligible

## ▼ Instance type [Info](#) | [Get advice](#)

Advanced

### Instance type

t2.micro

Family: t2 1 vCPU 1 GiB Memory Current generation: true  
On-Demand Windows base pricing: 0.0162 USD per Hour  
On-Demand SUSE base pricing: 0.0116 USD per Hour  
On-Demand RHEL base pricing: 0.0716 USD per Hour  
On-Demand Linux base pricing: 0.0116 USD per Hour

Free tier eligible

All generations

[Compare instance types](#)

Additional costs apply for AMIs with pre-installed software

## ▼ Key pair (login) [Info](#)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

### Key pair name

dileep21

[Create new key pair](#)

## ▼ Network settings [Info](#)

### Subnet [Info](#) \*

Don't include in launch template

[Create new subnet](#)

When you specify a subnet, a network interface is automatically added to your template.

### Firewall (security groups) [Info](#)

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

Select existing security group

Create security group

### Security groups [Info](#)

Select security groups

[Compare security group rules](#)

security-group11 sg-0374be69a822a4332 X  
VPC: vpc-0aaeab94506ae58ab

### ► Advanced network configuration



Success  
Successfully created public-template(lt-0eb45e5b05baed2fc).

## SECOND TEMPLATE NAME: private-template

### Create launch template

Creating a launch template allows you to create a saved instance configuration that can be reused, shared and launched at a later time. Templates can have multiple versions.

#### Launch template name and description

Launch template name - *required*

private-template

Must be unique to this account. Max 128 chars. No spaces or special characters like '&', '\*', '@'.

Template version description

nothing

Max 255 chars

Auto Scaling guidance | [Info](#)

Select this if you intend to use this template with EC2 Auto Scaling

Provide guidance to help me set up a template that I can use with EC2 Auto Scaling

#### ▼ Application and OS Images (Amazon Machine Image) [Info](#)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

 *Search our full catalog including 1000s of application and OS images*

Recents

Quick Start

Don't include  
in launch  
template

Amazon  
Linux



macOS



Ubuntu



Windows



Red H



Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

#### Amazon Machine Image (AMI)

##### Amazon Linux 2023 AMI

ami-04e5276ebb8451442 (64-bit (x86), uefi-preferred) / ami-09e060bed64ca0c04 (64-bit (Arm), uefi)

Virtualization: hvm ENA enabled: true Root device type: ebs

Free tier eligible

## ▼ Network settings [Info](#)

Subnet [Info](#)

Don't include in launch template

 Create new subnet [\[edit\]](#)

When you specify a subnet, a network interface is automatically added to your template.

Firewall (security groups) [Info](#)

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

Select existing security group

Create security group

Security groups [Info](#)

Select security groups

 Compare security group rules

security-group22 sg-0ac831d068540ff9b 

VPC: vpc-0aaeab94506ae58ab

 Success

Successfully created private-template(lt-047efc801dbf12880).

## Launch Templates (2) [Info](#)

 [\[edit\]](#)

 Actions [\[edit\]](#)

 Create launch template

Search

< 1 > 

Launch Template ID	Launch Template Name	Default Version	Latest Version	Create Time	Created By
<a href="#">lt-047efc801dbf12880</a>	private-template	1	1	2024-04-22T17:24:10.000Z	arn:aws:iam:....
<a href="#">lt-0eb45e5b05baed2fc</a>	public-template	1	1	2024-04-22T17:18:53.000Z	arn:aws:iam:....

**LAUNCH AUTO SCALINGS GROUPS TWO:**

**FIRST AUTO SCALING GROUP NAME: auto-scaling-public**

\*

---

## Create Auto Scaling group

Get started with EC2 Auto Scaling by creating an Auto Scaling group.

**Create Auto Scaling group**

### Choose launch template or configuration Info

Specify a launch template that contains settings common to all EC2 instances that are launched by this Auto Scaling group. If you currently use launch configurations, you might consider migrating to launch templates.

#### Name

Auto Scaling group name

Enter a name to identify the group.

auto-scaling-public

Must be unique to this account in the current Region and no more than 255 characters.

#### Launch template Info

[Switch to launch configuration](#)

##### Launch template

Choose a launch template that contains the instance-level settings, such as the Amazon Machine Image (AMI), instance type, key pair, and security groups.

public-template



## Network Info

For most applications, you can use multiple Availability Zones and let EC2 Auto Scaling balance your instances across the zones. The default VPC and default subnets are suitable for getting started quickly.

### VPC

Choose the VPC that defines the virtual network for your Auto Scaling group.

vpc-0aaeab94506ae58ab (my-vpc-01)  
30.0.0.0/16



Create a VPC

### Availability Zones and subnets

Define which Availability Zones and subnets your Auto Scaling group can use in the chosen VPC.

Select Availability Zones and subnets



us-east-1a | subnet-01888b49138cad19f (public-subnet-1)  
30.0.0.0/24



us-east-1b | subnet-004cfac61c3e0ac8 (public-subnet-2)  
30.0.30.0/24



## Load balancing Info

Use the options below to attach your Auto Scaling group to an existing load balancer, or to a new load balancer that you define.

### No load balancer

Traffic to your Auto Scaling group will not be fronted by a load balancer.

### Attach to an existing load balancer

Choose from your existing load balancers.

### Attach to a new load balancer

Quickly create a basic load balancer to attach to your Auto Scaling group.

## Attach to a new load balancer

Define a new load balancer to create for attachment to this Auto Scaling group.

### Load balancer type

Choose from the load balancer types offered below. Type selection cannot be changed after the load balancer is created. If you need a different type of load balancer than those offered here, visit the Load Balancing console.

### Application Load Balancer

HTTP, HTTPS

### Network Load Balancer

TCP, UDP, TLS

#### Load balancer name

Name cannot be changed after the load balancer is created.

#### Load balancer scheme

Scheme cannot be changed after the load balancer is created.

 Internal Internet-facing

#### Network mapping

Your new load balancer will be created using the same VPC and Availability Zone selections as your Auto Scaling group. You can select different subnets and add subnets from additional Availability Zones.

##### VPC

##### Availability Zones and subnets

You must select a single subnet for each Availability Zone enabled. Only public subnets are available for selection to support DNS resolution.

 us-east-1b us-east-1a

---

#### Listeners and routing

If you require secure listeners, or multiple listeners, you can configure them from the [Load Balancing console](#) after your load balancer is created.

##### Protocol

##### Port

##### Default routing (forward to)



An instance target group with default settings will be created.

#### Tags - optional

Consider adding tags to your load balancer. Tags enable you to categorize your AWS resources so you can more easily manage them.

50 remaining

---

#### Health check grace period | [Info](#)

This time period delays the first health check until your instances finish initializing. It doesn't prevent an instance from terminating when placed into a non-running state.



## Configure group size and scaling - optional Info

Define your group's desired capacity and scaling limits. You can optionally add automatic scaling to adjust the size of your group.

### Group size Info

Set the initial size of the Auto Scaling group. After creating the group, you can change its size to meet demand, either manually or by using automatic scaling.

#### Desired capacity type

Choose the unit of measurement for the desired capacity value. vCPUs and Memory(GiB) are only supported for mixed instances groups configured with a set of instance attributes.

Units (number of instances)



#### Desired capacity

Specify your group size.

2

### Scaling Info

You can resize your Auto Scaling group manually or automatically to meet changes in demand.

#### Scaling limits

Set limits on how much your desired capacity can be increased or decreased.

Min desired capacity

2

Equal or less than desired capacity

Max desired capacity

5

Equal or greater than desired capacity

Auto Scaling groups (1) <small>Info</small>		Actions	Create Auto Scaling group
<input type="text"/> Search your Auto Scaling groups			
<input type="checkbox"/>	Name	Launch template/configuration	Instances
	auto-scaling-public	public-template   Version Default	0

## SECOND AUTO SCALING GROUP NAME: auto-scaling-private

### Choose launch template or configuration Info

Specify a launch template that contains settings common to all EC2 instances that are launched by this Auto Scaling group. If you currently use launch configurations, you might consider migrating to launch templates.

#### Name

##### Auto Scaling group name

Enter a name to identify the group.

Must be unique to this account in the current Region and no more than 255 characters.

#### Launch template Info

[Switch to launch configuration](#)

##### Launch template

Choose a launch template that contains the instance-level settings, such as the Amazon Machine Image (AMI), instance type, key pair, and security groups.



#### Network Info

For most applications, you can use multiple Availability Zones and let EC2 Auto Scaling balance your instances across the zones. The default VPC and default subnets are suitable for getting started quickly.

##### VPC

Choose the VPC that defines the virtual network for your Auto Scaling group.

  
30.0.0.0/16[Create a VPC](#)

##### Availability Zones and subnets

Define which Availability Zones and subnets your Auto Scaling group can use in the chosen VPC.



us-east-1a | subnet-0d030917db08b0320 (private-  
subnet-1)  
30.0.31.0/24



us-east-1b | subnet-07161977e84caaa69 (private-  
subnet-2)  
30.0.32.0/24



us-east-1a | subnet-0bbe90324890ab516 (private-  
subnet-RDS1)  
30.0.33.0/24



us-east-1b | subnet-00b7e09dd901ccab3 (private-  
subnet-RDS2)



## Configure advanced options - *optional* [Info](#)

Integrate your Auto Scaling group with other services to distribute network traffic across multiple servers using a load balancer or to establish service-to-service communications using VPC Lattice. You can also set options that give you more control over health check replacements and monitoring.

### Load balancing [Info](#)

Use the options below to attach your Auto Scaling group to an existing load balancer, or to a new load balancer that you define.

No load balancer

Traffic to your Auto Scaling group will not be fronted by a load balancer.

Attach to an existing load balancer

Choose from your existing load balancers.

Attach to a new load balancer

Quickly create a basic load balancer to attach to your Auto Scaling group.

### Attach to a new load balancer

Define a new load balancer to create for attachment to this Auto Scaling group.

#### Load balancer type

Choose from the load balancer types offered below. Type selection cannot be changed after the load balancer is created. If you need a different type of load balancer than those offered here, visit the [Load Balancing console](#).

Application Load Balancer

HTTP, HTTPS

Network Load Balancer

TCP, UDP, TLS

#### Load balancer name

Name cannot be changed after the load balancer is created.

auto-scaling-private-1

#### Load balancer scheme

Scheme cannot be changed after the load balancer is created.

Internal

Internet-facing

## Network mapping

Your new load balancer will be created using the same VPC and Availability Zone selections as your Auto Scaling group. You can select different subnets and add subnets from additional Availability Zones.

### VPC

vpc-0aaeab94506ae58ab

my-vpc-01

### Availability Zones and subnets

You must select a single subnet for each Availability Zone enabled. Only public subnets are available for selection to support DNS resolution.

us-east-1b

subnet-07161977e84caaa69

us-east-1a

subnet-0bbe90324890ab516

### Listeners and routing

If you require secure listeners, or multiple listeners, you can configure them from the [Load Balancing console](#) after your load balancer is created.

#### Protocol

#### Port

#### Default routing (forward to)

HTTP

80

Create a target group



New target group name

An instance target group with default settings will be created.

auto-scaling-private-1

### Health check grace period | [Info](#)

This time period delays the first health check until your instances finish initializing. It doesn't prevent an instance from terminating when placed into a non-running state.

30 seconds

Auto Scaling groups (2) <a href="#">Info</a>									<a href="#">Launch configurations</a>	<a href="#">Launch templates</a>	<a href="#">Actions</a>	<a href="#">Create Auto Scaling group</a>
									Search your Auto Scaling groups			
	Name	Launch template/configuration	Instances	Status	Desired capacity	Min	Max	Available				
<input type="checkbox"/>	auto-scaling-private	<a href="#">private-template</a>   Version Default	2	-	2	2	5	us-east-1a, ...				
<input type="checkbox"/>	auto-scaling-public	<a href="#">public-template</a>   Version Default	2	-	2	2	5	us-east-1a, ...				

## CREATED AUTOMATICALLY EC2 INSTANCES

Instances (4) <a href="#">Info</a>								
		<a href="#">Connect</a>		Instance state ▾		Actions ▾		Launch instances ▾
<input type="text"/> Find Instance by attribute or tag (case-sensitive)		<a href="#">All states ▾</a>						
<input type="checkbox"/>	Name ↴	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
<input type="checkbox"/>	i-0641faa230b2b5efa	Running	t2.micro	2/2 checks passed	<a href="#">View alarms</a> +	us-east-1a	-	
<input type="checkbox"/>	i-0287672fb60015913	Running	t2.micro	2/2 checks passed	<a href="#">View alarms</a> +	us-east-1b	-	
<input type="checkbox"/>	i-0bd7a404276715bb9	Running	t2.micro	Initializing	<a href="#">View alarms</a> +	us-east-1b	-	
<input type="checkbox"/>	i-0feb6bc8644372b5b	Running	t2.micro	Initializing	<a href="#">View alarms</a> +	us-east-1a	-	

## GIVE THE NAMES TO THE EC2 INSTANCES:

<input type="checkbox"/>	Name ↴	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
<input type="checkbox"/>	public-1	i-0641faa230b2b5efa	Running	t2.micro	2/2 checks passed	<a href="#">View alarms</a> +	us-east-1a	-
<input type="checkbox"/>	public-2	i-0287672fb60015913	Running	t2.micro	2/2 checks passed	<a href="#">View alarms</a> +	us-east-1b	-
<input type="checkbox"/>	private-2	i-0bd7a404276715bb9	Running	t2.micro	2/2 checks passed	<a href="#">View alarms</a> +	us-east-1b	-
<input type="checkbox"/>	private-1	i-0feb6bc8644372b5b	Running	t2.micro	2/2 checks passed	<a href="#">View alarms</a> +	us-east-1a	-

## PUBLIC1 INSTANCE CONNECT TO THE WEB:

```
EC2
Amazon Linux 2023
https://aws.amazon.com/linux/amazon-linux-2023
[ec2-user@ip-30-0-0-153 ~]$
```

```
EC2
'`#_
~\`###_      Amazon Linux 2023
~~\###\
~~\###|
~~ \#/     https://aws.amazon.com/linux/amazon-linux-2023
~~ V~`-'>
~~`/
~~`/`/
~/`/
Last login: Mon Apr 22 18:59:23 2024 from 18.206.107.27
[ec2-user@ip-30-0-0-153 ~]$ ls
[ec2-user@ip-30-0-0-153 ~]$ i-0641faa230b2b5efa (public-1)
PublicIPs: 3.223.136.132 PrivateIPs: 30.0.0.153
```

## PUBLIC1 INSTANCE ATTACHED TO PRIVATE1 INSTANCE

### NOW PUBLIC2 INSTANCE ATTACHED TO THE WEB:

```
'`#_
~\`###_      Amazon Linux 2023
~~\###\
~~\###|
~~ \#/     https://aws.amazon.com/linux/amazon-linux-2023
~~ V~`-'>
~~`/
~~`/`/
~/`/
[ec2-user@ip-30-0-30-203 ~]$ i-0287672fb60015913 (public-2)
PublicIPs: 54.84.58.230 PrivateIPs: 30.0.30.203
```

AWS Services Search [Alt+S]

EC2

```
#  
~\_ #####_ Amazon Linux 2023  
~~ \_\#\#\#\`  
~~ \#\#\#|  
~~ \|/ __ https://aws.amazon.com/linux/amazon-linux-2023  
~~ V~' '-->  
~~ . /  
~~ . / /  
~/m/' /  
Last login: Mon Apr 22 19:06:56 2024 from 18.206.107.27  
[ec2-user@ip-30-0-30-203 ~]$ sudo -i  
[root@ip-30-0-30-203 ~]# vi dileep21.pem  
[root@ip-30-0-30-203 ~]# chmod 400 "dileep21.pem"  
[root@ip-30-0-30-203 ~]# ssh -i "dileep21.pem" ec2-user@54.84.58.230  
The authenticity of host '54.84.58.230 (54.84.58.230)' can't be established.  
ED25519 key fingerprint is SHA256:DCSgKQ8cH5Pwsxhf1pgoz0YA4LYTSDYXFOPxaMjRh0o.  
This key is not known by any other names  
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes  
Warning: Permanently added '54.84.58.230' (ED25519) to the list of known hosts.  
#  
~\_ #####_ Amazon Linux 2023  
~~ \_\#\#\#\`  
~~ \#\#\#|  
~~ \|/ __ https://aws.amazon.com/linux/amazon-linux-2023  
~~ V~' '-->  
~~ . /  
~~ . / /  
~/m/' /  
Last login: Mon Apr 22 19:08:11 2024 from 18.206.107.29  
[ec2-user@ip-30-0-30-203 ~]$
```

## PUBLIC2 INSTANCE ATTACH TO PRIVATE2 INSTANCE

## CREATE DATABASE:

### Create database

**Choose a database creation method** Info

Standard create  
You set all of the configuration options, including ones for availability, security, backups, and maintenance.

Easy create  
Use recommended best-practice configurations. Some configuration options can be changed after the database is created.

### Engine options

**Engine type** Info

Aurora (MySQL Compatible)  


Aurora (PostgreSQL Compatible)  


MySQL  


MariaDB  


PostgreSQL  


Oracle  


Microsoft SQL Server  


IBM Db2  


## Templates

Choose a sample template to meet your use case.

### Production

Use defaults for high availability and fast, consistent performance.

### Dev/Test

This instance is intended for development use outside of a production environment.

### Free tier

Use RDS Free Tier to develop new applications, test existing applications, or gain hands-on experience with Amazon RDS.

[Info](#)

## 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.

database-1

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. The first character must be a letter.

#### Credentials management

You can use AWS Secrets Manager or manage your master user credentials.

##### Managed in AWS Secrets Manager - *most secure*

RDS generates a password for you and manages it throughout its lifecycle using AWS Secrets Manager.

##### Self managed

Create your own password or have RDS create a password that you manage.

**①** If you manage the master user credentials in AWS Secrets Manager, additional charges apply. See [AWS Secrets Manager pricing](#). Additionally, some RDS features aren't supported. See limitations [here](#).

#### Select the encryption key [Info](#)

You can encrypt using the KMS key that Secrets Manager creates or a customer managed KMS key that you create.

aws/secretsmanager (default)



## Instance configuration

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

DB instance class [Info](#)

▼ Hide filters

Show instance classes that support Amazon RDS Optimized Writes [Info](#)

Amazon RDS Optimized Writes improves write throughput by up to 2x at no additional cost.

Include previous generation classes •

Standard classes (includes m classes)

Memory optimized classes (includes r and x classes)

Burstable classes (includes t classes)

db.t3.micro

2 vCPUs 1 GiB RAM Network: 2,085 Mbps



## Storage

Storage type [Info](#)

Provisioned IOPS SSD (io2) storage volumes are now available.

General Purpose SSD (gp2)

Baseline performance determined by volume size



Allocated storage [Info](#)

20



GiB

The minimum value is 20 GiB and the maximum value is 6,144 GiB

i After you modify the storage for a DB instance, the status of the DB instance will be in storage-optimization. Your instance will remain available as the storage-optimization operation completes. [Learn more](#)

► Storage autoscaling

## 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.

my-vpc-01 (vpc-0aaeab94506ae58ab)

6 Subnets, 2 Availability Zones



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.

Create new DB Subnet Group



## 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 appropriate incoming traffic.

**Choose existing**

Choose existing VPC security groups

**Create new**

Create new VPC security group

### Existing VPC security groups

Choose one or more options



security-group11

security-group22

### Availability Zone Info

us-east-1a



Databases (1)											<input checked="" type="checkbox"/> Group resources		Modify	Actions ▾	Restore from S3	<b>Create database</b>
											< 1 >					
DB identifier	Status	Role	Engine	Region & AZ	Size	Recommendations	CPU	Current activ								
database-1		Instance	MySQL Community	us-east-1a	db.t3.micro			2.83%	0 Co							

## CREATE DB SUBNET GROUP:

### Create DB subnet group

To create a new subnet group, give it a name and a description, and choose an existing VPC. You will then be able to add subnets related to that VPC.

#### Subnet group details

##### Name

You won't be able to modify the name after your subnet group has been created.

Must contain from 1 to 255 characters. Alphanumeric characters, spaces, hyphens, underscores, and periods are allowed.

##### Description

##### VPC

Choose a VPC identifier that corresponds to the subnets you want to use for your DB subnet group. You won't be able to choose a different VPC identifier after your subnet group has been created.

## Add subnets

### Availability Zones

Choose the Availability Zones that include the subnets you want to add.

Choose an availability zone

us-east-1a X

us-east-1b X

### Subnets

Choose the subnets that you want to add. The list includes the subnets in the selected Availability Zones.

Select subnets

subnet-00b7e09dd901ccab3 (30.0.34.0/24) X

subnet-0bbe90324890ab516 (30.0.33.0/24) X

i For Multi-AZ DB clusters, you must select 3 subnets in 3 different Availability Zones.

### Subnets selected (2)

Availability zone	Subnet ID	CIDR block
us-east-1b	subnet-00b7e09dd901ccab3	30.0.34.0/24
us-east-1a	subnet-0bbe90324890ab516	30.0.33.0/24

✓ Successfully created DB-subnet. [View subnet group](#)

RDS > Subnet groups

### Subnet groups (4)



Edit

Delete

Create DB subnet group

Filter by subnet group



1



<input type="checkbox"/>	Name	Description	Status
<input type="checkbox"/>	<a href="#">db-subnet</a>	nothing	<span style="color: #0072bc;">✓</span> Complete
<input type="checkbox"/>	<a href="#">default-vpc-017a8b8cb3e288760</a>	Created from the RDS Management Console	<span style="color: #0072bc;">✓</span> Complete
<input type="checkbox"/>	<a href="#">default-vpc-Oaaeab94506ae58ab</a>	Created from the RDS Management Console	<span style="color: #0072bc;">✓</span> Complete
<input type="checkbox"/>	<a href="#">default-vpc-0ea77ceb777a552b4</a>	Created from the RDS Management Console	<span style="color: #0072bc;">✓</span> Complete

## CREATE DB SNAPSHOT:

### Take DB Snapshot

**Preferences**  
To take a DB Snapshot, choose a DB Instance and name your DB Snapshot.

Snapshot type  
 DB instance  
 DB cluster

DB instance  
DB Instance identifier. This is the unique key that identifies a DB Instance.  
database-1

Snapshot name  
Identifier for the DB Snapshot.  
DB-snapshot

Snapshot identifier is case insensitive, but stored as all lower-case, as in "mysnapshot". Cannot be null, empty, or blank. Must contain from 1 to 255 alphanumeric characters or hyphens. First character must be a letter. Cannot end with a hyphen or contain two consecutive hyphens.

**Cancel** **Take snapshot**

### Snapshots

Manual	System	Shared with me	Public	Backup service	Exports in Amazon S3
<b>Manual snapshots (3)</b>					
<input type="button"/> Actions <input type="button"/> Take snapshot					
Snapshot name	DB instance or cluster	Snapshot creation time	DB Instance created time		
<a href="#">db-snapshot</a>	database-1	April 23, 2024, 01:19 (UTC+05:30)	April 23, 2024, 01:01 (UTC+05:30)		
<a href="#">database-1-snapshot</a>	database-1	April 21, 2024, 19:14 (UTC+05:30)	April 21, 2024, 18:44 (UTC+05:30)		
<a href="#">database-1-final-snapshot</a>	database-1	April 13, 2024, 23:42 (UTC+05:30)	April 13, 2024, 22:31 (UTC+05:30)		

