



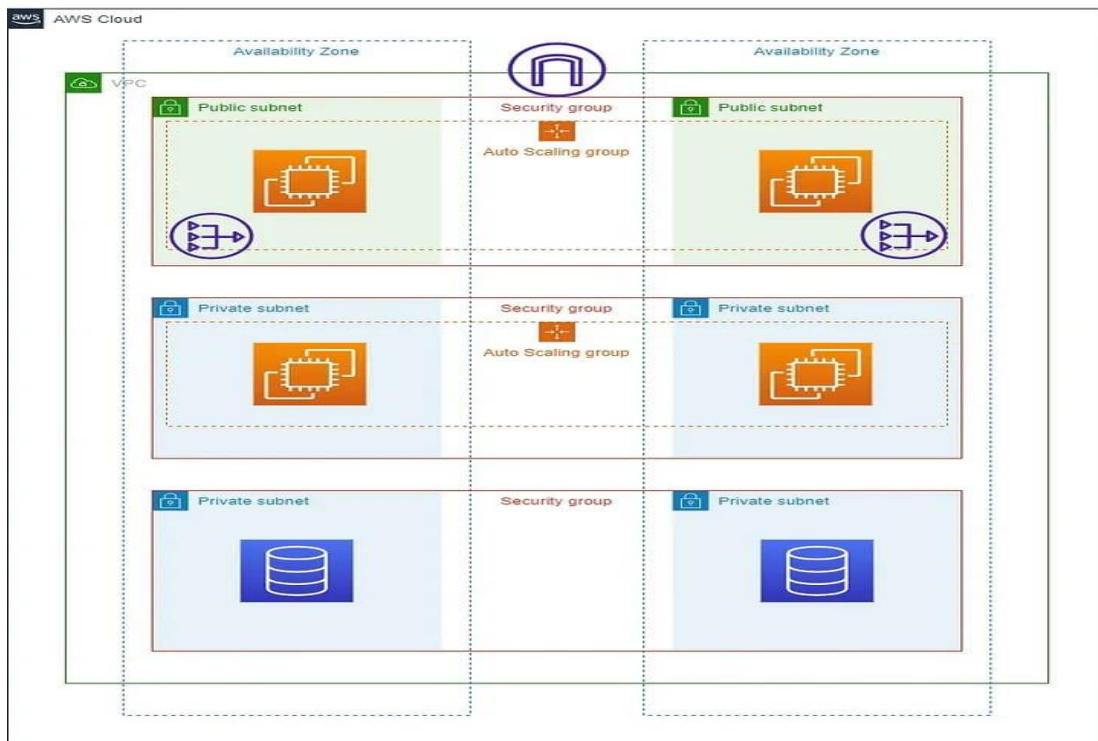
Project-1

Name:- D.Sai Rajitha

Email-id:- sairajithavarma@gmail.com

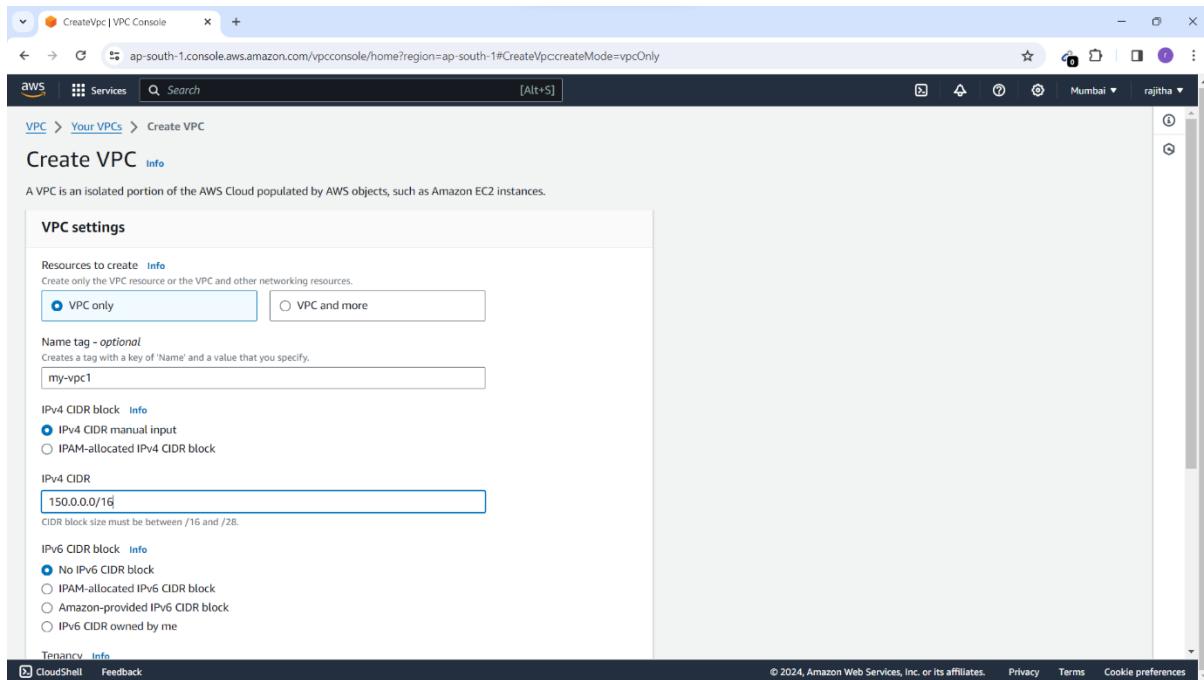
Batch:-120

Trainer:- Madhukar Reddy



Step1:- Create Vpc

- Name vpc which we call name tag as my-vpc1
- IPV4 CIDR 150.0.0.0/16
- Create vpc



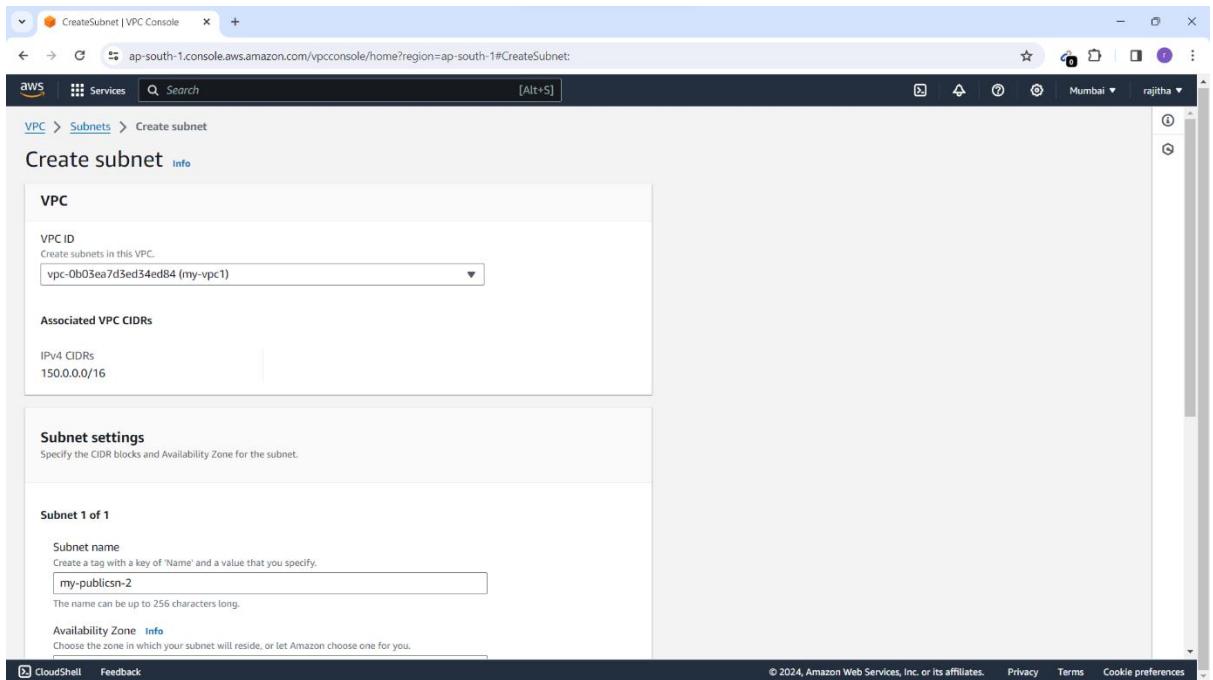
Step2:- Create Subnet here for 3 tier we have to create 6 subnets (2 public and 4 private subnets) with different CIDR value to create a subnet we have to select the VPC then name subnet , CIDR value, Availability zone, and create subnet this is how we create the subnet create the remaining 5 subnets in the same format

The screenshot shows the AWS VPC console interface for creating a new subnet. The process is divided into three main steps:

- Step 1: Select VPC** (Completed): Shows the VPC ID selected as "my-vpc1".
- Step 2: Set Subnet settings** (Completed): Shows the subnet name "my-publicsn-1" and the availability zone "ap-south-1a".
- Step 3: Configure subnet details** (In Progress): Shows the IPv4 CIDR block set to "150.0.0.0/16" and the IPv4 subnet CIDR block set to "150.0.0.0/24". It also includes a section for optional tags, where a tag "Name" is defined with the value "my-publicsn-1".

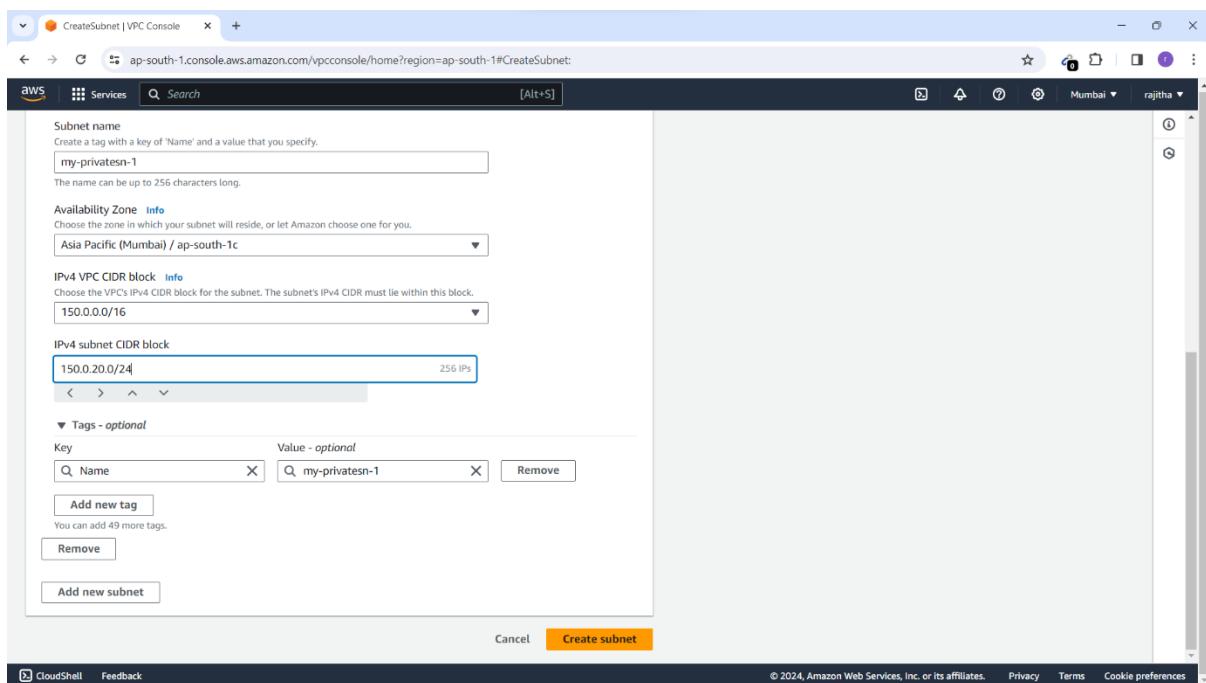
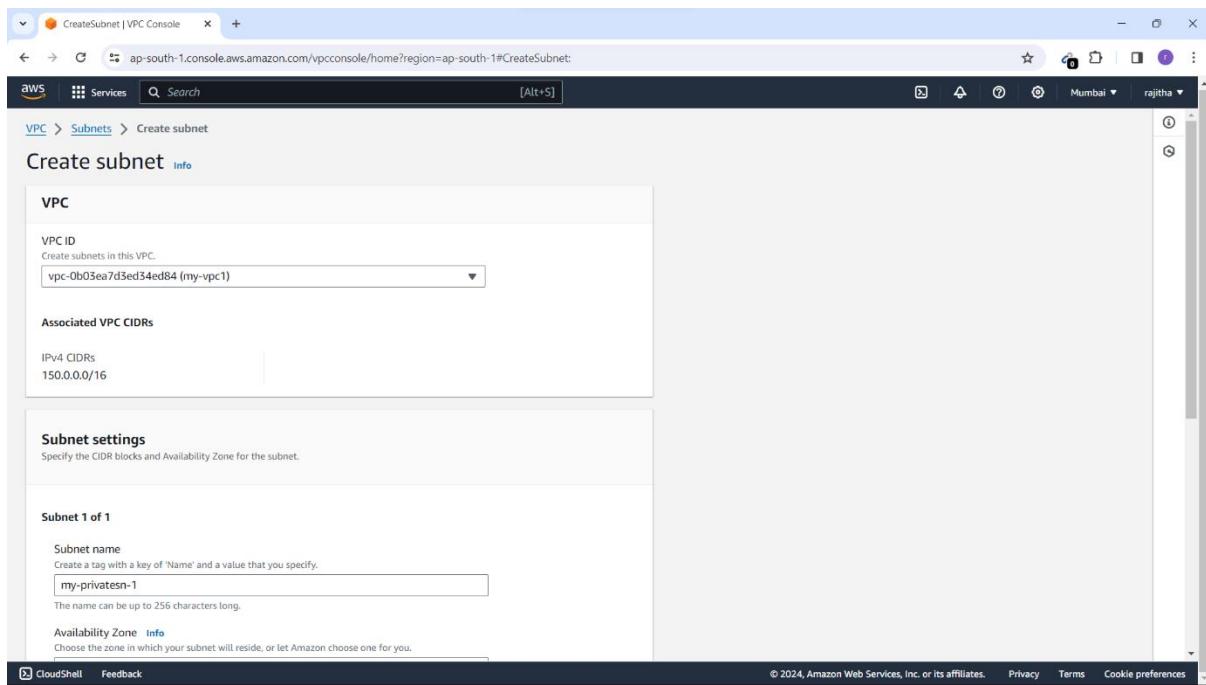
Step3:- Create the subnet

- Select vpc
- Subnet name as my-publicsn-1
- Availability zone ap-south-1a
- IPV4 CIDR 150.0.0.0/24
- Create subnet



Step4:- Create the subnet

- Select vpc
- Subnet name as my-publicsn-2
- Availability zone ap-south-1b
- IPV4 CIDR 150.0.20.0/24
- Create subnet



Step5:- Create the subnet

- Select vpc
- Subnet name as my-privatesn-1
- Availability zone ap-south-1c
- IPV4 CIDR 150.0.30.0/24
- Create subnet

Step6:- Create the subnet

- Select vpc
- Subnet name as my-privatesn-2
- Availability zone ap-south-1a
- IPV4 CIDR 150.0.30.0/24
- Create subnet

CreateSubnet | VPC Console

VPC ID: vpc-0b03ea7d3ed34ed84 (my-vpc1)

Associated VPC CIDRs: 150.0.0.0/16

Subnet settings

Subnet 1 of 1

Subnet name: my-privatesn-2

Availability Zone: ap-south-1a

IPv4 VPC CIDR block: 150.0.0.0/16

IPv4 subnet CIDR block: 150.0.30.0/24

Tags - optional

Key: Name Value: my-privatesn-2

Create subnet

CreateSubnet | VPC Console

Subnet name: my-privatesn-2

Availability Zone: Asia Pacific (Mumbai) / ap-south-1a

IPv4 VPC CIDR block: 150.0.0.0/16

IPv4 subnet CIDR block: 150.0.30.0/24

Tags - optional

Key: Name Value: my-privatesn-2

Create subnet

Step7:- Create the subnet

- Select vpc
- Subnet name as my-privatesn-3
- Availability zone ap-south-1b
- IPV4 CIDR 150.0.5.0/24
- Create subnet

CreateSubnet | VPC Console

VPC ID: vpc-0b03ea7d3ed34ed84 (my-vpc1)

Associated VPC CIDRs: 150.0.0.0/16

Subnet settings:

- Subnet 1 of 1
 - Subnet name: my-privatesn-3
 - Availability Zone: ap-south-1b
 - IPv4 VPC CIDR block: 150.0.0.0/16

Tags - optional:

- Key: Name, Value: my-privatesn-3

Create subnet

CreateSubnet | VPC Console

Subnet name: my-privatesn-3

Availability Zone: Asia Pacific (Mumbai) / ap-south-1b

IPv4 VPC CIDR block: 150.0.0.0/16

IPv4 subnet CIDR block: 150.0.5.0/24

Tags - optional:

- Key: Name, Value: my-privatesn-3

Create subnet

Step8:- Create the subnet

- Select vpc
- Subnet name as my-privatesn-4
- Availability zone ap-south-1c
- IPV4 CIDR 150.0.10.0/24
- Create subnet

The screenshot shows the 'Create subnet' wizard in the AWS VPC console. The first step, 'VPC', is completed, showing the selected VPC ID: 'vpc-0b03ea7d3ed34ed84 (my-vpc1)'. The second step, 'Subnet settings', is active. It specifies the subnet name as 'my-privatesn-4', the availability zone as 'ap-south-1c', and the IPv4 CIDR block as '150.0.0.0/16'. The third step, 'Review and launch', is shown below, where the subnet details are summarized and a 'Create subnet' button is visible.

VPC

VPC ID
Create subnets in this VPC.
vpc-0b03ea7d3ed34ed84 (my-vpc1)

Associated VPC CIDRs
IPv4 CIDRs
150.0.0.0/16

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.
my-privatesn-4

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.

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Review and launch

Subnet name: my-privatesn-4
Availability Zone: Asia Pacific (Mumbai) / ap-south-1c
IPv4 VPC CIDR block: 150.0.0.0/16
IPv4 subnet CIDR block: 150.0.10.0/24
Tags - optional
Key: Name Value: my-privatesn-4
Add new tag Remove
You can add 49 more tags.
Remove Add new subnet

Cancel **Create subnet** © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Step9:- Create the Routetable

- Name route table as my-public-rt
- Select the vpc
- Create route table
- Edit subnet associations
- Select the public subnets as shown in the below pictures

CreateRouteTable | VPC Console

Create route table Info

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

Route table settings

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

VPC
The VPC to use for this route table.

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

Key	Value - optional
<input type="text" value="Name"/>	<input type="text" value="my-public-rt"/>

Create route table

EditRouteTableSubnetAssociations | VPC Console

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"/> my-publicsn-1	subnet-0006d426c0b0ab663	150.0.0.0/24	-	Main (rtb-08a15ceee9e4b17e4)
<input checked="" type="checkbox"/> my-publicsn-2	subnet-0eec5f05ca8b4ea70	150.0.1.0/24	-	Main (rtb-08a15ceee9e4b17e4)
<input type="checkbox"/> my-privatesn-1	subnet-0fb1566f15f58d4	150.0.20.0/24	-	Main (rtb-08a15ceee9e4b17e4)
<input type="checkbox"/> my-privatesn-2	subnet-0d839b23962544888	150.0.30.0/24	-	Main (rtb-08a15ceee9e4b17e4)
<input type="checkbox"/> my-privatesn-3	subnet-0d448d65f5cbe71b8	150.0.5.0/24	-	Main (rtb-08a15ceee9e4b17e4)
<input type="checkbox"/> my-privatesn-4	subnet-0d594f6a4ed592743	150.0.10.0/24	-	Main (rtb-08a15ceee9e4b17e4)

Selected subnets

Save associations

Step10:- Create the Routetable

- Name route table as my-private-rt
- Select the vpc
- Create route table
- Edit subnet associations
- Select the private subnets as shown in the below pictures

The screenshot shows the 'Create route table' wizard in the AWS VPC console. In the 'Route table settings' section, the name is set to 'my-private-rt' and the VPC is selected as 'vpc-0b03ea7d3ed34ed84 (my-vpc)'. In the 'Tags' section, a single tag 'Name' is added with the value 'my-private-rt'. The 'Create route table' button is highlighted.

The screenshot shows the 'Edit subnet associations' page for route table 'rtb-07748aa59ed60efba'. Under 'Available subnets (4/6)', subnets 'my-publicsn-1' and 'my-publicsn-2' are unselected, while 'my-privatesn-1', 'my-privatesn-2', 'my-privatesn-3', and 'my-privatesn-4' are selected. These selected subnets are listed under 'Selected subnets'. The 'Save associations' button is highlighted.

Step11:- Create the internet gateway

- Name internet gateway as my-igw

- Create internet gateway
- Attach vpc to internet gateway

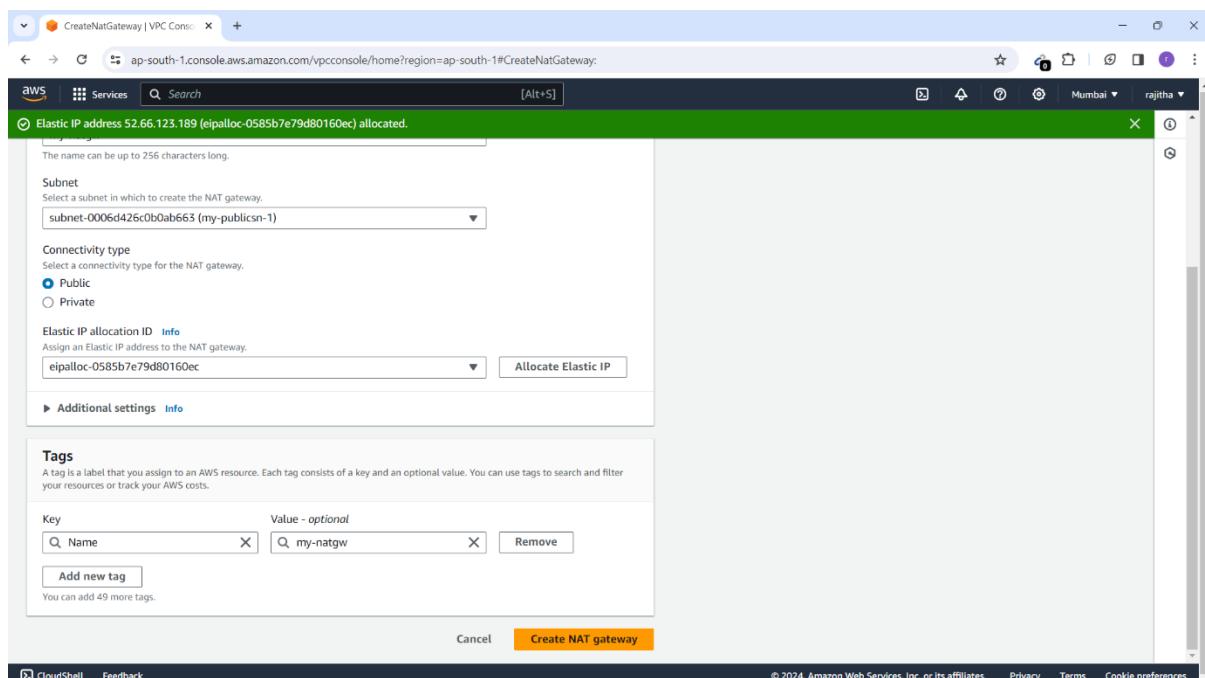
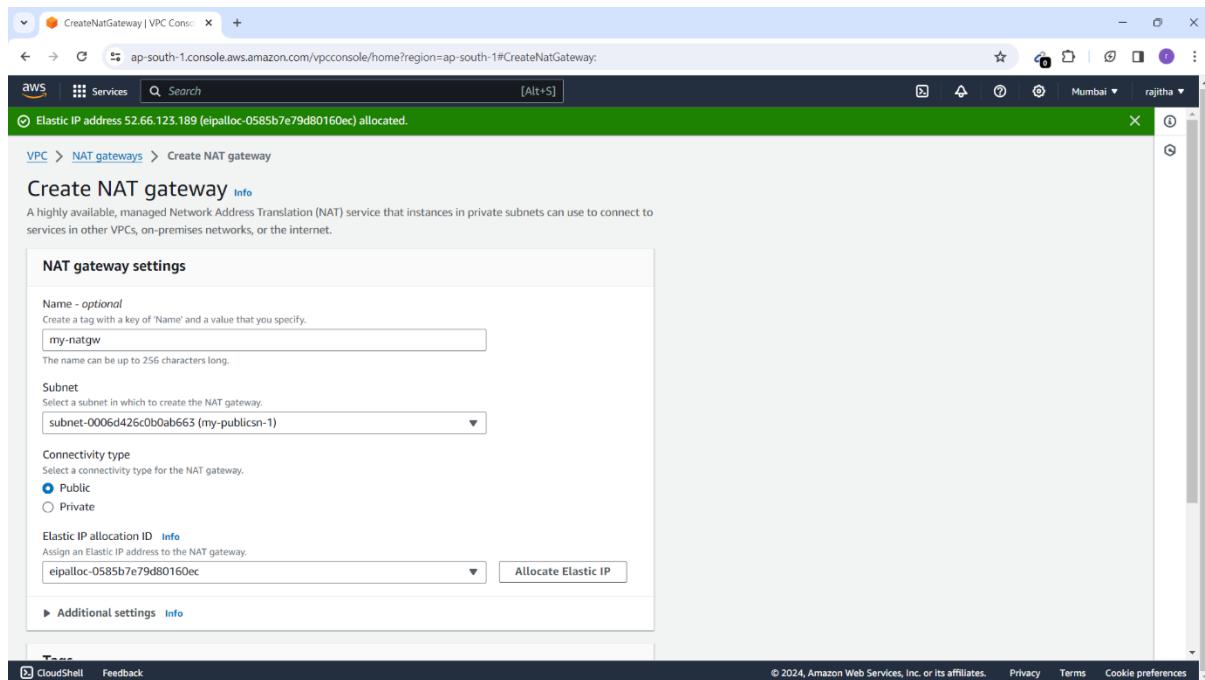
The screenshot shows the 'Create internet gateway' wizard in the AWS VPC console. The 'Internet gateway settings' section is displayed, featuring a 'Name tag' input field containing 'my-igw'. Below it, a 'Tags - optional' section shows a single tag 'Name: my-igw'. At the bottom right are 'Cancel' and 'Create internet gateway' buttons.

The screenshot shows the 'Attach to VPC' step of the wizard. It lists a single available VPC with ID 'vpc-0b03ea7d3ed34ed84'. The 'Attach internet gateway' button is highlighted at the bottom right.

Step12:- Create the Natgateway

- Name NAT gateway as my-natgw
- Select the one of the public subnet
- Connectivity type (public)

- Allocate ElasticIP
- Create NAT gateway



Step13:- Go to routetables

- Select the my-public-rt
- Click on actions

- Edit routes
- Add route
- Select 0.0.0.0/0
- Click on internet gateway
- Select your created internet gateway
- Save changes

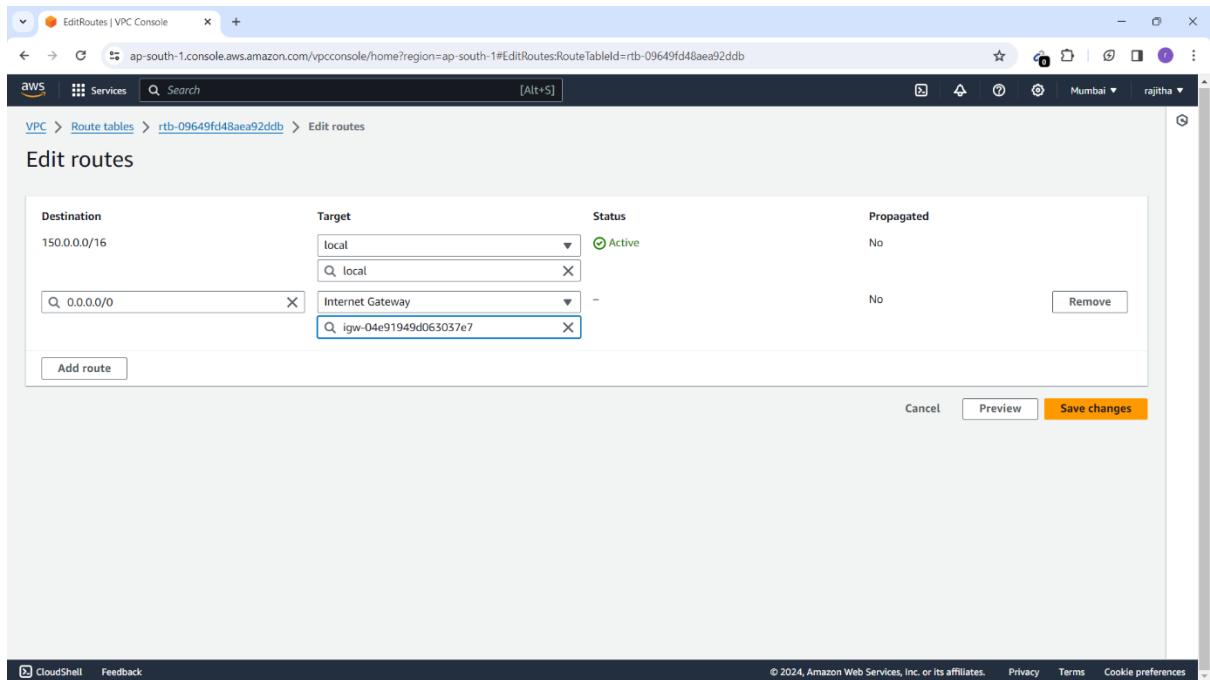
NAT gateway nat-012cdd58211a434af | my-natgw was created successfully.

Name	Route table ID	Explicit subnet associations	Edge associations
-	rtb-0e8b33b1369ecac23	-	-
-	rtb-08a15ceee9e4b17e4	-	-
<input checked="" type="checkbox"/> my-public-rt	rtb-09649fd48aea92ddb	2 subnets	-
<input type="checkbox"/> my-private-rt	rtb-07748aa59ed60efba	4 subnets	-

rtb-09649fd48aea92ddb / my-public-rt

Details

Route table ID rtb-09649fd48aea92ddb	Main No	Explicit subnet associations 2 subnets	Edge associations -
VPC vpc-0b03ea7d3ed34ed84 my-vpc1	Owner ID 058264148783		



Step14:- Go to routetables

- Select the my-private-rt
- Click on actions
- Edit routes
- Add route
- Select 0.0.0.0/0
- Click on NAT gateway
- Select your created NAT gateway
- Save changes

The screenshot shows the AWS VPC Edit Routes interface. At the top, the URL is ap-south-1.console.aws.amazon.com/vpcconsole/home?region=ap-south-1#EditRoutes:RouteTableId=rtb-07748aa59ed60efba. The page title is "Edit routes".

Destination	Target	Status	Propagated
150.0.0.0/16	local	Active	No
Q_ 0.0.0.0/0	NAT Gateway	-	No
	Q_ nat-012cdd38211a434af		

Buttons at the bottom include "Add route", "Cancel", "Preview", and "Save changes".

Step15:- Launch instances

- Name tag as my-project1
- Select AMI (ubuntu)
- Instance type (t2.micro)
- Create keypair I gave key name as project
- Edit network settings
- Select vpc and public subnet
- Enable public IP
- Launch instance

RouteTableDetails | VPC Console | Launch an instance | EC2 | ap-south-1 | +

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

aws Services Search [Alt+S]

EC2 > Instances > Launch an instance

Launch an instance Info

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags Info

Name: my-project1 Add additional tags

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

Recent AMIs My AMIs Quick Start

Amazon Linux macOS Ubuntu Windows Red Hat SUSE Linux Browse more AMIs

Summary

Number of instances Info: 1

Software Image (AMI): Canonical, Ubuntu, 22.04 LTS, ... read more
ami-007020fd9c84e18c7

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, 750 hours of public IPv4

Cancel **Launch instance** Review commands

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

RouteTableDetails | VPC Console | Launch an instance | EC2 | ap-south-1 | +

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

aws Services Search [Alt+S]

Amazon Linux macOS Ubuntu Windows Red Hat SUSE Linux Browse more AMIs
Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Ubuntu Server 22.04 LTS (HVM), SSD Volume Type Free tier eligible

ami-007020fd9c84e18c7 (64-bit (x86)) / ami-09c443d9277298026 (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs

Description: Canonical, Ubuntu, 22.04 LTS, amd64 jammy image build on 2024-03-01

Architecture: 64-bit (x86) AMI ID: ami-007020fd9c84e18c7 Verified provider

Instance type Info | Get advice

Instance type: t2.micro Free tier eligible

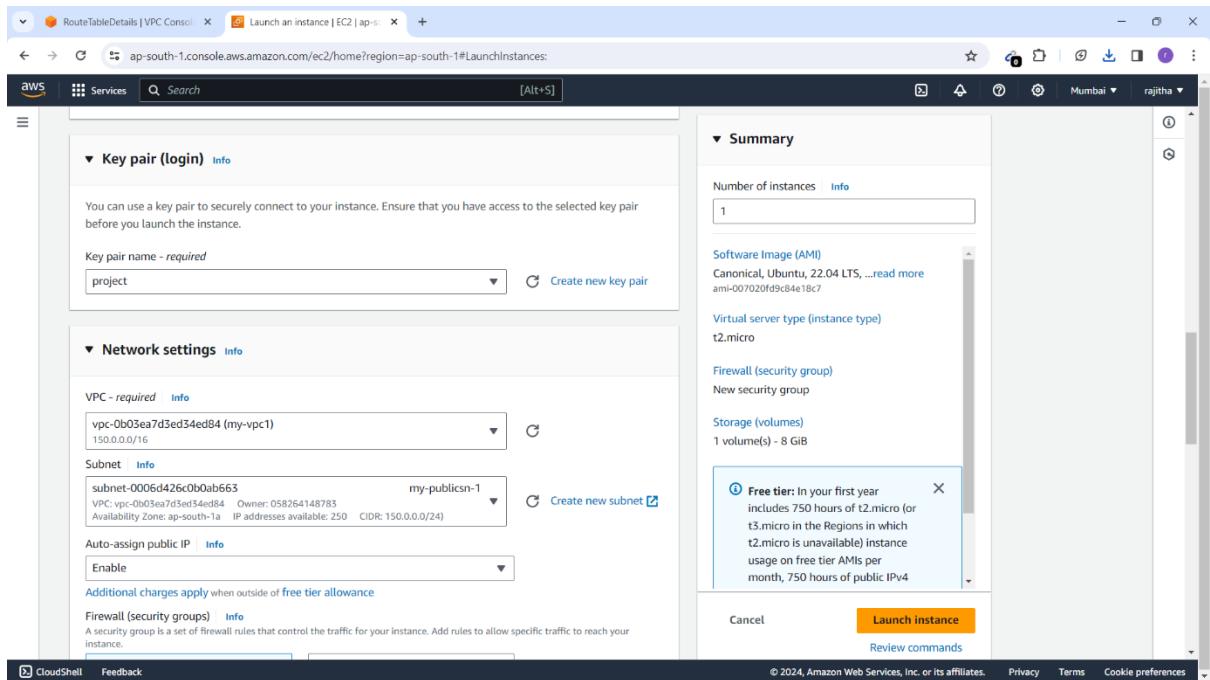
Processor: 1 vCPU 1 GiB Memory Current generation: true
On-Demand Linux base pricing: 0.0124 USD per Hour
On-Demand Windows base pricing: 0.0117 USD per Hour
On-Demand RHEL base pricing: 0.0724 USD per Hour
On-Demand SUSE base pricing: 0.0124 USD per Hour

All generations Compare instance types

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, 750 hours of public IPv4

Cancel **Launch instance** Review commands

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences



Step16:- Create image

- Select the instance
- Click on actions
- Image and templates
- Create image
- Name image as myimage
- Create image
- Go and check in AMIs whether the image created or not
- Image is created

RouteTableDetails | VPC Console Instances | EC2 | ap-south-1

Instances (1/1) Info

Find Instance by attribute or tag (case-sensitive)

Instance state = running

Name: my-project1, Instance ID: i-00023acb0e1a4d00e, Instance state: Running, Instance type: t2.micro, Status check: Initializing

Actions: Connect, Instance state, Actions, Launch instances, Connect, View details, Manage instance state, Instance settings, Networking, Security, Public IP, Create image, Image and templates, Monitor and troubleshoot.

Instance: i-00023acb0e1a4d00e (my-project1)

Details | Status and alarms New | Monitoring | Security | Networking | Storage | Tags

Instance summary:

Instance ID: i-00023acb0e1a4d00e (my-project1)	Public IPv4 address: 13.201.55.164 [open address]	Private IPv4 addresses: 150.0.0.246
IPv6 address: -	Instance state: Running	Public IPv4 DNS: -
Hostname type: IP name: ip-150-0-0-246.ap-south-1.compute.internal	Private IP DNS name (IPv4 only): ip-150-0-0-246.ap-south-1.compute.internal	Elastic IP addresses: -
Answer private resource DNS name: -	Instance type: t2.micro	

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Create Image | EC2 | ap-south-1

EC2 > Instances > i-00023acb0e1a4d00e > Create image

Create image

An image (also referred to as an AMI) defines the programs and settings that are applied when you launch an EC2 instance. You can create an image from the configuration of an existing instance.

Instance ID: i-00023acb0e1a4d00e (my-project1)

Image name: myimage

Image description - optional: allow

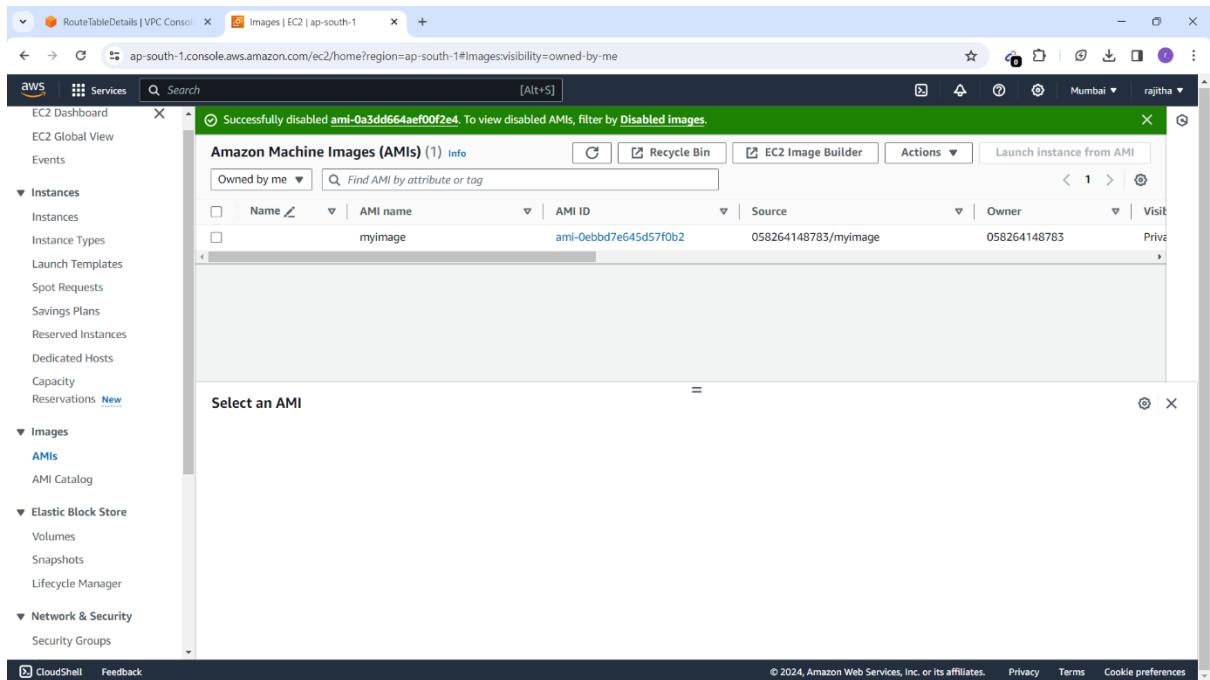
No reboot: Enable

Instance volumes:

Storage type	Device	Snapshot	Size	Volume type	IOPS	Throughput	Delete on termination	Encrypted
EBS	/dev/...	Create new snapshot fr...	8	EBS General Purpose S...	100		<input checked="" type="checkbox"/> Enable	<input type="checkbox"/> Enable

Add volume

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences



Step17:- Create autoscaling

- Choose a launch template
- Launch template name as my-public-template
- Description (allow)
- AMI (owned by me)
- Select the keypair
- Select the security group which was created by instance
- Create template

Screenshot of the AWS EC2 'Create launch template' wizard - Step 1: Launch template name and description.

Launch template name and description

Launch template name - required
my-public-template
Must be unique to this account. Max 128 chars. No spaces or special characters like '&', '*', '@'.

Template version description
allow
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

Template tags
Source template

Launch template contents

Software Image (AMI)
allow
ami-0ebbd7e645d57f0b2

Virtual server type (instance type)
t2.micro

Firewall (security group)
launch-wizard-1

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, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Create launch template

Screenshot of the AWS EC2 'Create launch template' wizard - Step 2: Application and OS Images (Amazon Machine Image) - required.

Application and OS Images (Amazon Machine Image) - required [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

Recent | **My AMIs** | **Quick Start**

Owned by me | **Shared with me**

Browse more AMIs
Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

myimage
ami-0ebbd7e645d57f0b2
2024-03-27T05:36:28.000Z Virtualization: hvm ENA enabled: true Root device type: ebs

Description
allow

Architecture x86_64 **AMI ID** ami-0ebbd7e645d57f0b2

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, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Create launch template

The screenshot shows the AWS EC2 'Create launch template' wizard. In the 'Network settings' section, a security group 'launch-wizard-1' is selected. A tooltip for the 'Free tier' is displayed, stating: '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, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GiB of bandwidth to the internet.' In the 'Storage (volumes)' section, an EBS volume of 8 GiB is configured. Another tooltip for the 'Free tier' is shown, identical to the one above.

Step18:- create autoscaling group

- Name autoscaling group
- Select the template
- In next page select VPC and public subnets
- Add route
- Choose Ec2 health check grace period as per your requirement
- Choose desired capacity of instances to be launched automatically min and max

- Create notification
- Create autoscaling group

Screenshot of the AWS EC2 'Create Auto Scaling group' wizard Step 1: Choose launch template.

The page shows the 'Choose launch template' step. On the left, a vertical sidebar lists steps 1 through 7. Step 1 is expanded, showing 'Choose launch template'. The main content area is titled 'Choose launch template' and contains the following fields:

- Name:** A text input field containing 'public'.
- Auto Scaling group name:** A placeholder text 'Enter a name to identify the group.'
- Launch template:** A dropdown menu set to 'my-public-template'.
- Create a launch template:** A link to create a new launch template.
- Version:** A dropdown menu set to 'Default (1)'.

A note at the bottom states: 'For accounts created after May 31, 2023, the EC2 console only supports creating Auto Scaling groups with launch templates. Creating Auto Scaling groups with launch configurations is not recommended but still available via the CLI and API until December 31, 2023.'

Screenshot of the AWS EC2 'Create Auto Scaling group' wizard Step 7: Review.

The page shows the 'Review' step of the wizard. The left sidebar shows 'Step 7: Review'. The main content area displays the configuration details:

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.	my-public-template	Instance type t2.micro
Description allow	Launch template my-public-template	Request Spot Instances No
AMI ID ami-0ebbd7e645d57f0b2	Security groups -	Security group IDs sg-0bc6401c0164fb442
Key pair name project		

Additional details

Storage (volumes)	Date created Wed Mar 27 2024 11:09:10 GMT+0530 (India Standard Time)
-------------------	--

At the bottom right are 'Cancel' and 'Next' buttons.

Screenshot of the AWS EC2 Create Auto Scaling group wizard Step 2: Choose instance launch options.

The page shows the following configuration:

- Instance type requirements**:
 - Launch template: my-public-template [t-01fdf33590574bc19]
 - Version: Default
 - Description: allow
- Network**:
 - Choose the VPC that defines the virtual network for your Auto Scaling group: **vpc-0b03ea7d5ed34ed84 (my-vpc1)**

On the left sidebar, the steps are listed as follows:

- Step 1: Choose launch template
- Step 2: Choose instance launch options
- Step 3 - optional: Configure advanced options
- Step 4 - optional: Configure group size and scaling
- Step 5 - optional: Add notifications
- Step 6 - optional: Add tags
- Step 7: Review

Screenshot of the AWS EC2 Create Auto Scaling group wizard Step 6: Network configuration.

The page shows the following configuration:

- Instance type**: t2.micro
- Network**:
 - Choose the VPC that defines the virtual network for your Auto Scaling group: **vpc-0b03ea7d5ed34ed84 (my-vpc1)**
- Availability Zones and subnets**:
 - Select Availability Zones and subnets: **Select Availability Zones and subnets**
 - Available subnets:
 - ap-south-1a | subnet-0006d426cbbab663 (my-publicsn-1) 150.0.0.0/24
 - ap-south-1b | subnet-0eec5f05ca8b4ea70 (my-publicsn-2) 150.0.1.0/24
 - Create a subnet []

At the bottom, there are buttons: Cancel, Skip to review, Previous, and Next.

Screenshot of the AWS CloudShell interface showing the creation of an Auto Scaling group. The user is on Step 7: Review.

Health checks

Health checks increase availability by replacing unhealthy instances. When you use multiple health checks, all are evaluated, and if at least one fails, instance replacement occurs.

EC2 health checks

Always enabled

Additional health check types - optional

Turn on Elastic Load Balancing health checks

Elastic Load Balancing monitors whether instances are available to handle requests. When it reports an unhealthy instance, EC2 Auto Scaling can replace it on its next periodic check.

Health check grace period

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.

50 seconds

Additional settings

Monitoring

Enable group metrics collection within CloudWatch

Default instance warmup

The amount of time that CloudWatch metrics for new instances do not contribute to the group's aggregated instance metrics, as their usage data is not reliable yet.

Enable default instance warmup

Buttons: Cancel, Skip to review, Previous, Next

Screenshot of the AWS CloudShell interface showing the creation of an Auto Scaling group. The user is on Step 4: Configure group size and scaling - optional.

Configure group size and scaling - optional

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

Group size

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

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	Max desired capacity
<input type="text"/> 2	<input type="text"/> 3

Buttons: CloudShell, Feedback, © 2024, Amazon Web Services, Inc. or its affiliates., Privacy, Terms, Cookie preferences

Screenshot of the AWS Create Auto Scaling group configuration page.

Scaling limits

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

Min desired capacity: 2
Max desired capacity: 3

Equal or less than desired capacity
Equal or greater than desired capacity

Automatic scaling - optional

Choose whether to use a target tracking policy [Info](#)

You can set up other metric-based scaling policies and scheduled scaling after creating your Auto Scaling group.

No scaling policies
Your Auto Scaling group will remain at its initial size and will not dynamically resize to meet demand.

Target tracking scaling policy
Choose a CloudWatch metric and target value and let the scaling policy adjust the desired capacity in proportion to the metric's value.

Instance maintenance policy [Info](#)

Control your Auto Scaling group's availability during instance replacement events. This includes health checks, instance refreshes, maximum instance lifetime features and events that happen automatically to keep your group balanced, called rebalancing events.

Choose a replacement behavior depending on your availability requirements

Mixed behavior

No policy
For rebalancing events, new instances will launch before terminating others. For all other events, instances terminate and launch at the same time.

Prioritize availability

Launch before terminating
Launch new instances and wait for them to be ready before terminating others. This allows you to go above your desired capacity.

Control costs

Terminate and launch
Terminate and launch instances at the same time. This allows you to go below your desired capacity by a given percentage and save costs.

Flexible

Custom behavior
Set custom values for the minimum and maximum amount of available capacity. This gives you greater flexibility in setting how far below and above your desired capacity instances can go.

© 2024, Amazon Web Services, Inc. or its affiliates. [Privacy](#) [Terms](#) [Cookie preferences](#)

Screenshot of the AWS Create Auto Scaling group configuration page, Step 5: Add notifications.

Add notifications - optional [Info](#)

Send notifications to SNS topics whenever Amazon EC2 Auto Scaling launches or terminates the EC2 instances in your Auto Scaling group.

Notification 1

SNS Topic

Choose an SNS topic to use to send notifications
rdsproject (varmarajitha2@gmail.com)

Create a topic

Event types

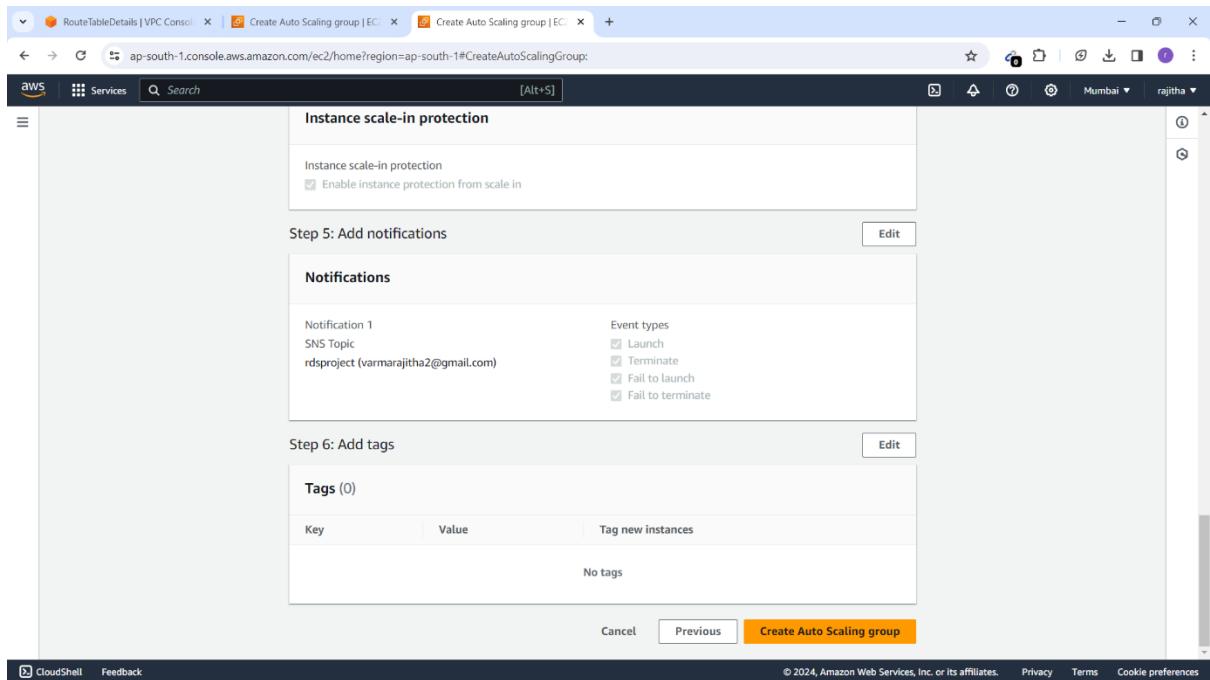
Notify subscribers whenever instances

Launch
 Terminate
 Fail to launch
 Fail to terminate

Add notification

Cancel [Skip to review](#) [Previous](#) [Next](#)

© 2024, Amazon Web Services, Inc. or its affiliates. [Privacy](#) [Terms](#) [Cookie preferences](#)



Step19:- Create autoscaling

- Choose a launch template
- Launch template name as my-private-template
- Description (allow)
- AMI (owned by me)
- Select the keypair
- Select the security group which was created by instance
- Create template

RouteTableDetails | VPC Console | Create Auto Scaling group | EC2 | Create Auto Scaling group | EC2 | Create launch template | EC2 | +

ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#CreateTemplate:autoScalingGuidance=true

aws Services Search [Alt+S]

EC2 > Launch templates > Create launch 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
my-private-template
Must be unique to this account. Max 128 chars. No spaces or special characters like '&', '<', '@'.

Template version description
allow
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

► Template tags
► Source template

Launch template contents

Specify the details of your launch template below. Leaving a field blank will result in the field not being included in the launch template.

CloudShell Feedback

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

RouteTableDetails | VPC Console | Create Auto Scaling group | EC2 | Create Auto Scaling group | EC2 | Create launch template | EC2 | +

ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#CreateTemplate:autoScalingGuidance=true

aws Services Search [Alt+S]

EC2 > Launch templates > Create launch template

Application and OS Images (Amazon Machine Image) - required [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 My AMIs Quick Start

Owned by me Shared with me

Browse more AMIs
Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

myimage
ami-0ebbd7e645d57f0b2 2024-03-27T05:36:28.000Z Virtualization: hvm ENA enabled: true Root device type: ebs

Description
allow

Architecture x86_64 AMI ID ami-0ebbd7e645d57f0b2

CloudShell Feedback

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

The screenshot shows the AWS CloudFormation 'Create launch template' wizard in progress. The current step is 'Summary'. The configuration includes:

- Software Image (AMI):** ami-Debbd7e645d57f0b2
- Virtual server type (instance type):** t2.micro
- Firewall (security group):** launch-wizard-1
- Storage (volumes):** 1 volume(s) - 8 GiB

A tooltip for the 'Free tier' is displayed, stating: "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, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet."

Network settings:

- Key pair (login):** project
- Subnet:** Don't include in launch template
- Security groups:** Select existing security group (launch-wizard-1)
- Storage (volumes):** EBS Volumes (Volume 1 (AMI Root) 8 GiB, EBS, General purpose SSD (gp2))

Create launch template button is highlighted.

Step20:- Create autoscaling group

- Name autoscaling group
- Select the template
- In next page select VPC and private subnets
- Add route
- Choose Ec2 health check grace period as per your requirement
- Choose desired capacity of instances to be launched automatically min and max

- Create notification
- Create autoscaling group

Choose launch template Info

Specify a launch template that contains settings common to all EC2 instances that are launched by this Auto Scaling group.

Name

Auto Scaling group name
Enter a name to identify the group.
private

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

Launch template Info

For accounts created after May 31, 2023, the EC2 console only supports creating Auto Scaling groups with launch templates. Creating Auto Scaling groups with launch configurations is not recommended but still available via the CLI and API until December 31, 2023.

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.

my-private-template

Step 1 Choose launch template **Step 2** Choose instance launch options **Step 3 - optional** Configure advanced options **Step 4 - optional** Configure group size and scaling **Step 5 - optional** Add notifications **Step 6 - optional** Add tags **Step 7** Review

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

VPC

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

vpc-0b03ea7d5ed34ed84 (my-vpc1)
150.0.0.0/16

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

ap-south-1c | subnet-0fb1c566ff5fe58d4 (my-private-subnet-1)
150.0.2.0/24

ap-south-1b | subnet-0d448d65f5cbe71b8 (my-private-subnet-3)
150.0.5.0/24

ap-south-1a | subnet-0d839b23962544888 (my-private-subnet-2)
150.0.3.0/24

ap-south-1c | subnet-0d594f6a4ed592743 (my-private-subnet-4)
150.0.10.0/24

⚠ Your requested instance type (t2.micro) is not available in 2 Availability Zones. You may need to change the instance type or choose other Availability Zones for better resiliency. [Learn more](#)

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

RouteTableDetails | VPC Console | Create Auto Scaling group | EC2 | Create Auto Scaling group | EC2 | Create Auto Scaling group | EC2 | +

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

aws Services Search [Alt+S]

Step 7 Review

Health checks

Health checks increase availability by replacing unhealthy instances. When you use multiple health checks, all are evaluated, and if at least one fails, instance replacement occurs.

EC2 health checks

Always enabled

Additional health check types - optional Info

Turn on Elastic Load Balancing health checks
Elastic Load Balancing monitors whether instances are available to handle requests. When it reports an unhealthy instance, EC2 Auto Scaling can replace it on its next periodic check.

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.

50 seconds

Additional settings

Monitoring Info

Enable group metrics collection within CloudWatch

Default instance warmup Info

The amount of time that CloudWatch metrics for new instances do not contribute to the group's aggregated instance metrics, as their usage data is not reliable yet.

Enable default instance warmup

Cancel Skip to review Previous Next

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

RouteTableDetails | VPC Console | Create Auto Scaling group | EC2 | Create Auto Scaling group | EC2 | Create Auto Scaling group | EC2 | +

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

aws Services Search [Alt+S]

Step 3 - optional Configure advanced options

Step 4 - optional Configure group size and scaling

Step 5 - optional Add notifications

Step 6 - optional Add tags

Step 7 Review

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	Max desired capacity
2	3

Equal or less than desired capacity Equal or greater than desired capacity

Automatic scaling - optional

Choose whether to use a target tracking policy Info

You can set up other metric-based scaling policies and scheduled scaling after creating your Auto Scaling group.

No scaling policies
Your Auto Scaling group will remain at its initial size and will not use the policies to scale down and up.

Target tracking scaling policy
Choose a CloudWatch metric and target value and let the scaling policies adjust the desired capacity automatically.

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

RouteTableDetails | VPC Console | Create Auto Scaling group | EC2 | Create Auto Scaling group | EC2 | Create Auto Scaling group | EC2 | +

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

aws Services Search [Alt+S]

EC2 > Auto Scaling groups > Create Auto Scaling group

Step 1 Choose launch template

Step 2 Choose instance launch options

Step 3 - optional Configure advanced options

Step 4 - optional Configure group size and scaling

Step 5 - optional Add notifications

Step 6 - optional Add tags

Step 7 Review

Add notifications - optional Info

Send notifications to SNS topics whenever Amazon EC2 Auto Scaling launches or terminates the EC2 instances in your Auto Scaling group.

Notification 1 Remove

SNS Topic Choose an SNS topic to use to send notifications
rdsproject (varmarajitha2@gmail.com)

Create a topic

Event types Notify subscribers whenever instances

Launch

Terminate

Fail to launch

Fail to terminate

Add notification Cancel Skip to review Previous Next

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Step21:- Create subnetgroup

- Name subnetgroup as mysubnetgroup
- Allow description
- Select the Vpc
- Select the availability zones and subnets
- Create subnetgroup

RouteTableDetails | VPC Console | Create Auto Scaling group | EC2 | Create Auto Scaling group | EC2 | Auto Scaling groups | EC2 | ap-south-1 | RDS | ap-south-1 | +

ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#create-db-subnet-group:

aws Services Search [Alt+S]

RDS > Subnet groups > 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.
mysubnetgroup

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

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.
my-vpc1 (vpc-0b03ea7d3ed34ed84)

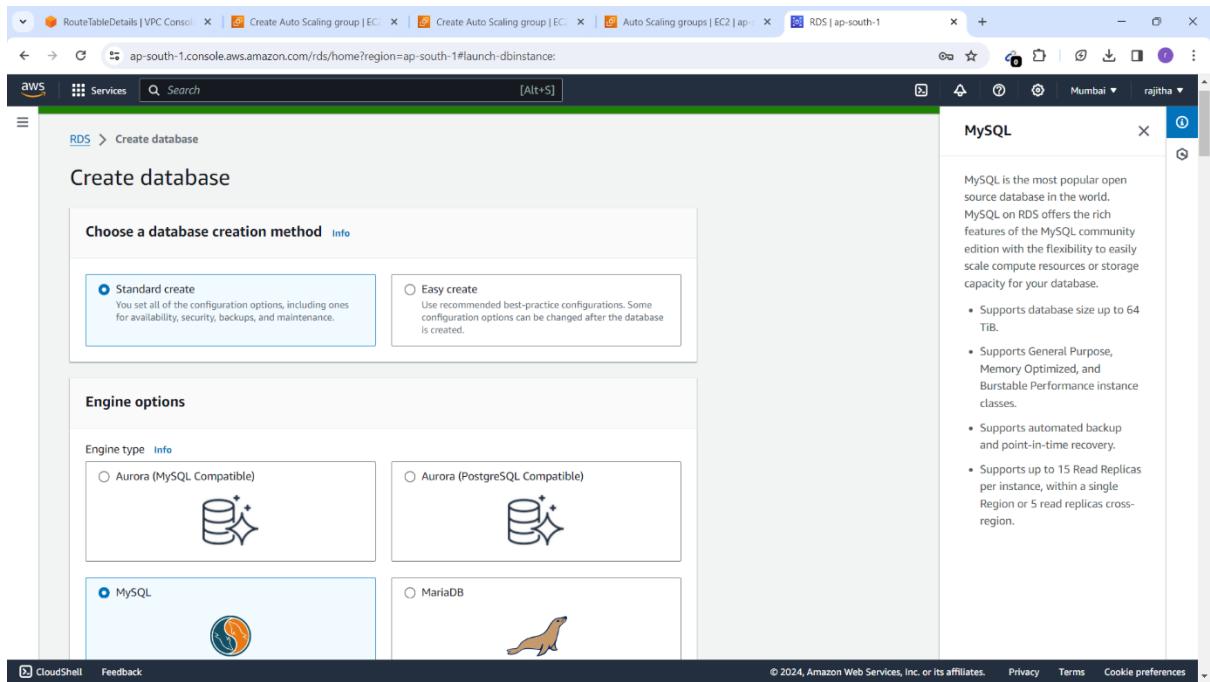
Add subnets

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

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Step22:- Create Database

- Select standard create
- Select mysql
- Select multi AZ DB cluster
- Select production
- Self managed (create your password)
- Connect to VPC and subnetgroup
- Select public access
- Select the security group which was created by instances
- Before clicking on create database
- Go to vpc and select vpc and click on edit VPC settings
- Enable the DNS hostnames
- Now click on create database



RouteTableDetails | VPC Console | Create Auto Scaling group | EC2 | Create Auto Scaling group | EC2 | Auto Scaling groups | EC2 | ap-south-1 | RDS | ap-south-1

ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:

aws Services Search [Alt+S]

Edition
MySQL Community

Known issues/limitations
Review the [Known issues/limitations](#) to learn about potential compatibility issues with specific database versions.

Engine version [Info](#)
View the engine versions that support the following database features.
▼ Hide filters

Show versions that support the Multi-AZ DB cluster [Info](#)
Create a Multi-AZ DB cluster with one primary DB instance and two readable standby DB instances. Multi-AZ DB clusters provide up to 2x faster transaction commit latency and automatic failover in typically under 35 seconds.

Show versions that support the Amazon RDS Optimized Writes [Info](#)
Amazon RDS Optimized Writes improves write throughput by up to 2x at no additional cost.

Engine Version
MySQL 8.0.35

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 VPC.

Free tier
Use RDS Free Tier to develop new applications, test existing.

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 15 Read Replicas per instance, within a single Region or 5 read replicas cross-region.

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

RouteTableDetails | VPC Console | Create Auto Scaling group | EC2 | Create Auto Scaling group | EC2 | Auto Scaling groups | EC2 | ap-south-1 | RDS | ap-south-1

ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:

aws Services Search [Alt+S]

Availability and durability

Deployment options [Info](#)
The deployment options below are limited to those supported by the engine you selected above.

Multi-AZ DB Cluster
Creates a DB cluster with a primary DB instance and two readable standby DB instances, with each DB instance in a different Availability Zone (AZ). Provides high availability, data redundancy and increases capacity to serve read workloads.

Multi-AZ DB instance
Creates a primary DB instance and a standby DB instance in a different AZ. Provides high availability and data redundancy, but the standby DB instance doesn't support connections for read workloads.

Single DB instance
Creates a single DB instance with no standby DB instances.

Settings

DB cluster identifier [Info](#)
Enter a name for your DB cluster. The name must be unique across all DB clusters owned by your AWS account in the current AWS Region.
database-1

The DB cluster identifier is case-insensitive, but is stored as all lowercase (as in "mydbcluster"). 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 cluster.
admin

1 to 16 alphanumeric characters. The first character must be a letter.

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 15 Read Replicas per instance, within a single Region or 5 read replicas cross-region.

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

RouteTableDetails | VPC Console | Create Auto Scaling group | EC2 | Create Auto Scaling group | EC2 | Auto Scaling groups | EC2 | ap-south-1 | RDS | ap-south-1

ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:

aws Services Search [Alt+S]

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.

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

Master password [Info](#)

Minimum constraints: At least 8 printable ASCII characters. Can't contain any of the following symbols: / * @

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](#)
▼ 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.

Standard classes (includes m classes)

Memory optimized classes (includes r classes)

db.r6gd.large (supports Amazon RDS Optimized Writes)
2 vCPUs 16 GiB RAM Network: 4,750 Mbps 118 GB NVMe SSD

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 15 Read Replicas per instance, within a single Region or 5 read replicas cross-region.

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

RouteTableDetails | VPC Console | Create Auto Scaling group | EC2 | Create Auto Scaling group | EC2 | Auto Scaling groups | EC2 | ap-south-1 | RDS | ap-south-1

ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:

aws Services Search [Alt+S]

Standard classes (includes m classes)

Memory optimized classes (includes r classes)

db.r6gd.large (supports Amazon RDS Optimized Writes)
2 vCPUs 16 GiB RAM Network: 4,750 Mbps 118 GB NVMe SSD

Storage

Storage type [Info](#)
Provisioned IOPS SSD (io2) storage volumes are now available.

Provisioned IOPS SSD (io1)
Flexibility in provisioning I/O

Allocated storage [Info](#)
400 GiB
The minimum value is 100 GiB and the maximum value is 65,536 GiB

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](#)

Provisioned IOPS [Info](#)
3000 IOPS
The minimum value is 1,000 IOPS and the maximum value is 80,000 IOPS. The IOPS to GiB ratio must be between 0.5 and 50

Your actual IOPS might vary from the amount that you provisioned based on your database workload and

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 15 Read Replicas per instance, within a single Region or 5 read replicas cross-region.

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

RouteTableDetails | VPC Console | Create Auto Scaling group | EC2 | Create Auto Scaling group | EC2 | Auto Scaling groups | EC2 | ap-south-1 | RDS | ap-south-1

ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:

aws Services Search [Alt+S]

MySQL

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 cluster.

my-vpc1 (vpc-0b03ea7d5ed34ed84)
6 Subnets, 3 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 cluster can use in the VPC that you selected.

mysubnetgroup
6 Subnets, 3 Availability Zones

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

No
RDS doesn't assign a public IP address to the cluster. Only Amazon EC2 instances and other resources inside the VPC can connect to your cluster. Choose one or more VPC security groups that specify which resources can connect to the cluster.

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

RouteTableDetails | VPC Console | Create Auto Scaling group | EC2 | Create Auto Scaling group | EC2 | Auto Scaling groups | EC2 | ap-south-1 | RDS | ap-south-1

ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:

aws Services Search [Alt+S]

MySQL

Existing VPC security groups
Choose one or more options

launch-wizard-1

RDS Proxy
RDS Proxy is a fully managed, highly available database proxy that improves application scalability, resiliency, and security.

Create an RDS Proxy Info
RDS automatically creates an IAM role and a Secrets Manager secret for the proxy. RDS Proxy has additional costs. For more information, see [Amazon RDS Proxy pricing](#).

Certificate authority - optional
Using a server certificate provides an extra layer of security by validating that the connection is being made to an Amazon database. It does so by checking the server certificate that is automatically installed on all databases that you provision.

rds-ca-rsa2048-g1 (default)
Expiry: May 20, 2061

If you don't select a certificate authority, RDS chooses one for you.

Additional configuration

Tags
A tag consists of a case-sensitive key-value pair.

No tags associated with the resource.

Add new tag
You can add up to 50 more tags.

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

The screenshot shows the AWS VPC console interface. On the left, there's a navigation sidebar with sections like 'Virtual private cloud' (Your VPCs, Subnets, Route tables, Internet gateways, Egress-only internet gateways, DHCP option sets, Elastic IPs, Managed prefix lists, Endpoints, Endpoint services, NAT gateways, Peering connections), 'Security' (Network ACLs, Security groups), and 'DNS firewall'. The main area displays 'Your VPCs (1/2)' with a table showing two entries: 'my-vpc1' (VPC ID: 'vpc-0b03ea7d3ed34ed84') and another entry (VPC ID: 'vpc-022dff324dd8dd2b0'). A context menu is open over the 'my-vpc1' row, with options including 'Create default VPC', 'Create flow log', 'Edit VPC settings', 'Edit CIDRs', 'Manage middlebox routes', 'Manage tags', and 'Delete VPC'. The URL in the browser is 'ap-south-1.console.aws.amazon.com/vpcconsole/home?region=ap-south-1#vpcs:'.

The screenshot shows the 'Edit VPC settings' page for 'my-vpc1'. It includes sections for 'VPC details' (VPC ID: 'vpc-0b03ea7d3ed34ed84', Name: 'my-vpc1'), 'DHCP settings' (DHCP option set: 'dopt-05bae449e126dff6'), 'DNS settings' (checkboxes for 'Enable DNS resolution' and 'Enable DNS hostnames' both checked), and 'Network Address Usage metrics settings' (checkbox for 'Enable Network Address Usage metrics' unchecked). At the bottom are 'Cancel' and 'Save' buttons. The URL in the browser is 'ap-south-1.console.aws.amazon.com/vpcconsole/home?region=ap-south-1#EditVpcSettings:VpcId=vpc-0b03ea7d3ed34ed84'.

Step23:- Database is created

- Click on setup EC2 connection
- Select the instance
- Setup the ec2 connection

The screenshot shows the AWS RDS console with the following details:

- Connected compute resources:** Two entries are listed:
 - database-1.cluster-cjskk4s4apww.ap-south-1.rds.amazonaws.com (Creating, Writer, 3306)
 - database-1.cluster-ro-cjskk4s4apww.ap-south-1.rds.amazonaws.com (Creating, Reader, 3306)
- Proxies:** No proxies are present.
- Success Message:** A green banner at the top states "Successfully created mysubnetgroup. View subnet group".

Step24:- So to create database it will sometime meanwhile we can connect to the instance

- Sudo -l to change normal user to root user
- apt update -y
- to install mysql
- go to the browser and search to install my sql in ubuntu
- copy the command paste the commands

System information as of Wed Mar 27 05:53:08 UTC 2024

```
System load: 0.0      Processes: 96
Usage of /: 20.4% of 7.57GB  Users logged in: 0
Memory usage: 19%      IPv4 address for eth0: 150.0.0.246
Swap usage: 0%          Swap usage: 0%
```

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See <https://ubuntu.com/esm> or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

```
ubuntu@ip-150-0-0-246:~$ sudo -i
```

i-00023acb0e1a4d00e (my-project1)

Public IPs: 13.201.55.164 Private IPs: 150.0.0.246

System information as of Wed Mar 27 05:53:08 UTC 2024

```
System load: 0.0      Processes: 96
Usage of /: 20.4% of 7.57GB  Users logged in: 0
Memory usage: 19%      IPv4 address for eth0: 150.0.0.246
Swap usage: 0%          Swap usage: 0%
```

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See <https://ubuntu.com/esm> or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

```
ubuntu@ip-150-0-0-246:~$ sudo -i
root@ip-150-0-0-246:~# apt update -y
```

i-00023acb0e1a4d00e (my-project1)

Public IPs: 13.201.55.164 Private IPs: 150.0.0.246

```
aws Services Search [Alt+S] Mumbai rajitha
Get:10 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy/multiverse amd64 c-n-f Metadata [8372 B]
Get:11 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1505 kB]
Get:12 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main Translation-en [290 kB]
Get:13 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [1628 kB]
Get:14 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/restricted Translation-en [273 kB]
Get:15 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1059 kB]
Get:16 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en [240 kB]
Get:17 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 c-n-f Metadata [22.1 kB]
Get:18 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [42.1 kB]
Get:19 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse Translation-en [10.1 kB]
Get:20 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 c-n-f Metadata [472 B]
Get:21 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [67.1 kB]
Get:22 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main Translation-en [11.0 kB]
Get:23 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 c-n-f Metadata [388 B]
Get:24 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/restricted amd64 c-n-f Metadata [116 B]
Get:25 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [28.4 kB]
Get:26 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [16.2 kB]
Get:27 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 c-n-f Metadata [644 B]
Get:28 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-n-f Metadata [116 B]
Get:29 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [1290 kB]
Get:30 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [230 kB]
Get:31 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [1600 kB]
Get:32 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [268 kB]
Get:33 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [851 kB]
Get:34 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [162 kB]
Get:35 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [16.8 kB]
Get:36 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [37.1 kB]
Get:37 http://security.ubuntu.com/ubuntu jammy-security/multiverse Translation-en [7476 B]
Get:38 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 c-n-f Metadata [260 B]
92% 16 Translation-en store 0 B
```

i-00023acb0e1a4d00e (my-project1)

PublicIPs: 13.201.55.164 PrivateIPs: 150.0.0.246

```
CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences
aws Services Search [Alt+S] Mumbai rajitha
Get:21 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [67.1 kB]
Get:22 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main Translation-en [11.0 kB]
Get:23 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 c-n-f Metadata [388 B]
Get:24 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/restricted amd64 c-n-f Metadata [116 B]
Get:25 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [28.4 kB]
Get:26 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [16.2 kB]
Get:27 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 c-n-f Metadata [644 B]
Get:28 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-n-f Metadata [116 B]
Get:29 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [1290 kB]
Get:30 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [230 kB]
Get:31 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [1600 kB]
Get:32 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [268 kB]
Get:33 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [851 kB]
Get:34 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [162 kB]
Get:35 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [16.8 kB]
Get:36 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [37.1 kB]
Get:37 http://security.ubuntu.com/ubuntu jammy-security/multiverse Translation-en [7476 B]
Get:38 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 c-n-f Metadata [260 B]
Fetched 30.4 MB in 6s (5390 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
19 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@ip-150-0-0-246:~# sudo apt update
hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
hit:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease
hit:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease
hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease
Reading package lists... Done
Building dependency tree... 0%
```

i-00023acb0e1a4d00e (my-project1)

PublicIPs: 13.201.55.164 PrivateIPs: 150.0.0.246

The screenshot shows a browser window with the DigitalOcean community tutorial page for installing MySQL on Ubuntu 20.04. The URL is digitalocean.com/community/tutorials/how-to-install-mysql-on-ubuntu-20-04. The page contains step-by-step instructions with terminal commands and copy buttons. A sidebar on the right offers a free trial and popular topics like Ubuntu, Linux Basics, and JavaScript.

CONTENTS

- Prerequisites
- Step 1 — Installing MySQL
- Step 2 — Configuring MySQL
- Step 3 — Creating a Dedicated MySQL User and Granting Privileges
- Step 4 — Testing MySQL

Step 2 – Configuring MySQL

This site uses cookies and related technologies, as described in our [privacy policy](#), for purposes that may include site operation, analytics, enhanced user experience, or advertising. You may choose to consent to our use of these technologies, or manage your own preferences.

MANAGE CHOICES

AGREE & PROCEED

The screenshot shows the AWS CloudShell terminal on an EC2 instance. The user is running the command `sudo apt update` followed by `sudo apt install mysql-server`. The terminal output shows the package being installed and dependencies being resolved. The user then runs `sudo systemctl start mysql.service` and `sudo systemctl enable mysql.service`.

```

Reading state information... Done
19 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@ip-150-0-0-246:~# sudo apt update
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
19 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@ip-150-0-0-246:~# sudo apt install mysql-server
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libcgip-fast-perl libcgip-gm-perl libclone-perl libencode-locale-perl libevent-pthreads-2.1-7 libfcgi-bin libfcgi-perl libfcgi01db1 libhtml-parser-perl
  libhtml-tagset-perl libhtml-template-perl libhttp-date-perl libhttp-message-perl libio-html-perl liblwp-mediatypes-perl libmecab2 libprotobuf-lite23
  libtlimedate-perl liburi-perl mecab-ipadic mecab-ipadic-utf8 mecab-utils mysql-client-8.0 mysql-common mysql-server-8.0 mysql-server-core-8.0
Suggested packages:
  libdata-dump-perl libipc-sharedcache-perl libbusiness-isbn-perl libwww-perl mailx tinyca
The following NEW packages will be installed:
  libcgip-fast-perl libcgip-gm-perl libclone-perl libencode-locale-perl libevent-pthreads-2.1-7 libfcgi-bin libfcgi-perl libfcgi01db1 libhtml-parser-perl
  libhtml-tagset-perl libhtml-template-perl libhttp-date-perl libhttp-message-perl libio-html-perl liblwp-mediatypes-perl libmecab2 libprotobuf-lite23
  libtlimedate-perl liburi-perl mecab-ipadic mecab-ipadic-utf8 mecab-utils mysql-client-8.0 mysql-common mysql-server mysql-server-8.0
mysql-server-core-8.0
0 upgraded, 28 newly installed, 0 to remove and 19 not upgraded.
Need to get 29.5 MB of archives.
After this operation, 243 MB of additional disk space will be used.
Do you want to continue? [Y/n] y

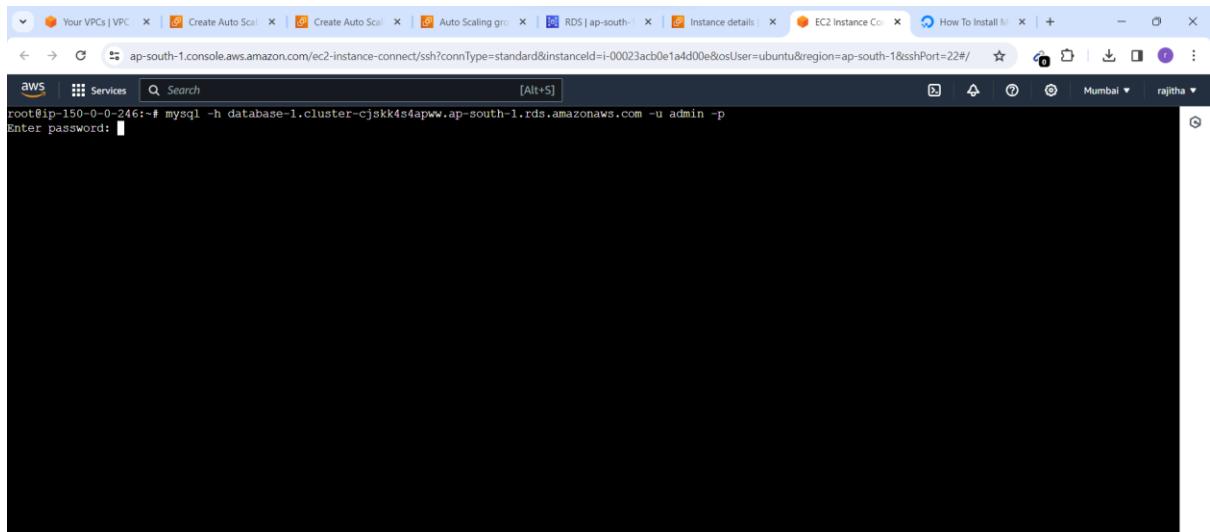
```

i-00023acb0e1a4d00e (my-project1)

PublicIPs: 13.201.55.164 PrivateIPs: 150.0.0.246

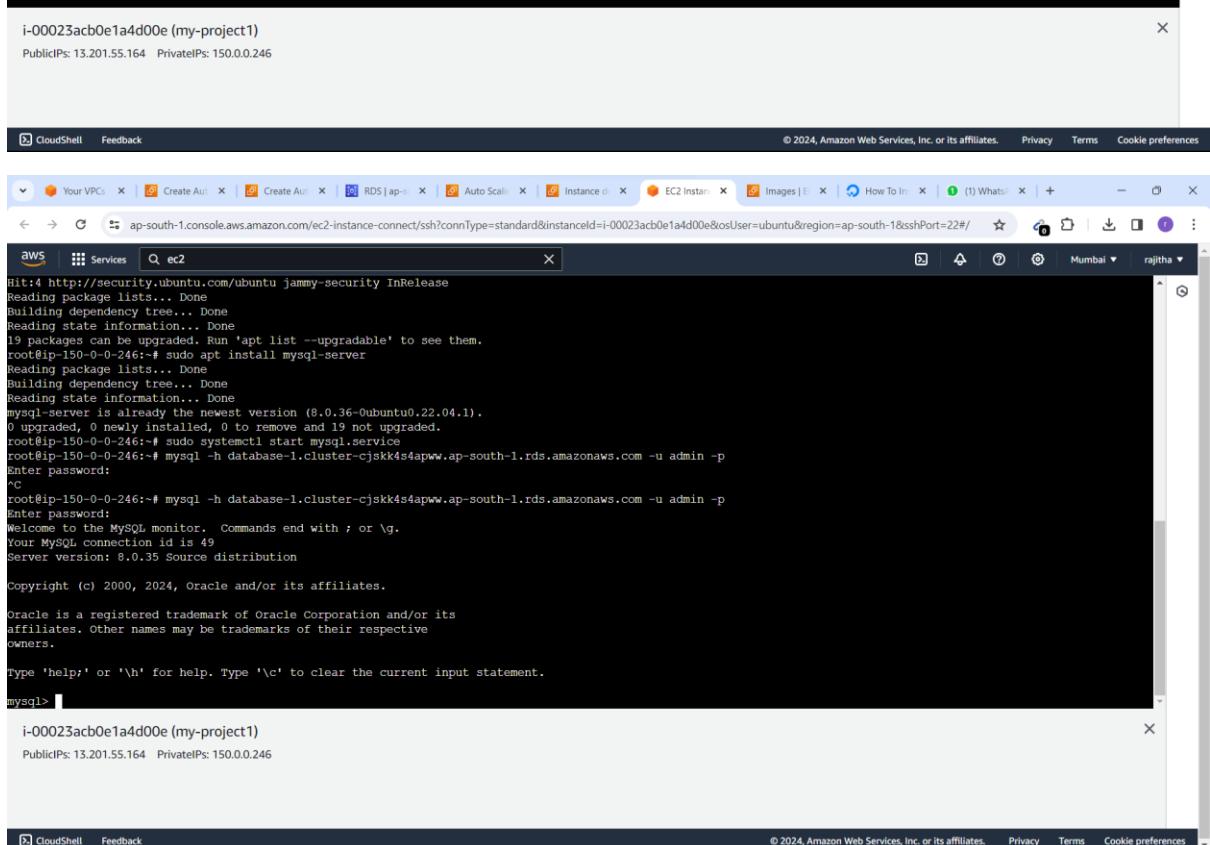
Step25:- Now mysql got installed

- now to connect to mysql server
- mysql -h “here you have paste the endpoint of database” -u admin -p



i-00023acb0e1a4d00e (my-project1)
 PublicIPs: 13.201.55.164 PrivateIPs: 150.0.0.246

```
aws Services Search [Alt+S] Mumbai rajitha
root@ip-150-0-0-246:~# mysql -h database-1.cluster-cjskk4s4apww.ap-south-1.rds.amazonaws.com -u admin -p
Enter password: [REDACTED]
```



© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

```
aws Services Search [Alt+S] Mumbai rajitha
root@ip-150-0-0-246:~# mysql -h database-1.cluster-cjskk4s4apww.ap-south-1.rds.amazonaws.com -u admin -p
Enter password: [REDACTED]
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
19 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@ip-150-0-0-246:~# sudo apt install mysql-server
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
mysql-server is already the newest version (8.0.36-0ubuntu0.22.04.1).
0 upgraded, 0 newly installed, 0 to remove and 19 not upgraded.
root@ip-150-0-0-246:~# sudo systemctl start mysql.service
root@ip-150-0-0-246:~# mysql -h database-1.cluster-cjskk4s4apww.ap-south-1.rds.amazonaws.com -u admin -p
Enter password: [REDACTED]
^C
root@ip-150-0-0-246:~# mysql -h database-1.cluster-cjskk4s4apww.ap-south-1.rds.amazonaws.com -u admin -p
Enter password: [REDACTED]
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 49
Server version: 8.0.35 Source distribution

Copyright (c) 2000, 2024, Oracle and/or its affiliates.

Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help,' or '\h' for help. Type '\c' to clear the current input statement.
mysql> [REDACTED]
```

i-00023acb0e1a4d00e (my-project1)
 PublicIPs: 13.201.55.164 PrivateIPs: 150.0.0.246

CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Step26:- As you can see we got connected to mysql server