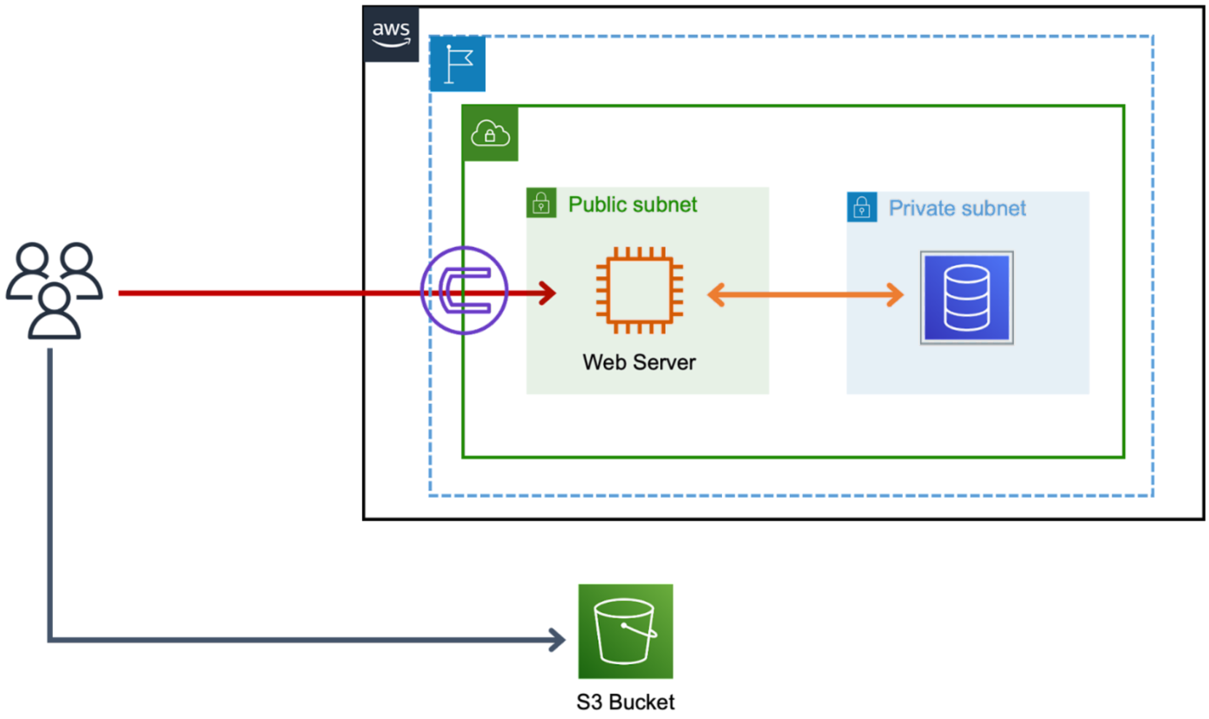
SHRADHA SAHU

HOSTING A WORDPRESS WEBSITE ON EC2

Intoduction:
Hosting WordPress, an open-source blogging tool and content management system based on PHP and MySQL, to a single Amazon EC2 instance running Amazon Linux

Architecture:



- Custom VPC created under which public and private subnets are created along with an internet gateway attached.
- A public subnet to host the web application. For that, an EC2 Instance is launched.
- A private subnet to deploy the RDS MySQL database.
- Then, set up the connection between RDS and EC2, then install the WordPress website on the EC2 instance.
- Hosted a simple WordPress website on an EC2 instance and exported the static assets into the S3 bucket

Services used:

- **VPC (Virtual Private Cloud) -** which is a virtual network infrastructure provided by AWS. It enables you to create a logically isolated section of the AWS cloud where you can launch resources such as EC2 instances, RDS databases, and more.
- **Internet Gateway (IGW)** - is a horizontally scaled, redundant, and highly available component in AWS that allows communication between resources in a VPC and the internet. An Internet Gateway is a virtual router that connects a VPC to the internet. It provides a target for traffic

destined for the public internet from instances in the VPC and a source for traffic originating from the internet and intended for instances in the VPC.

- **RDS (Relational Database Service) -** is a web service provided by AWS that makes it easy to set up, operate, and scale a relational database in the cloud. RDS supports multiple database engines, including MySQL, PostgreSQL, Oracle, and SQL Server. RDS allows users to manage their databases in a cloud-based environment without the need for extensive hardware or software resources. It provides automated backups, software patching, and scalable storage, making it an efficient and cost-effective solution for database management.
- **Amazon EC2** - provides on-demand, scalable computing capacity in AWS Cloud. Using Amazon EC2 reduces hardware costs so you can develop and deploy applications faster. You can use it to launch as many or as few virtual servers as you need, configure security and networking, and manage storage. You can add capacity (scale up) to handle compute-heavy tasks, such as monthly or yearly processes, or spikes in website traffic. When usage decreases, you can reduce capacity (scale down) again.
- **Amazon S3** - is an object storage service that offers industry-leading scalability, data availability, security, and performance. Customers of all sizes and industries can use Amazon S3 to store and protect any amount of data for a range of use cases, such as data lakes, websites, mobile applications, backup and restore, archive, enterprise applications, IoT devices, and big data analytics. Amazon S3 provides management features so that you can optimize, organize, and configure access to your data to meet your specific business, organizational, and compliance requirements.

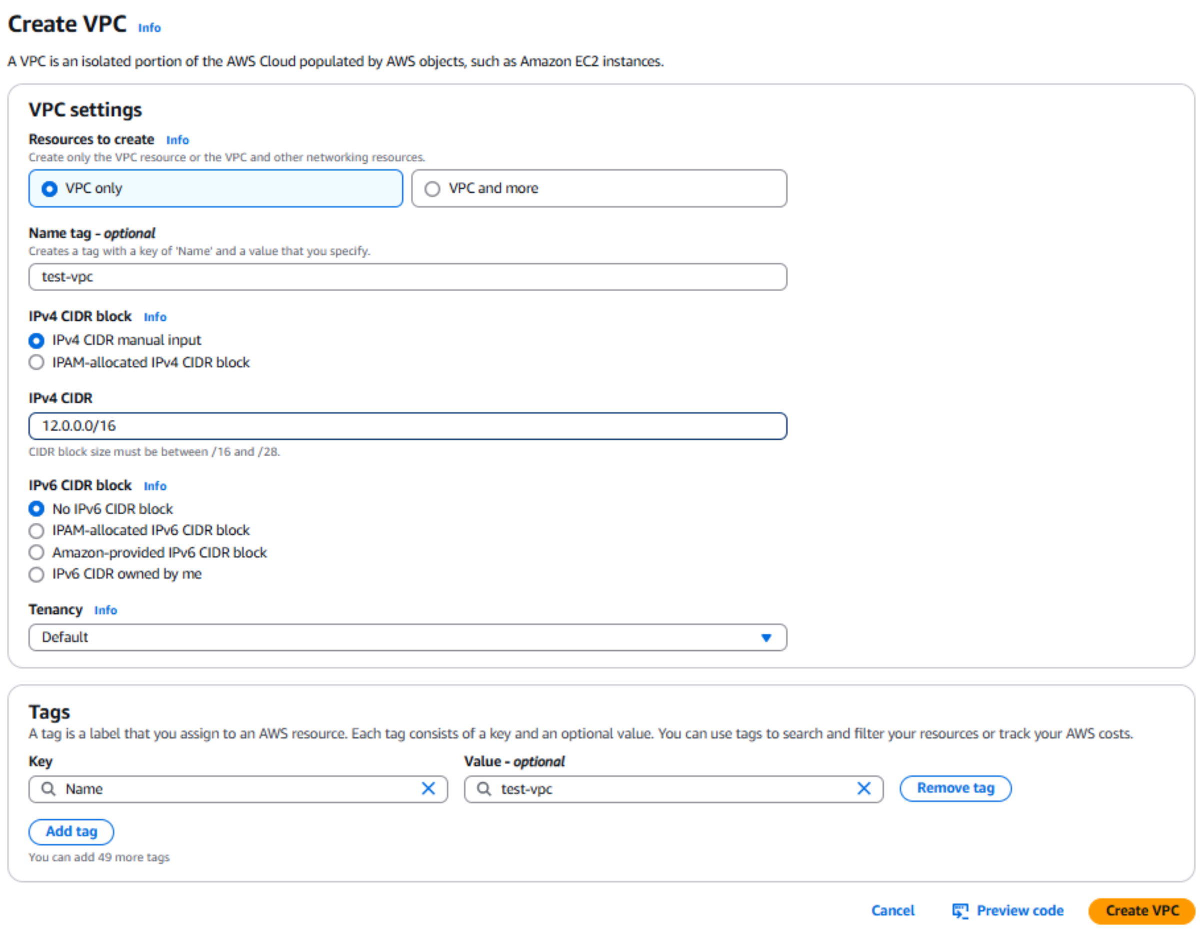
Implementation:

STEP 1) Create VPC

By default, when you create a new AWS account, a default VPC (Virtual Private Cloud) is created for you in each AWS region. The default VPC comes preconfigured with several default settings, including an Internet Gateway and a default subnet in each Availability Zone within the region. This means that you can launch your resources in the default VPC without having to worry about configuring networking settings.

-Here ,we will create custom VPC

- Click on “Create VPC” ->select VPC only -> IPV4 CIDR block (12.0.0.0/16)
- name- “**test-vpc”**



Create VPC

Info

A VPC is an isolated portion of the AWS Cloud populated by AWS objects, such as Amazon EC2 instances.

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.

test-vpc

IPv4 CIDR block Info

● IPv4 CIDR manual input
○ IPAM-allocated IPv4 CIDR block

IPv4 CIDR

12.0.0.0/16

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

Tenancy Info

Default ▾

Tags

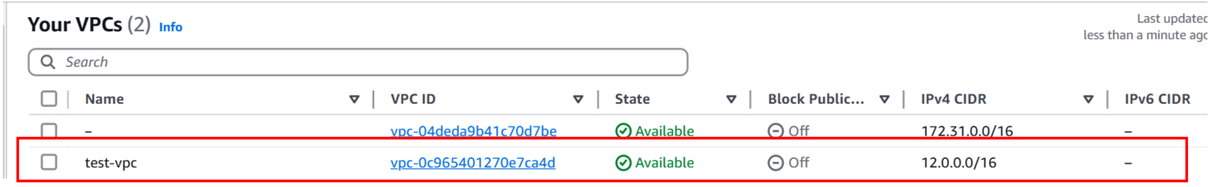
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key	Value - *optional*	
Name	test-vpc	Remove tag

Add tag

You can add 49 more tags

Cancel Preview code Create VPC



Your VPCs (2) Info

Last updatec
less than a minute agc

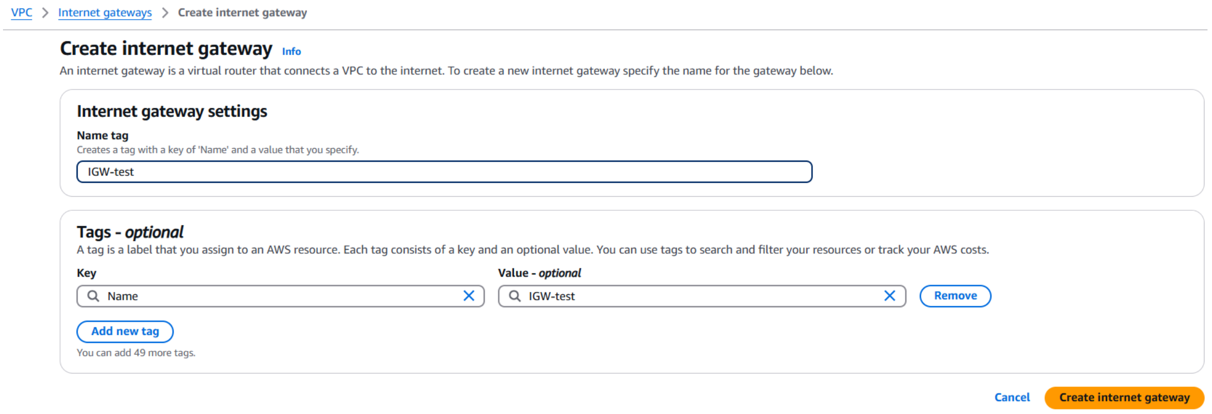
Search

□	Name	VPC ID	State	Block Public...	IPv4 CIDR	IPv6 CIDR
□	–	vpc-04deda9b41c70d7be	✓ Available	⊖ Off	172.31.0.0/16	–
□	test-vpc	vpc-0c965401270e7ca4d	✓ Available	⊖ Off	12.0.0.0/16	–

- test-vpc created

STEP2) Create an Internet gateway to your Custom VPC

- Name- “**IGW-test**” ->click on “Create Internet gateway”



VPC > Internet gateways > Create internet gateway

Create internet gateway

Info

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

Internet gateway settings

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

IGW-test

Tags - *optional*

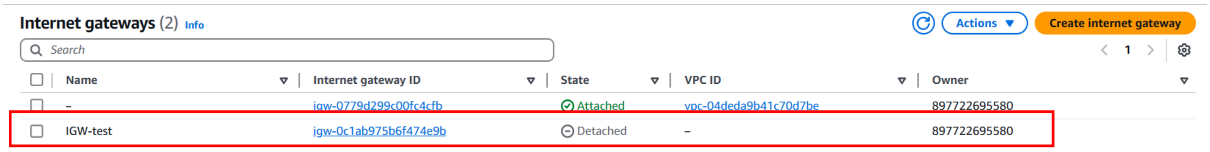
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key	Value - *optional*	
Name	IGW-test	Remove

Add new tag

You can add 49 more tags.

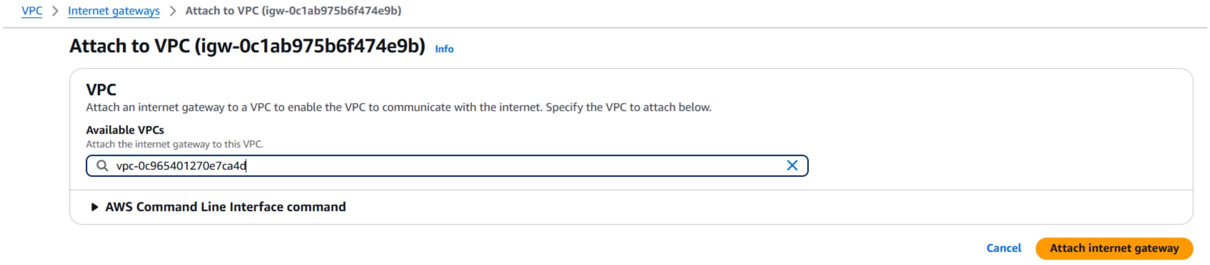
Cancel Create internet gateway



Internet gateways (2)

□	Name	Internet gateway ID	State	VPC ID	Owner
□	–	igw-0779d299c00fc4cfb	✓ Attached	vpc-04deda9b41c70d7be	897722695580
□	IGW-test	igw-0c1ab975b6f474e9b	⊖ Detached	–	897722695580

- IGW-test created but it is not attached to custom VPC
- Attach IGW to VPC by clicking on "Attach to VPC" and select the VPC to attach.


VPC > Internet gateways > Attach to VPC (igw-0c1ab975b6f474e9b)
Info
▶ AWS Command Line Interface command
Cancel
Attach internet gateway

Attach to VPC (igw-0c1ab975b6f474e9b)

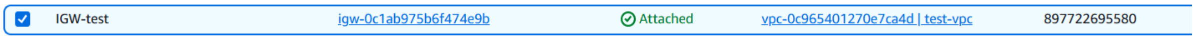
VPC

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.

vpc-0c965401270e7ca4d



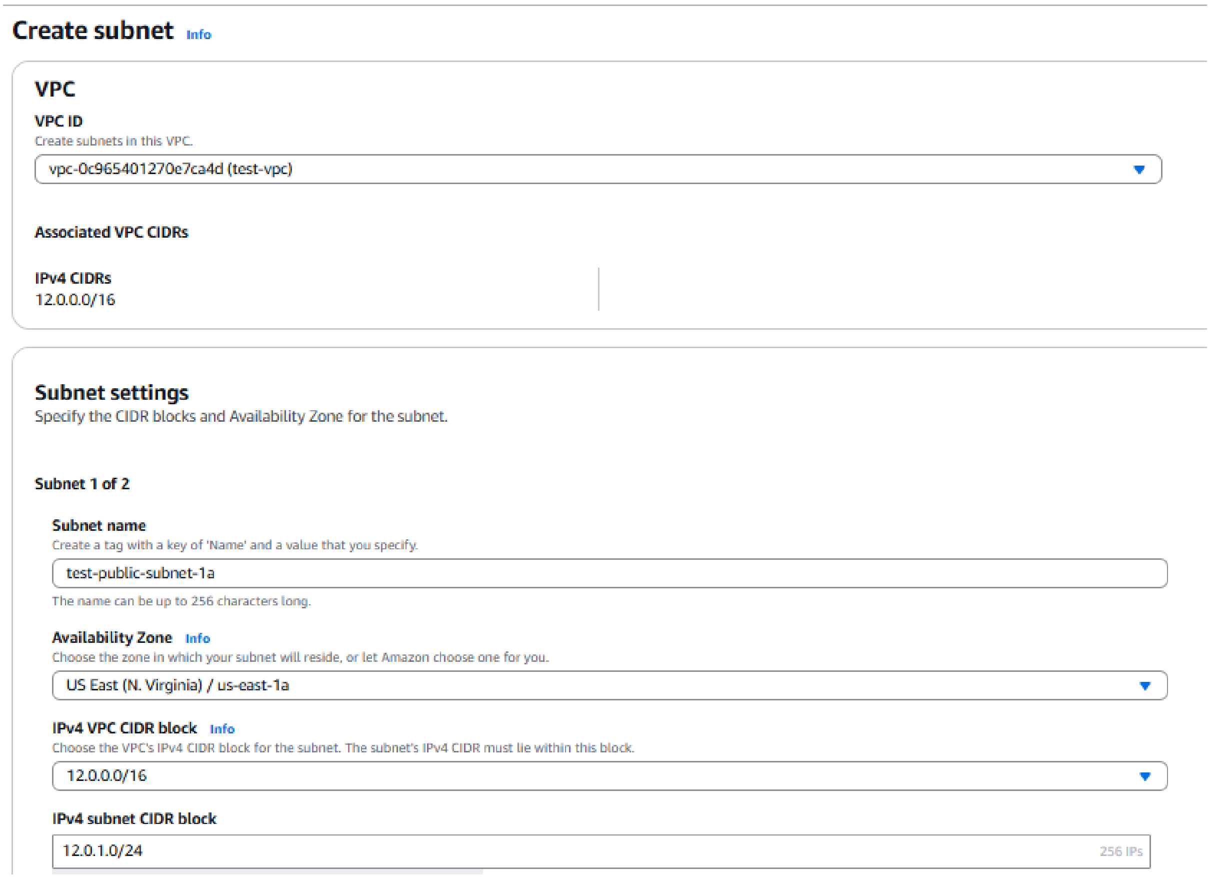
☑	IGW-test	igw-0c1ab975b6f474e9b	✓ Attached	vpc-0c965401270e7ca4d | test-vpc	897722695580

- **"IGW-test"** is now attached to "**test-vpc**"

STEP3) Create 2 public subnet and 2 private subnet

1. **Create public subnets**

- Click on Create subnet, select your custom VPC, Give name to subnet, select Availability zone according your convince and assign IPV4 CDIR block to this subnet.
- Create 2 public subnets ("***test-public-subnet-1a***" and "***test-public-subnet-1b"***) in different availability zones ("***us-east-1a***" and "***us-east-1b***") and IPV4 CDIR blocks (**12.0.1.0/24** and **12.0.2.0/24**)



Create subnet

VPC

VPC ID

Create subnets in this VPC.

vpc-0c965401270e7ca4d (test-vpc)

Associated VPC CIDRs

IPv4 CIDRs

12.0.0.0/16

Subnet settings

Specify the CIDR blocks and Availability Zone for the subnet.

Subnet 1 of 2

Subnet name

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

test-public-subnet-1a

The name can be up to 256 characters long.

Availability Zone

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

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

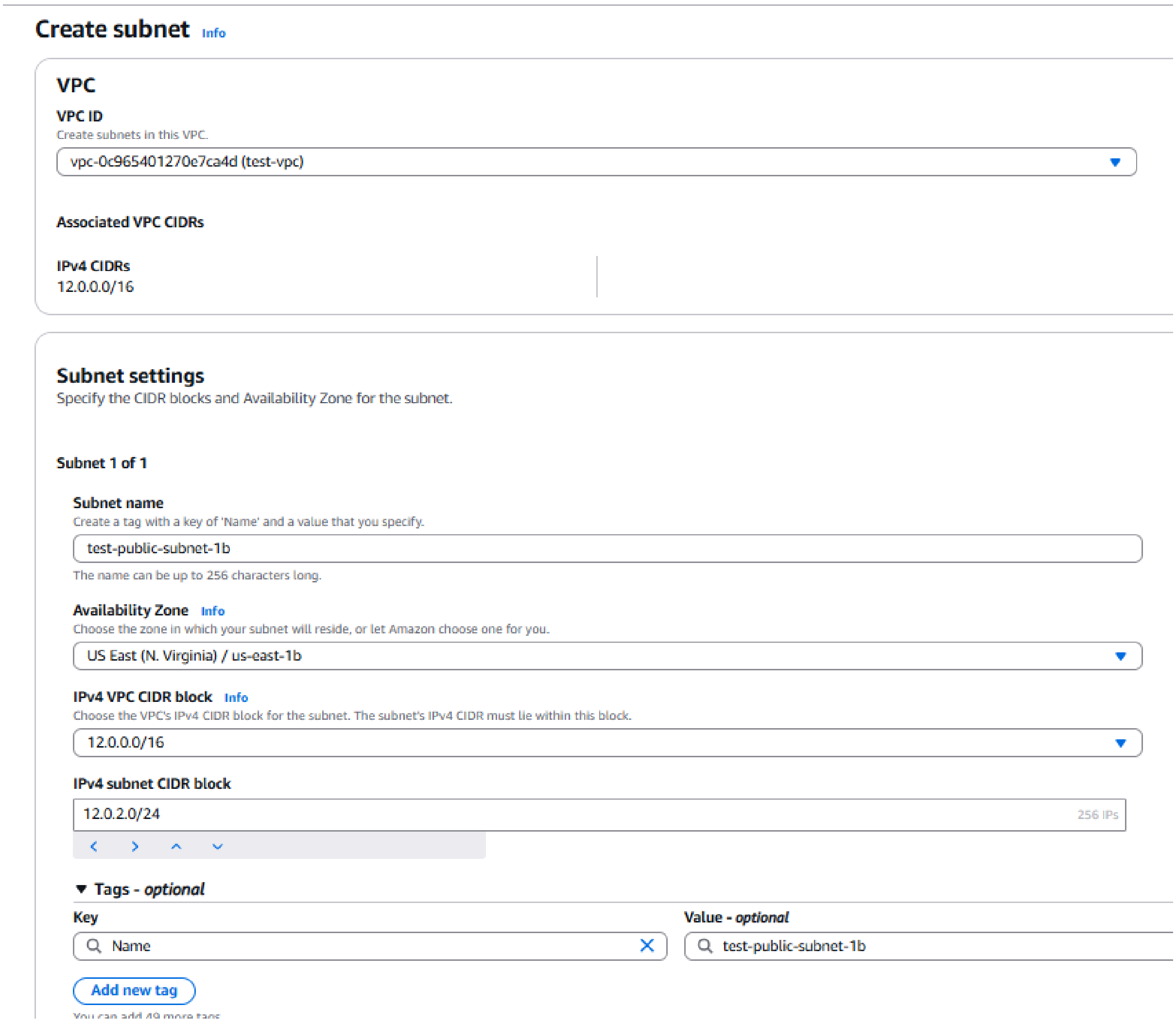
IPv4 VPC CIDR block

Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.

12.0.0.0/16

IPv4 subnet CIDR block

12.0.1.0/24 256 IPs



Create subnet Info

VPC

VPC ID
Create subnets in this VPC.
vpc-0c965401270e7ca4d (test-vpc)

Associated VPC CIDRs

IPv4 CIDRs
12.0.0.0/16

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.
test-public-subnet-1b
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.
12.0.0.0/16

IPv4 subnet CIDR block
12.0.2.0/24 256 IPs

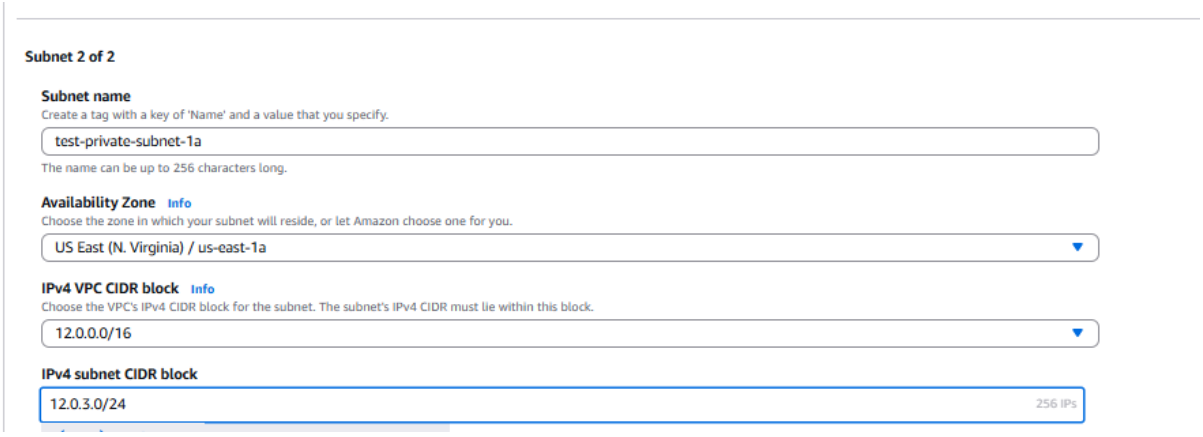
Tags - *optional*

Key	Value - *optional*
Name	test-public-subnet-1b

You can add 49 more tags

2. Create private subnets

- Click on Create subnet, select your custom VPC, Give name to subnet, select Availability zone according your convince and assign IPV4 CDIR block to this subnet.
- Create 2 private subnets ("***test-private-subnet-1a***" and "***test-private-subnet-1b"***) in different availability zones ("***us-east-1a***" and "***us-east-1b***") and IPV4 CDIR blocks (**12.0.3.0/24** and **12.0.4.0/24**)



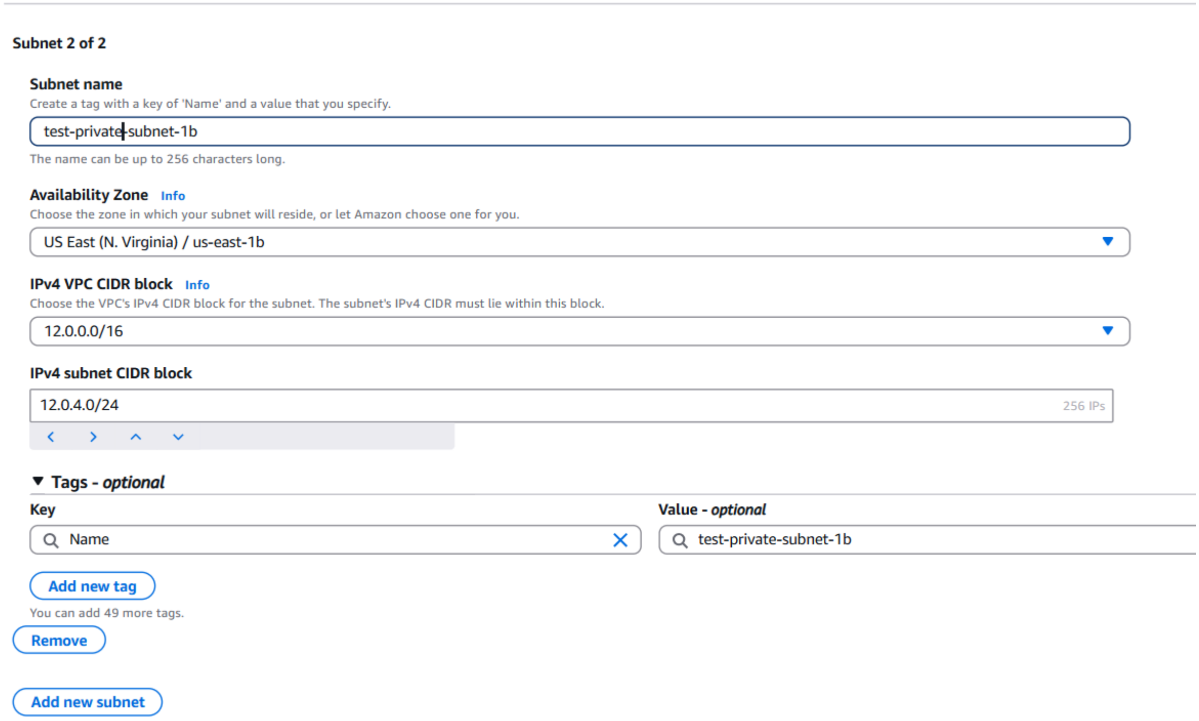
Subnet 2 of 2

Subnet name
Create a tag with a key of 'Name' and a value that you specify.
test-private-subnet-1a
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.
12.0.0.0/16

IPv4 subnet CIDR block
12.0.3.0/24 256 IPs



Subnet 2 of 2

Subnet name
Create a tag with a key of 'Name' and a value that you specify.
test-private-subnet-1b
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.
12.0.0.0/16

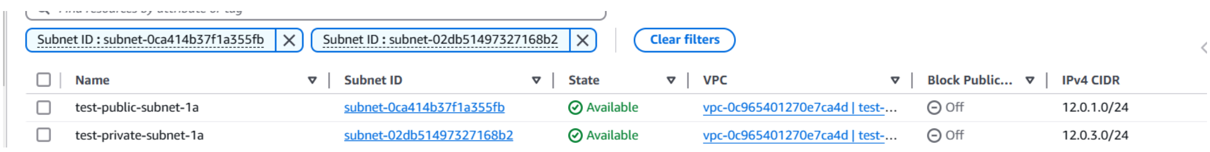
IPv4 subnet CIDR block
12.0.4.0/24 256 IPs

▼ **Tags - *optional***

Key	Value - *optional*
Name	test-private-subnet-1b

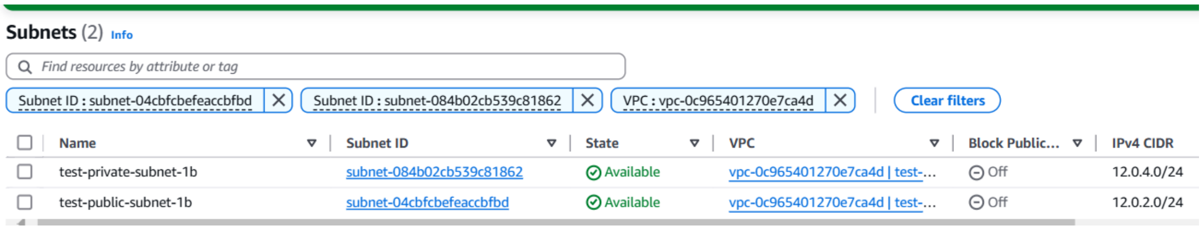
You can add 49 more tags.

- subnets created for custom vpc



Subnet ID : subnet-0ca414b37f1a355fb ✕ Subnet ID : subnet-02db51497327168b2 ✕ Clear filters

□	Name	Subnet ID	State	VPC	Block Public...	IPv4 CIDR
□	test-public-subnet-1a	subnet-0ca414b37f1a355fb	✓ Available	vpc-0c965401270e7ca4d | test-...	⊖ Off	12.0.1.0/24
□	test-private-subnet-1a	subnet-02db51497327168b2	✓ Available	vpc-0c965401270e7ca4d | test-...	⊖ Off	12.0.3.0/24



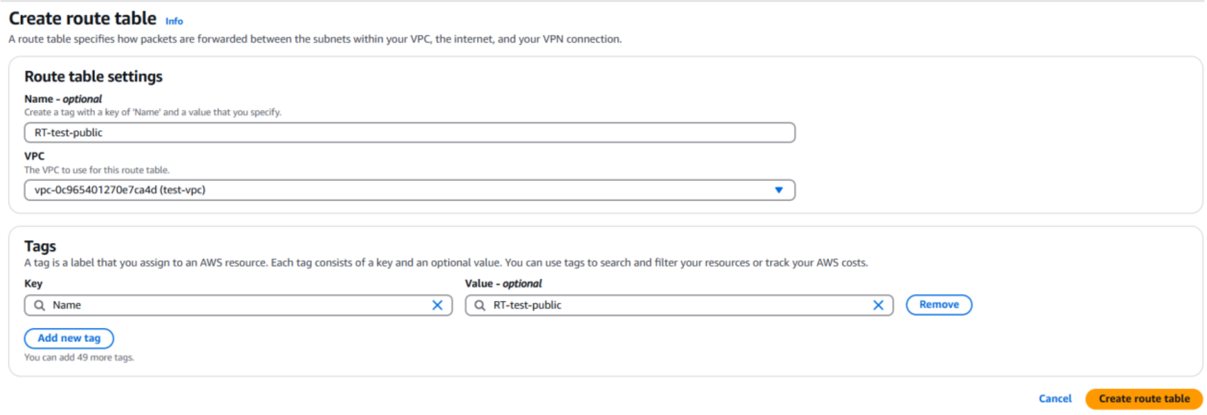
Subnets (2) Info

Find resources by attribute or tag

Subnet ID : subnet-04cbfcbefeaccbfbd ✕ Subnet ID : subnet-084b02cb539c81862 ✕ VPC : vpc-0c965401270e7ca4d ✕ Clear filters

□	Name	Subnet ID	State	VPC	Block Public...	IPv4 CIDR
□	test-private-subnet-1b	subnet-084b02cb539c81862	✓ Available	vpc-0c965401270e7ca4d | test-...	⊖ Off	12.0.4.0/24
□	test-public-subnet-1b	subnet-04cbfcbefeaccbfbd	✓ Available	vpc-0c965401270e7ca4d | test-...	⊖ Off	12.0.2.0/24

STEP4) Create public route table (“**RT-test-public**“) for public subnet



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.
RT-test-public

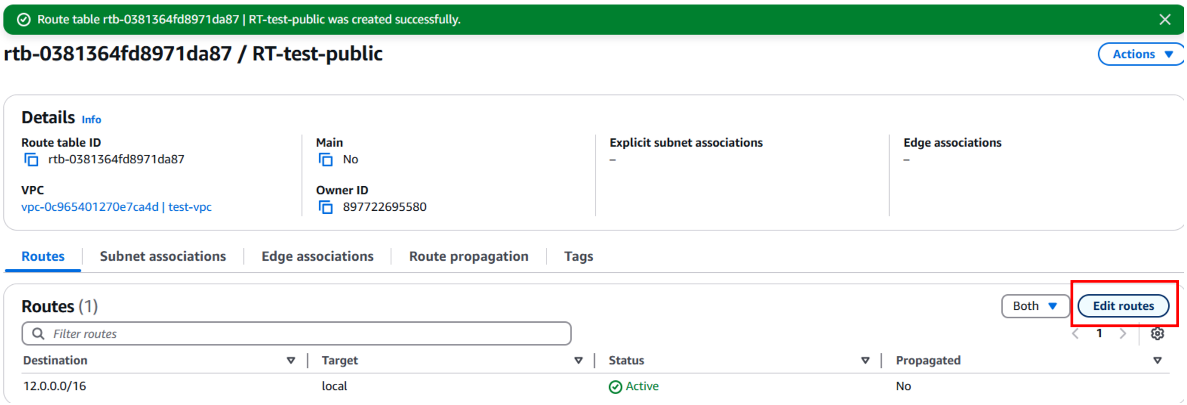
VPC
The VPC to use for this route table.
vpc-0c965401270e7ca4d (test-vpc)

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	RT-test-public	Remove

Add new tag
You can add 49 more tags.

- For directing traffic within the VPC public route is associated with public subnet and public subnet needs internet access.
- Edit route by associating it with internal gateway



Route table rtb-0381364fd8971da87 | RT-test-public was created successfully.

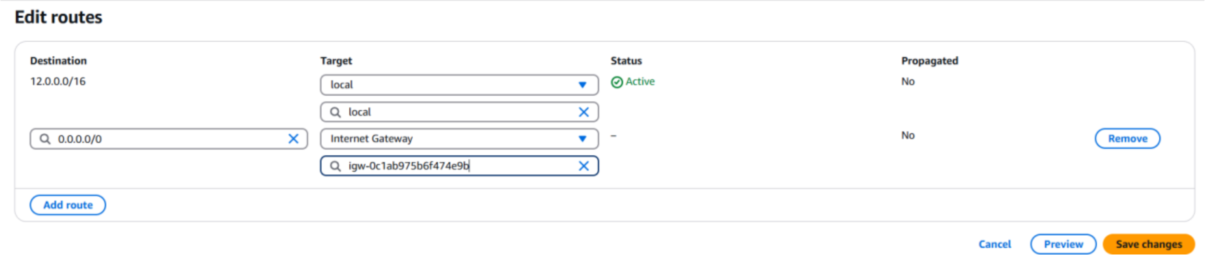
rtb-0381364fd8971da87 / RT-test-public

Details Info

Route table ID	Main	Explicit subnet associations	Edge associations
rtb-0381364fd8971da87	No	–	–
VPC	**Owner ID**		
vpc-0c965401270e7ca4d | test-vpc	897722695580		

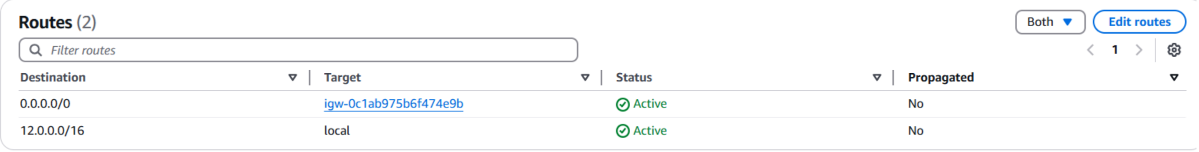
Routes (1)

Destination	Target	Status	Propagated
12.0.0.0/16	local	Active	No



Edit routes

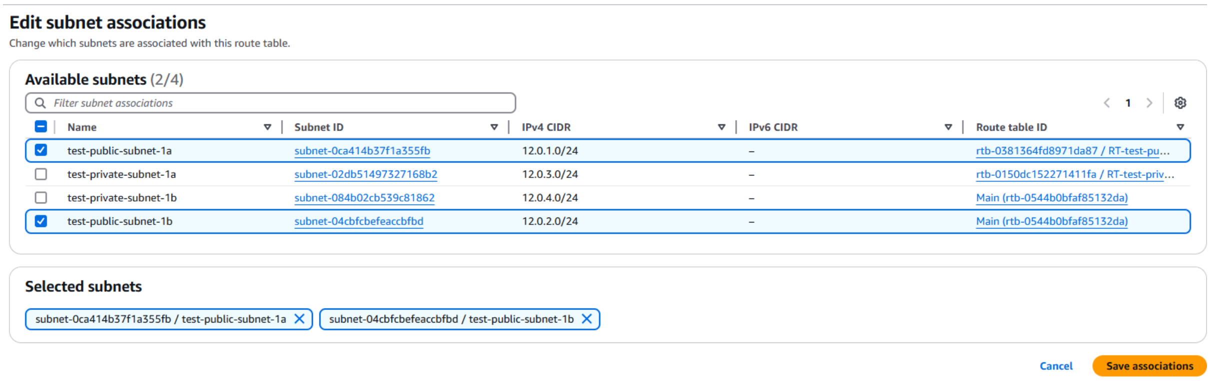
Destination	Target	Status	Propagated	
12.0.0.0/16	local local	Active	No	
0.0.0.0/0	Internet Gateway igw-0c1ab975b6f474e9b	–	No	Remove



Routes (2)

Destination	Target	Status	Propagated
0.0.0.0/0	igw-0c1ab975b6f474e9b	Active	No
12.0.0.0/16	local	Active	No

- Associate RT-public with public subnet-> Click on “subnet association” ->“Edit subnet association”-> click on public subnet.



Edit subnet associations

Change which subnets are associated with this route table.

Available subnets (2/4)

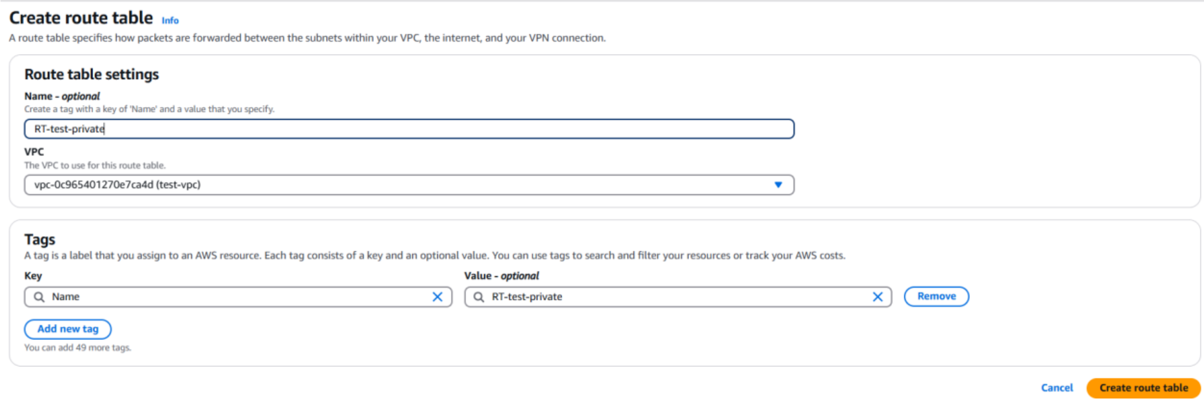
	Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
☑	test-public-subnet-1a	subnet-0ca414b37f1a355fb	12.0.1.0/24	–	rtb-0381364fd8971da87 / RT-test-pu…
□	test-private-subnet-1a	subnet-02db51497327168b2	12.0.3.0/24	–	rtb-0150dc152271411fa / RT-test-priv…
□	test-private-subnet-1b	subnet-084b02cb539c81862	12.0.4.0/24	–	Main (rtb-0544b0bfaf85132da)
☑	test-public-subnet-1b	subnet-04cbfcbefeaccbfbd	12.0.2.0/24	–	Main (rtb-0544b0bfaf85132da)

Selected subnets

subnet-0ca414b37f1a355fb / test-public-subnet-1a

subnet-04cbfcbefeaccbfbd / test-public-subnet-1b

STEP5) Create private route table(“**RT-test-private**”) for private subnet and edit subnet association



Create route table

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.
RT-test-private

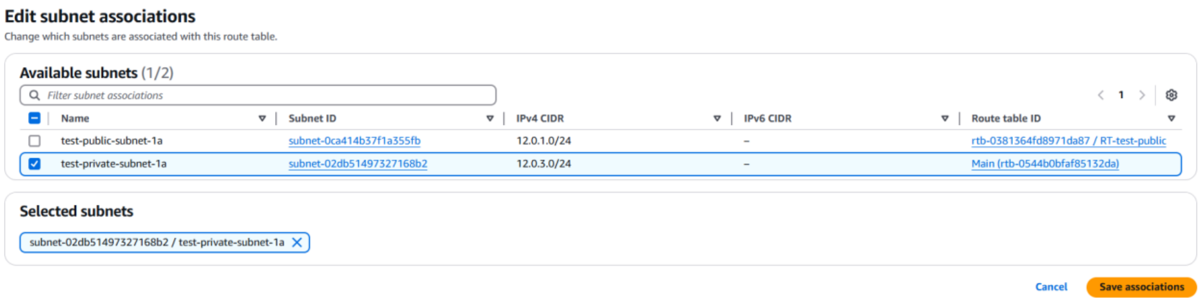
VPC
The VPC to use for this route table.
vpc-0c965401270e7ca4d (test-vpc)

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	RT-test-private

You can add 49 more tags.



Edit subnet associations

Change which subnets are associated with this route table.

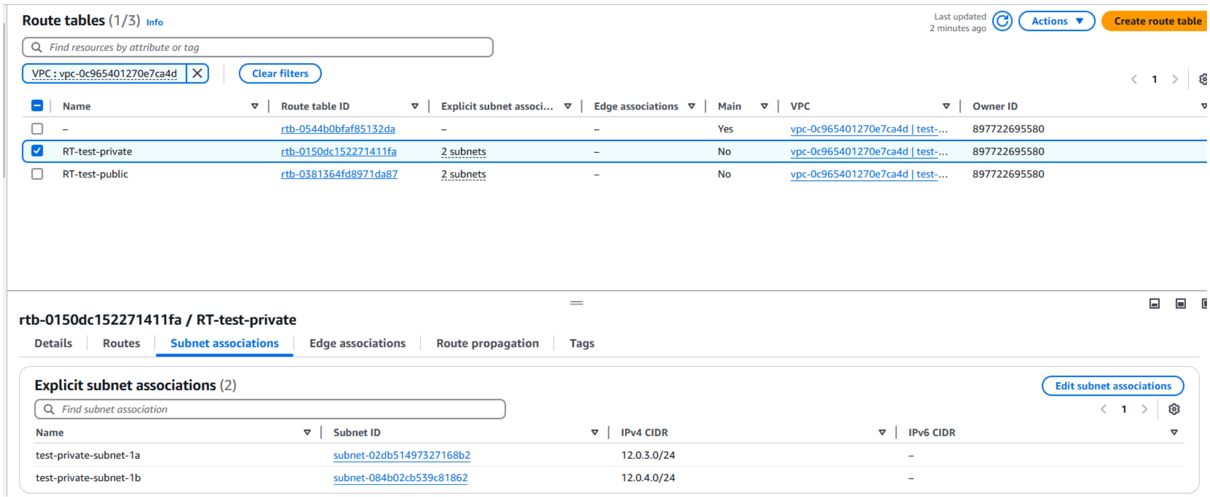
Available subnets (1/2)

	Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
□	test-public-subnet-1a	subnet-0ca414b37f1a355fb	12.0.1.0/24	–	rtb-0381364fd8971da87 / RT-test-public
☑	test-private-subnet-1a	subnet-02db51497327168b2	12.0.3.0/24	–	Main (rtb-0544b0bfaf85132da)

Selected subnets

subnet-02db51497327168b2 / test-private-subnet-1a

- Route tables created for private and public subnets



Route tables (1/3)

VPC : vpc-0c965401270e7ca4d

	Name	Route table ID	Explicit subnet associ…	Edge associations	Main	VPC	Owner ID
□	–	rtb-0544b0bfaf85132da	–	–	Yes	vpc-0c965401270e7ca4d | test-…	897722695580
☑	RT-test-private	rtb-0150dc152271411fa	2 subnets	–	No	vpc-0c965401270e7ca4d | test-…	897722695580
□	RT-test-public	rtb-0381364fd8971da87	2 subnets	–	No	vpc-0c965401270e7ca4d | test-…	897722695580

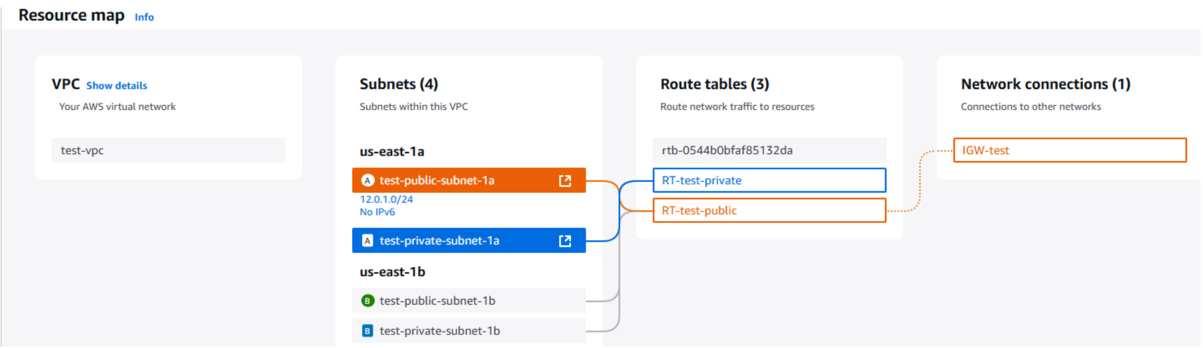
rtb-0150dc152271411fa / RT-test-private

Explicit subnet associations (2)

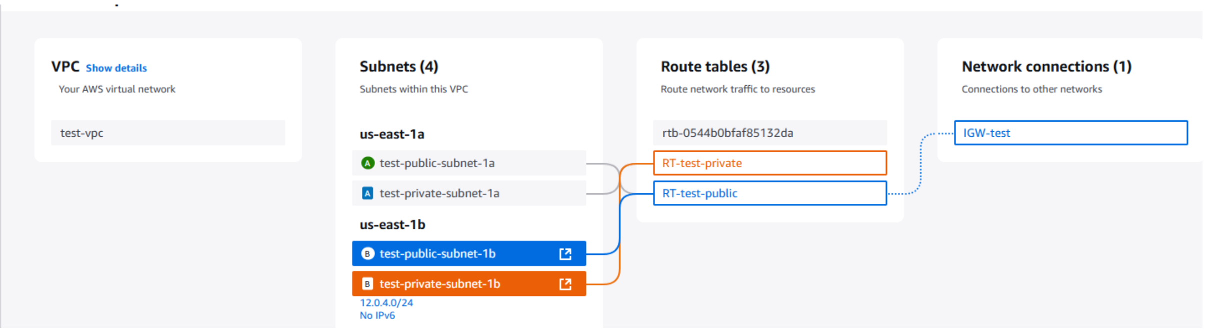
Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
test-private-subnet-1a	subnet-02db51497327168b2	12.0.3.0/24	–
test-private-subnet-1b	subnet-084b02cb539c81862	12.0.4.0/24	–

Resource map for each availability zone:

- us-east-1a

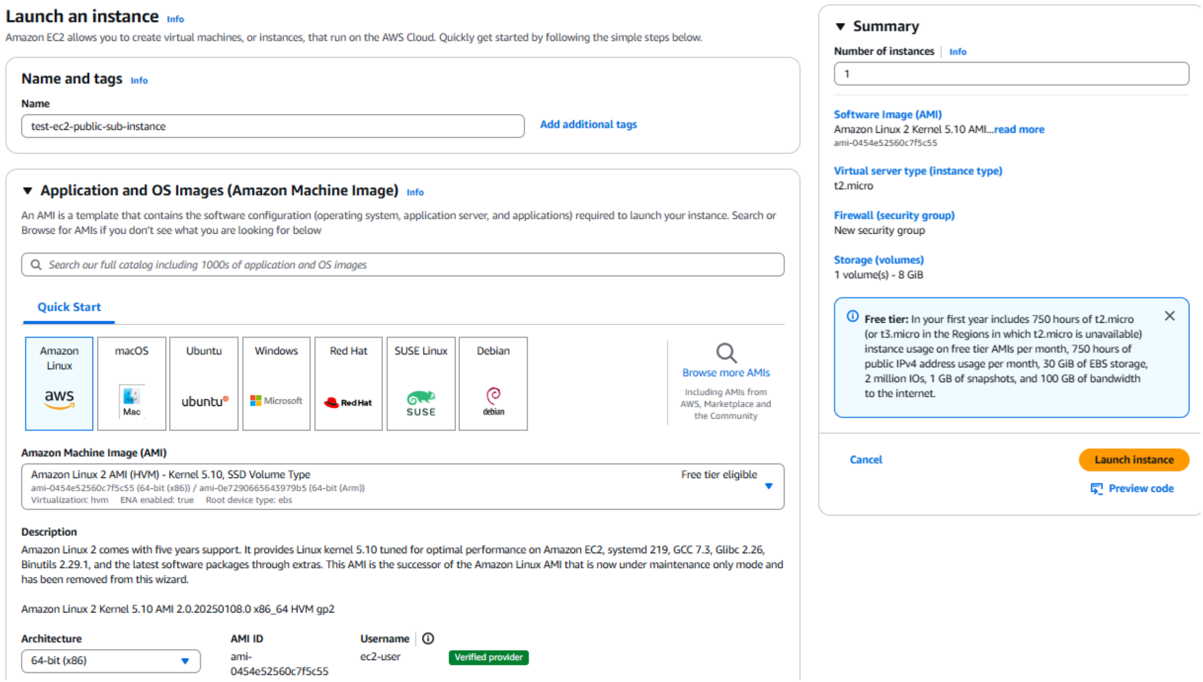


- us-east-1b



STEP6) Create an EC2 instance in public subnet for custom VPC

- Give name to that instance (“***test-ec2-public-sub-instance***”) -> select instance type, create a key pair and in network setting select your custom VPC and public subnet of it.



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

test-ec2-public-sub-instance

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

Amazon Machine Image (AMI)

Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type — Free tier eligible
ami-0454e52560c7f5c55 (64-bit (x86)) / ami-0e7290665643979b5 (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs

Description

Amazon Linux 2 comes with five years support. It provides Linux kernel 5.10 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras. This AMI is the successor of the Amazon Linux AMI that is now under maintenance only mode and has been removed from this wizard.

Amazon Linux 2 Kernel 5.10 AMI 2.0.20250108.0 x86_64 HVM gp2

Architecture	AMI ID	Username	
64-bit (x86)	ami-0454e52560c7f5c55	ec2-user	Verified provider

Summary

Number of instances Info: 1

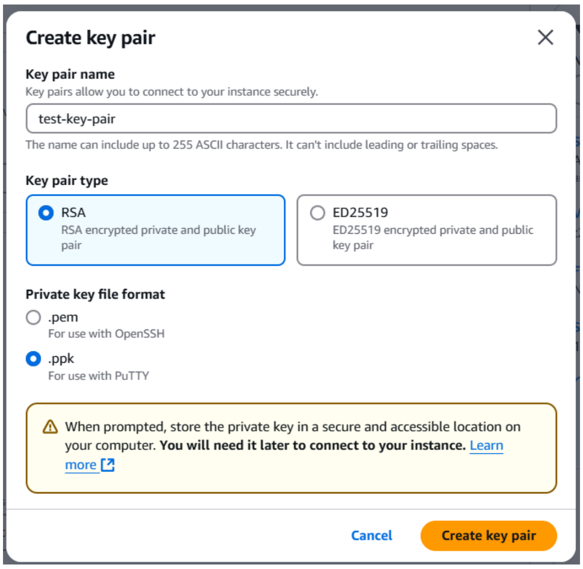
Software Image (AMI)
Amazon Linux 2 Kernel 5.10 AMI...read more
ami-0454e52560c7f5c55

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 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 key pair

Key pair name

Key pairs allow you to connect to your instance securely.

test-key-pair

The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

● RSA — RSA encrypted private and public key pair

○ ED25519 — ED25519 encrypted private and public key pair

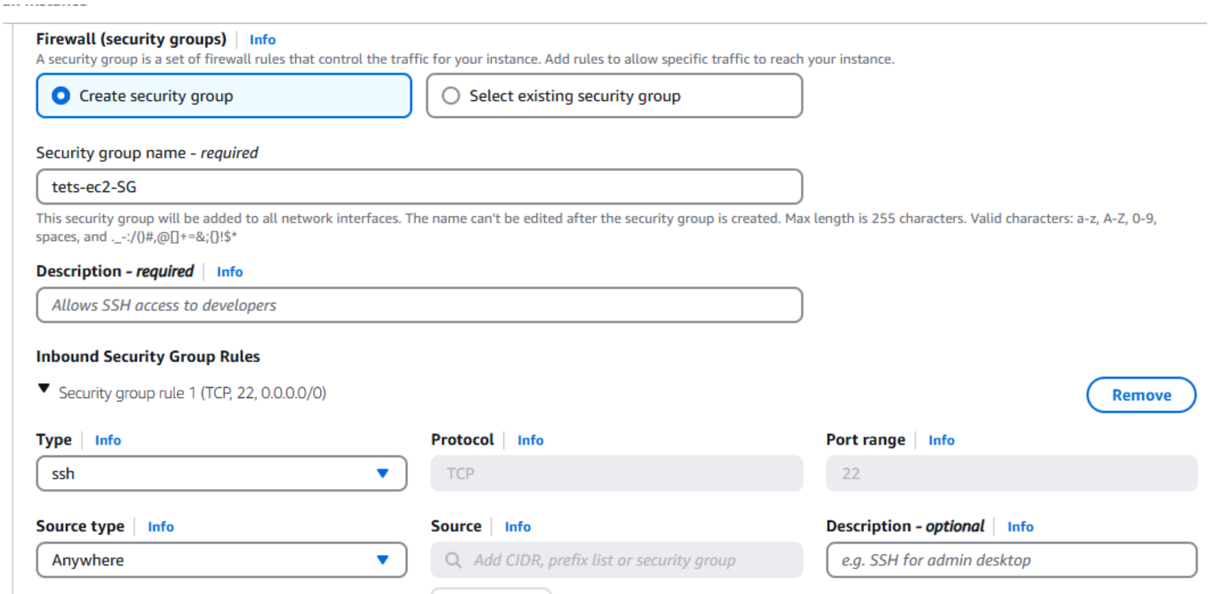
Private key file format

○ .pem — For use with OpenSSH

● .ppk — For use with PuTTY

When prompted, store the private key in a secure and accessible location on your computer. **You will need it later to connect to your instance.** Learn more

- Create security group(“ tets-ec2-SG”) ->In inbound SG rules allow ssh from anywhere and create instance.



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.

● Create security group ○ Select existing security group

Security group name - *required*

tets-ec2-SG

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

Description - *required* Info

Allows SSH access to developers

Inbound Security Group Rules

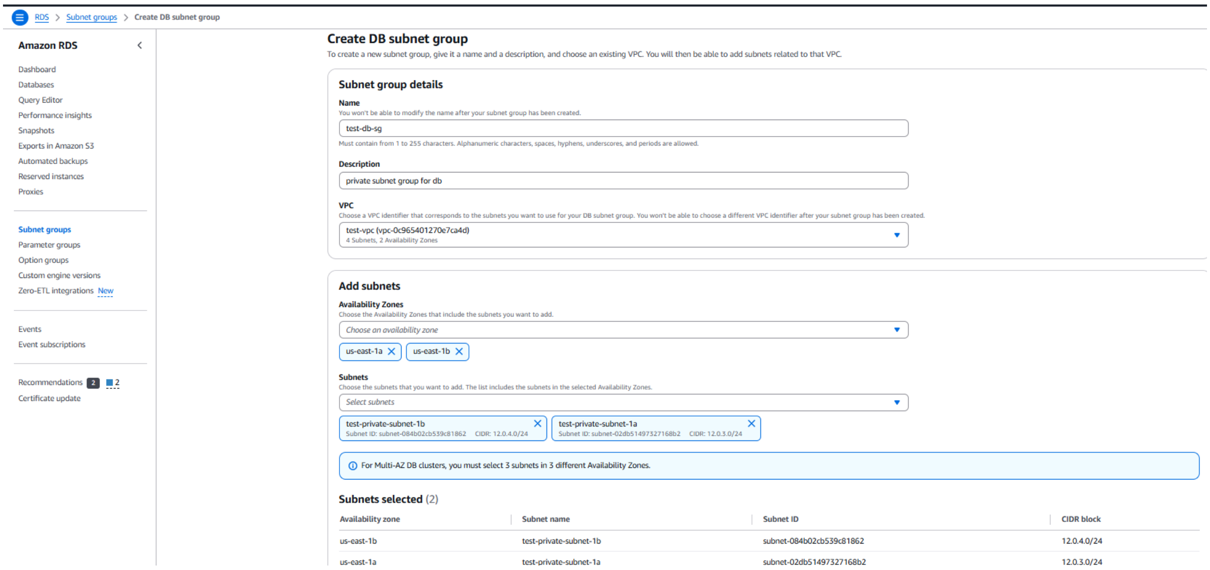
▼ Security group rule 1 (TCP, 22, 0.0.0.0/0)

Type	Protocol	Port range
ssh	TCP	22

Source type	Source	Description - *optional*
Anywhere	*Add CIDR, prefix list or security group*	*e.g. SSH for admin desktop*

STEP 7) Create an RDS MySQL database in Private subnet of custom VPC.

- Before Creating RDS, First create a subnet group (“***test-db-sg***”) consisting of only private subnets in RDS.



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

Description
private subnet group for db

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.
test-vpc (vpc-0c965401270e7ca4d)
4 Subnets, 2 Availability Zones

Add subnets

Availability Zones
Choose the Availability Zones that include the subnets you want to add.
Choose an availability zone
us-east-1a ✕ us-east-1b ✕

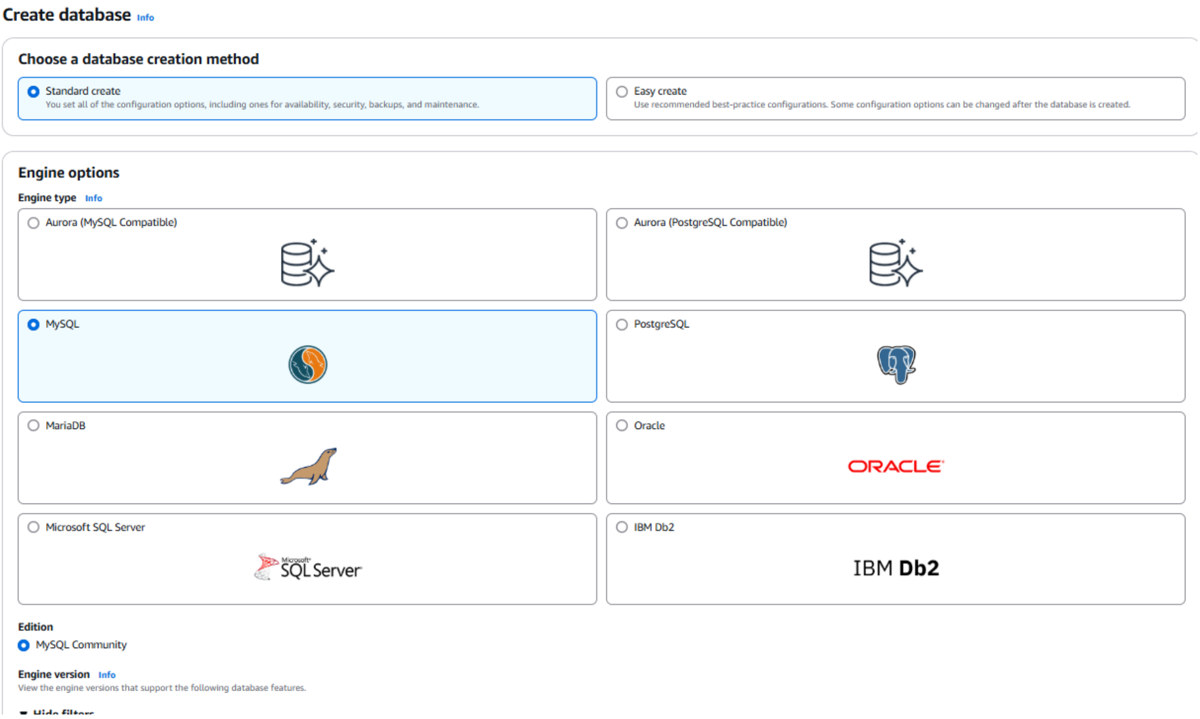
Subnets
Choose the subnets that you want to add. The list includes the subnets in the selected Availability Zones.
Select subnets
test-private-subnet-1b ✕ Subnet ID: subnet-084b02cb539c81862 CIDR: 12.0.4.0/24
test-private-subnet-1a ✕ Subnet ID: subnet-02db51497327168b2 CIDR: 12.0.3.0/24

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

Subnets selected (2)

Availability zone	Subnet name	Subnet ID	CIDR block
us-east-1b	test-private-subnet-1b	subnet-084b02cb539c81862	12.0.4.0/24
us-east-1a	test-private-subnet-1a	subnet-02db51497327168b2	12.0.3.0/24

- Create database by clicking on create database-> Select Standard create, choose mysql and version, and select free tier template.
- In setting type a name for your database(“***database-1***”), type master username and autogenerate password



Create database Info

Choose a database creation method

● 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.

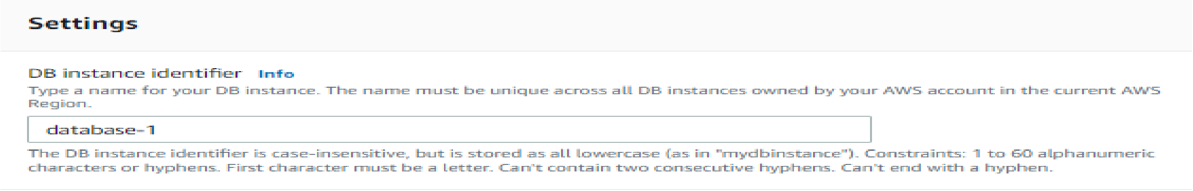
Engine options

Engine type Info

○ Aurora (MySQL Compatible)
○ Aurora (PostgreSQL Compatible)
● MySQL
○ PostgreSQL
○ MariaDB
○ Oracle
○ Microsoft SQL Server
○ IBM Db2

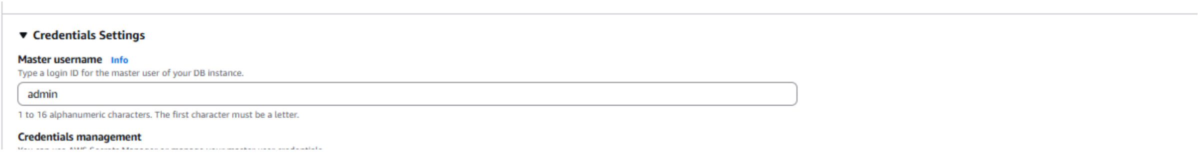
Edition
● MySQL Community

Engine version Info
View the engine versions that support the following database features.
▼ Hide filters



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

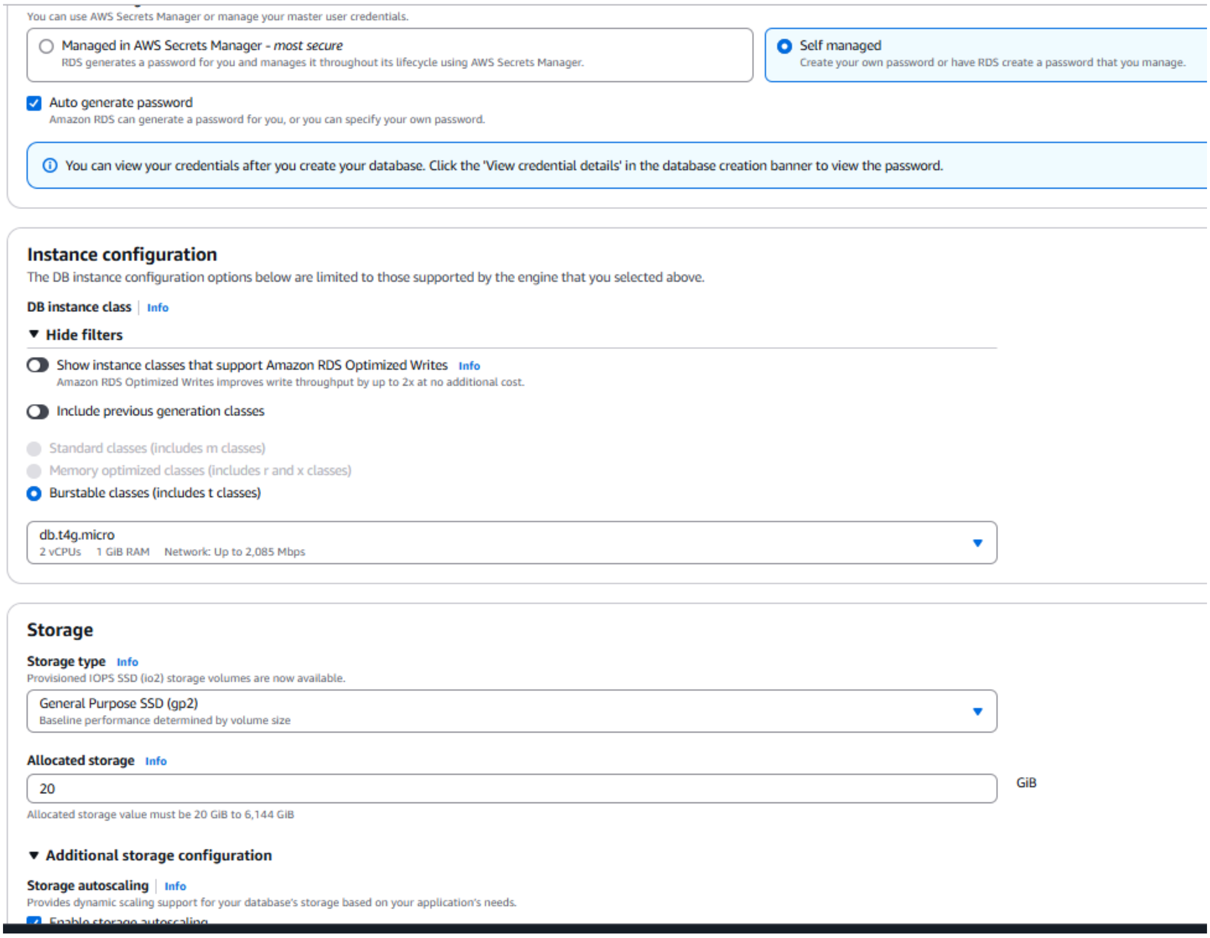
Master username Info
Type a login ID for the master user of your DB instance.

admin

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

Credentials management

- In Instance configuration select Db instance class and select storage type and size.



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.

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

ⓘ You can view your credentials after you create your database. Click the 'View credential details' in the database creation banner to view the password.

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.t4g.micro
2 vCPUs 1 GiB RAM Network: Up to 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

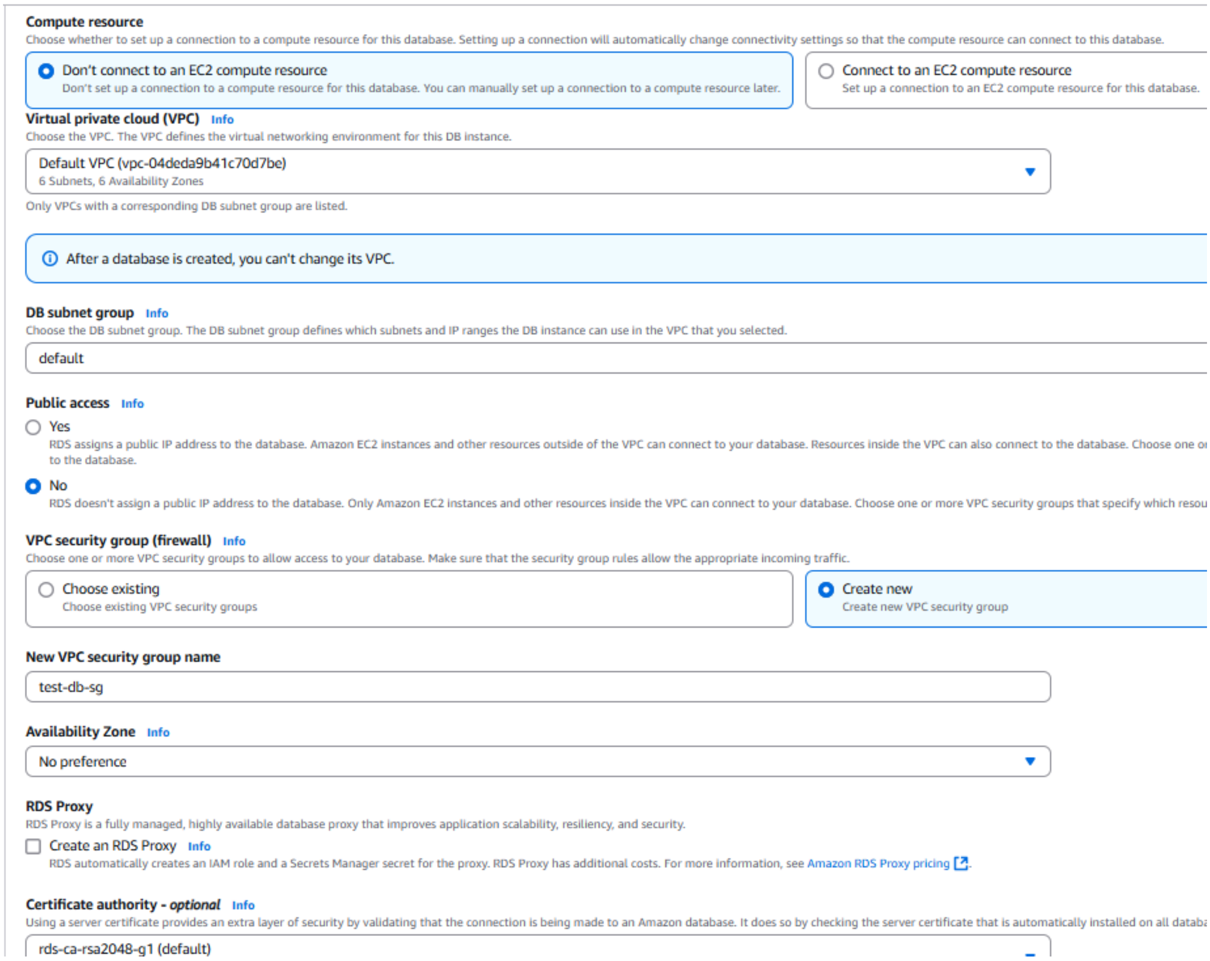
20 GiB

Allocated storage value must be 20 GiB to 6,144 GiB

▼ Additional storage configuration

Storage autoscaling | Info
Provides dynamic scaling support for your database's storage based on your application's needs.

☑ Enable storage autoscaling



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.

Default VPC (vpc-04deda9b41c70d7be)
6 Subnets, 6 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.

default

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 o
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 resou

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

New VPC security group name

test-db-sg

Availability Zone Info

No preference

RDS Proxy

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

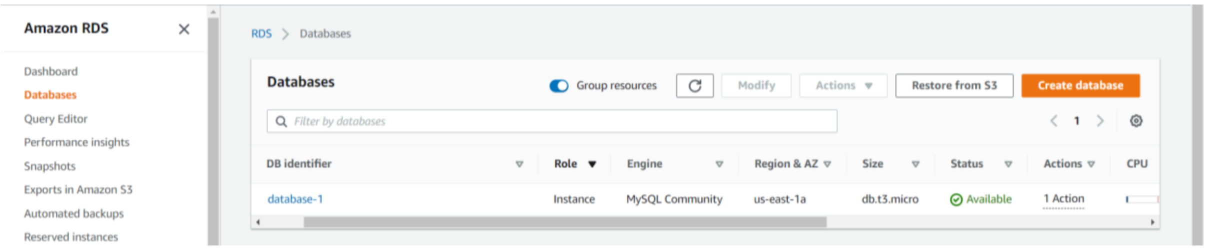
□ Create an RDS Proxy Info
RDS automatically creates an IAM role and a Secrets Manager secret for the proxy. RDS Proxy has additional costs. For more information, see Amazon RDS Proxy pricing.

Certificate authority - *optional* Info

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 databa

rds-ca-rsa2048-g1 (default)

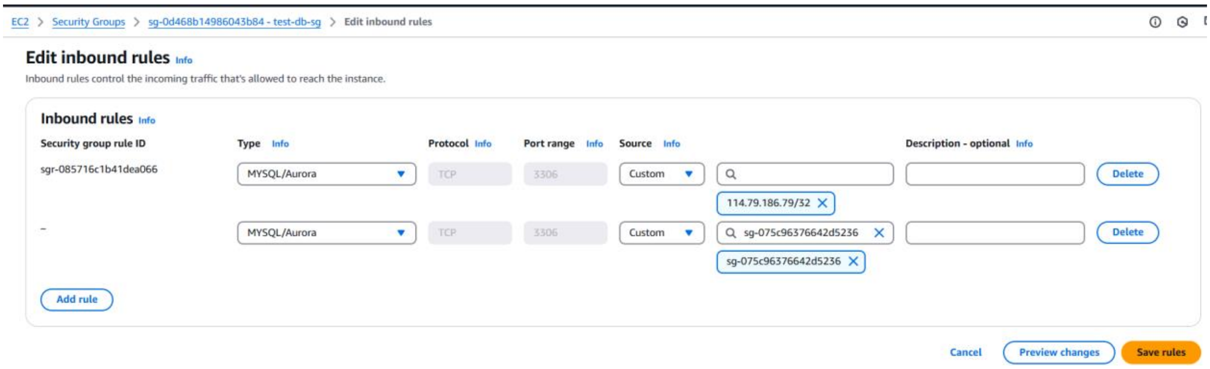
- **RDS** instance is created and autogenerated password and endpoint is provided.



Databases

DB identifier	Role	Engine	Region & AZ	Size	Status	Actions	CPU
database-1	Instance	MySQL Community	us-east-1a	db.t3.micro	Available	1 Action	

- Edit Inbound rules



EC2 > Security Groups > sg-0d468b14986043b84 - test-db-sg > Edit inbound rules
Add rule
Cancel
Preview changes
Save rules

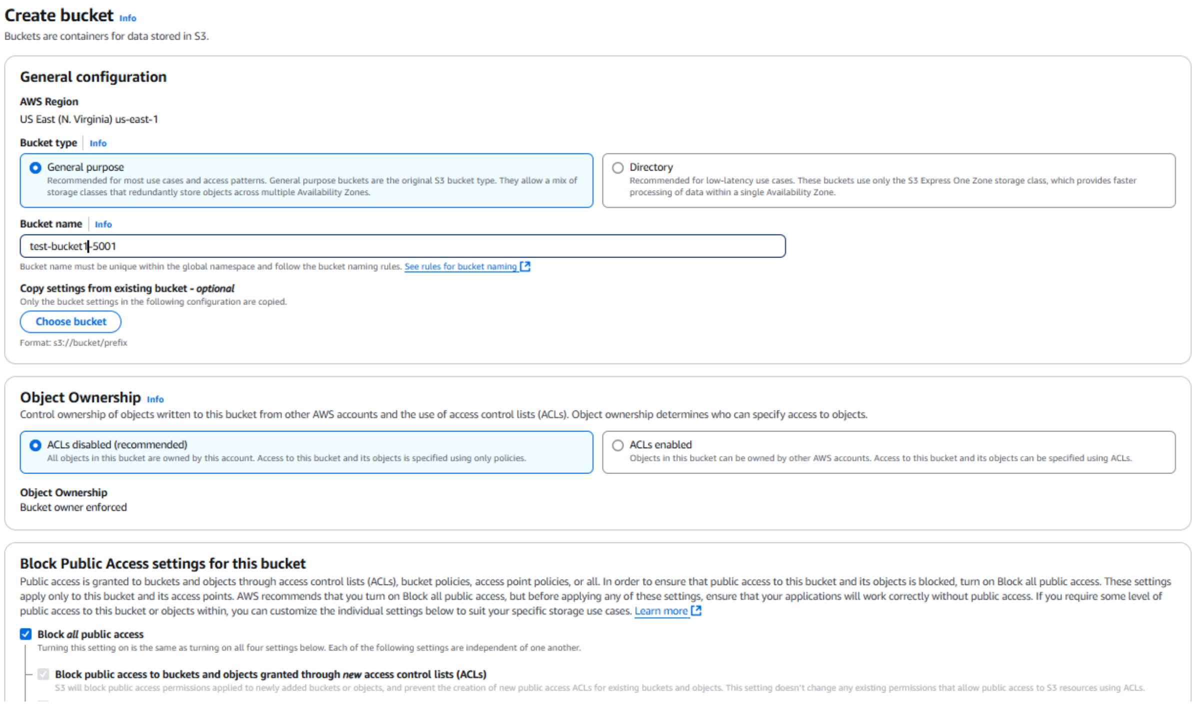
Edit inbound rules Info

Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules Info

Security group rule ID	Type	Protocol	Port range	Source		Description - optional	
sgr-085716c1b41dea066	MYSQL/Aurora	TCP	3306	Custom	114.79.186.79/32		Delete
-	MYSQL/Aurora	TCP	3306	Custom	sg-075c96376642d5236		Delete

STEP 8) Create an S3 bucket with a unique name



Create bucket Info

Buckets are containers for data stored in S3.

General configuration

AWS Region

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

Bucket type | Info

● General purpose
Recommended for most use cases and access patterns. General purpose buckets are the original S3 bucket type. They allow a mix of storage classes that redundantly store objects across multiple Availability Zones.

○ Directory
Recommended for low-latency use cases. These buckets use only the S3 Express One Zone storage class, which provides faster processing of data within a single Availability Zone.

Bucket name | Info

test-bucket1-5001

Bucket name must be unique within the global namespace and follow the bucket naming rules. See rules for bucket naming

Copy settings from existing bucket - *optional*

Only the bucket settings in the following configuration are copied.

Choose bucket

Format: s3://bucket/prefix

Object Ownership Info

Control ownership of objects written to this bucket from other AWS accounts and the use of access control lists (ACLs). Object ownership determines who can specify access to objects.

● ACLs disabled (recommended)
All objects in this bucket are owned by this account. Access to this bucket and its objects is specified using only policies.

○ ACLs enabled
Objects in this bucket can be owned by other AWS accounts. Access to this bucket and its objects can be specified using ACLs.

Object Ownership

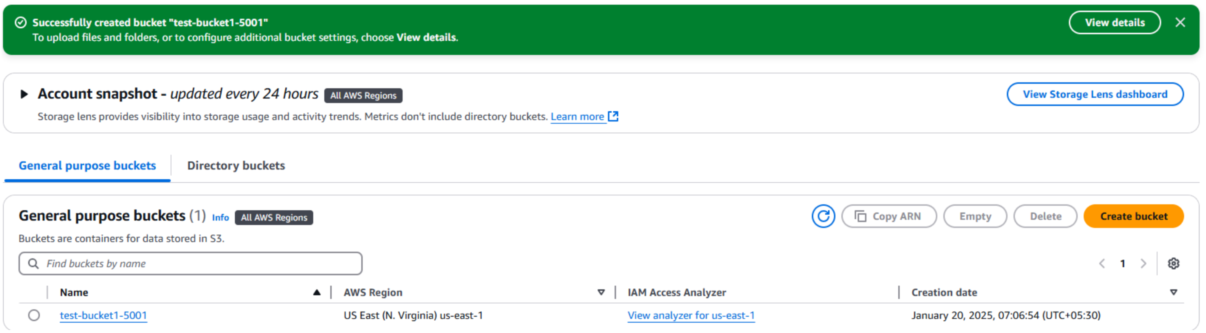
Bucket owner enforced

Block Public Access settings for this bucket

Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to this bucket and its objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to this bucket or objects within, you can customize the individual settings below to suit your specific storage use cases. Learn more

☑ **Block *all* public access**
Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another.

☑ **Block public access to buckets and objects granted through *new* access control lists (ACLs)**
S3 will block public access permissions applied to newly added buckets or objects, and prevent the creation of new public access ACLs for existing buckets and objects. This setting doesn't change any existing permissions that allow public access to S3 resources using ACLs.



Successfully created bucket "test-bucket1-5001"
To upload files and folders, or to configure additional bucket settings, choose **View details**.

Account snapshot - *updated every 24 hours* All AWS Regions

Storage lens provides visibility into storage usage and activity trends. Metrics don't include directory buckets. Learn more

General purpose buckets (1) Info All AWS Regions

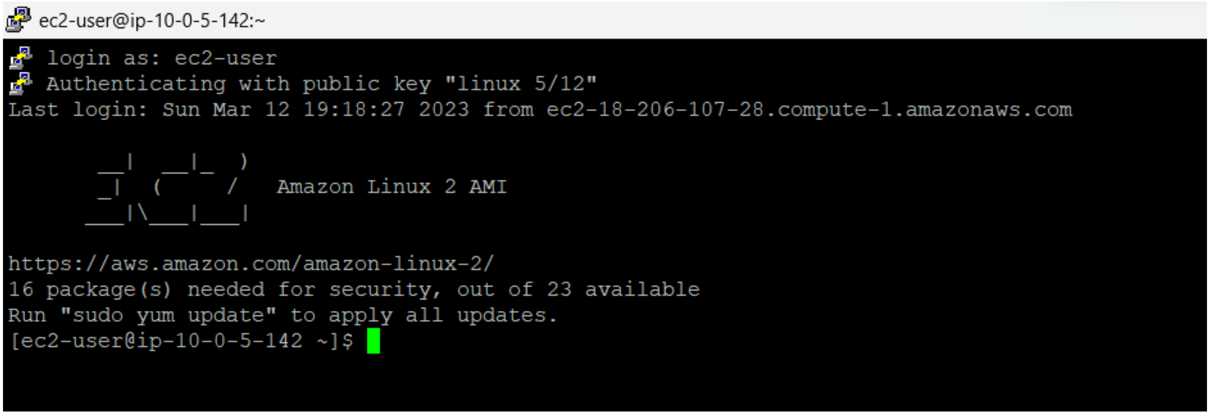
Buckets are containers for data stored in S3.

	Name	AWS Region	IAM Access Analyzer	Creation date
○	test-bucket1-5001	US East (N. Virginia) us-east-1	View analyzer for us-east-1	January 20, 2025, 07:06:54 (UTC+05:30)

STEP 9) Set Up the Wordpess Environment:

Step 1 :

- Select the ec2 instance created and click on Connect
- Select "EC2 instance connect"->click on "Connect using EC2 instance connect".



```
ec2-user@ip-10-0-5-142:~
login as: ec2-user
Authenticating with public key "linux 5/12"
Last login: Sun Mar 12 19:18:27 2023 from ec2-18-206-107-28.compute-1.amazonaws.com

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

https://aws.amazon.com/amazon-linux-2/
16 package(s) needed for security, out of 23 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-10-0-5-142 ~]$
```

Step 2 : After successful connection, run the following command to install LAMP stack (Linux, Apache, Mariadb and php) on your instance

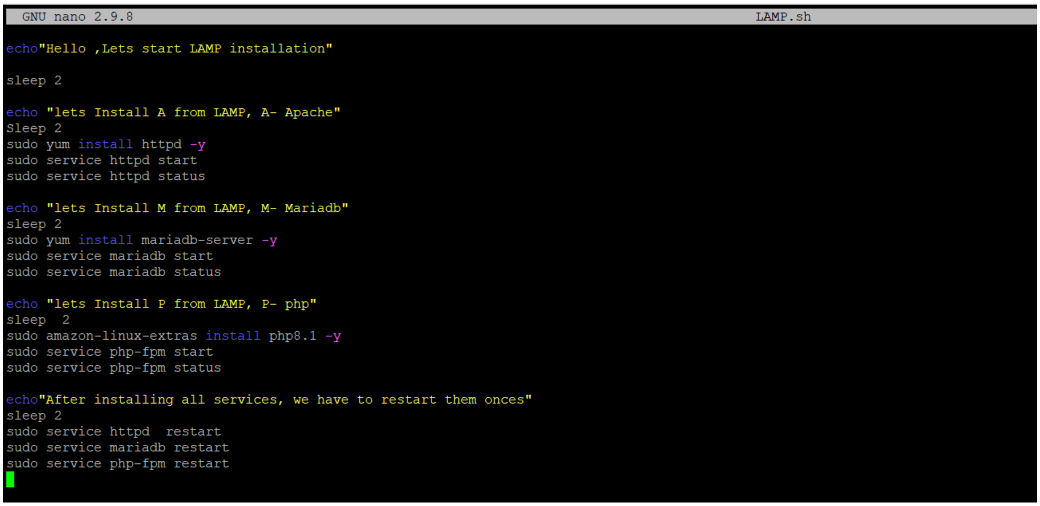
- ○ sudo yum install httpd -y
- ○ sudo service httpd start
- ○ sudo service httpd status

- ○ sudo yum install mariadb-server -y
- ○ sudo service mariadb start
- ○ sudo service mariadb status

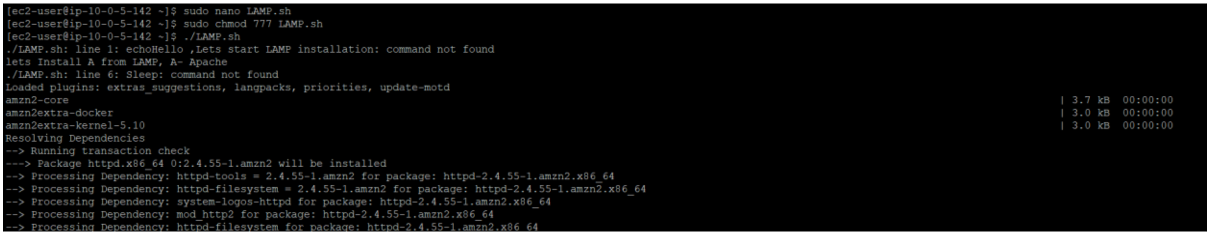
- ○ sudo amazon-linux-extras install php8.0 -y
- ○ sudo service php-fpm start
- ○ suod service php-fpm status

- ○ sudo service httpd restart
- ○ sudo service mariadb restart
- ○ sudo service php-fpm restart

Here, I'm installing LAMP using shell script and we have to give execute permission to that LAMP file.

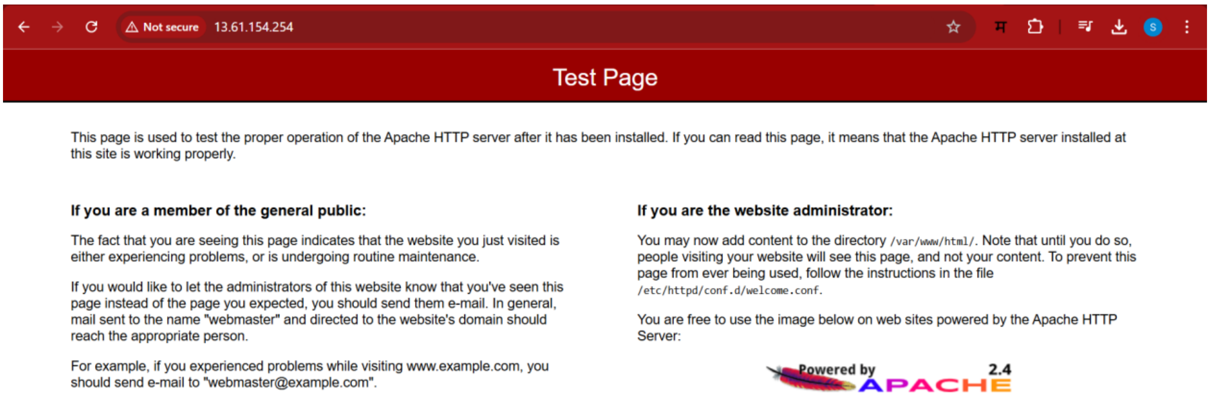


```
  GNU nano 2.9.8                                                                              LAMP.sh

echo"Hello ,Lets start LAMP installation"

sleep 2

echo "lets Install A from LAMP, A- Apache"
Sleep 2
sudo yum install httpd -y
sudo service httpd start
sudo service httpd status

echo "lets Install M from LAMP, M- Mariadb"
sleep 2
sudo yum install mariadb-server -y
sudo service mariadb start
sudo service mariadb status

echo "lets Install P from LAMP, P- php"
sleep  2
sudo amazon-linux-extras install php8.1 -y
sudo service php-fpm start
sudo service php-fpm status

echo"After installing all services, we have to restart them onces"
sleep 2
sudo service httpd  restart
sudo service mariadb restart
sudo service php-fpm restart
```



```
[ec2-user@ip-10-0-5-142 ~]$ sudo nano LAMP.sh
[ec2-user@ip-10-0-5-142 ~]$ sudo chmod 777 LAMP.sh
[ec2-user@ip-10-0-5-142 ~]$ ./LAMP.sh
./LAMP.sh: line 1: echoHello ,Lets start LAMP installation: command not found
lets Install A from LAMP, A- Apache
./LAMP.sh: line 6: Sleep: command not found
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core                                                                                                                                       | 3.7 kB  00:00:00
amzn2extra-docker                                                                                                                                | 3.0 kB  00:00:00
amzn2extra-kernel-5.10                                                                                                                           | 3.0 kB  00:00:00
Resolving Dependencies
--> Running transaction check
---> Package httpd.x86_64 0:2.4.55-1.amzn2 will be installed
--> Processing Dependency: httpd-tools = 2.4.55-1.amzn2 for package: httpd-2.4.55-1.amzn2.x86_64
--> Processing Dependency: httpd-filesystem = 2.4.55-1.amzn2 for package: httpd-2.4.55-1.amzn2.x86_64
--> Processing Dependency: system-logos-httpd for package: httpd-2.4.55-1.amzn2.x86_64
--> Processing Dependency: mod_http2 for package: httpd-2.4.55-1.amzn2.x86_64
--> Processing Dependency: httpd-filesystem for package: httpd-2.4.55-1.amzn2.x86_64
```

- Copy public ip of ec2 instance to check if the apache server is working



Test Page

This page is used to test the proper operation of the Apache HTTP server after it has been installed. If you can read this page, it means that the Apache HTTP server installed at this site is working properly.

If you are a member of the general public:

The fact that you are seeing this page indicates that the website you just visited is either experiencing problems, or is undergoing routine maintenance.

If you would like to let the administrators of this website know that you've seen this page instead of the page you expected, you should send them e-mail. In general, mail sent to the name "webmaster" and directed to the website's domain should reach the appropriate person.

For example, if you experienced problems while visiting www.example.com, you should send e-mail to "webmaster@example.com".

If you are the website administrator:

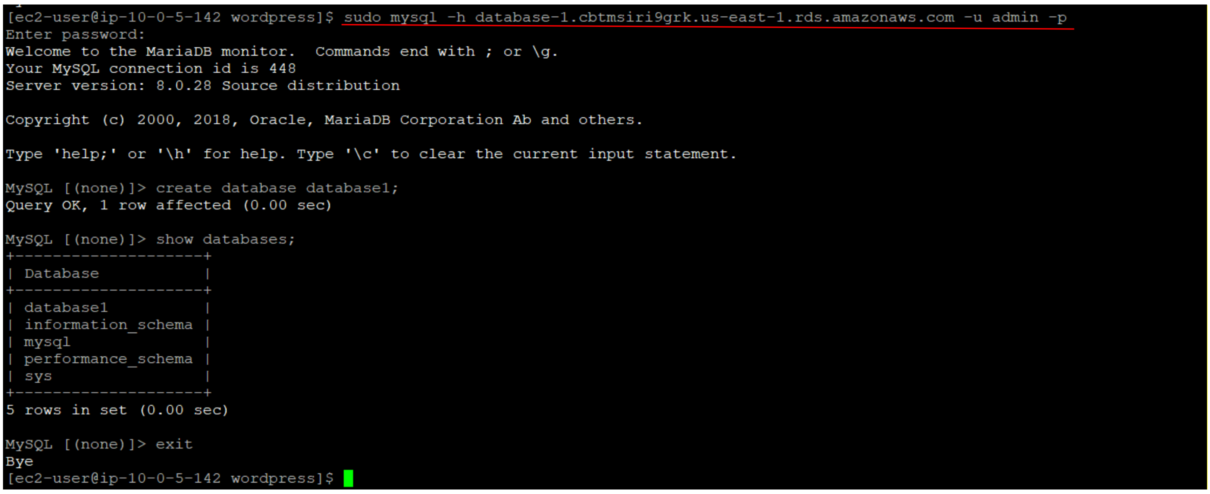
You may now add content to the directory `/var/www/html/`. Note that until you do so, people visiting your website will see this page, and not your content. To prevent this page from ever being used, follow the instructions in the file `/etc/httpd/conf.d/welcome.conf`.

You are free to use the image below on web sites powered by the Apache HTTP Server:

- This page shows , it is working

Step 3 - Set the environment variable of MySQL in your computer, replace <your-endpoint> to the endpoint which can be found in RDS console→ your database.

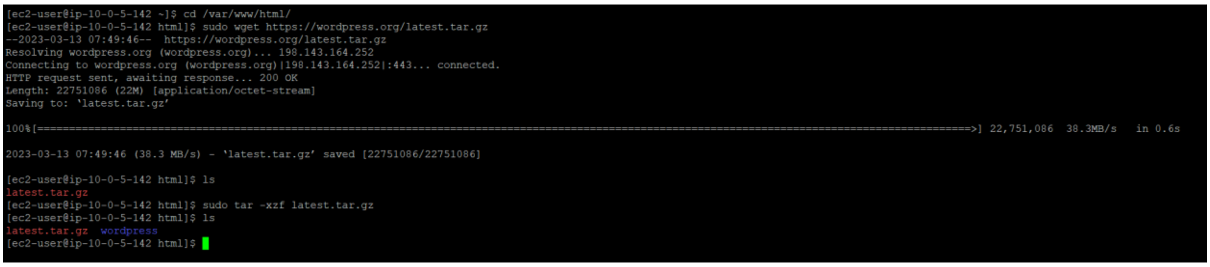
- ***Cmd: sudo mysql -h <your-endpoint> -u <username> -p <password>***
- create a database called ***database1***



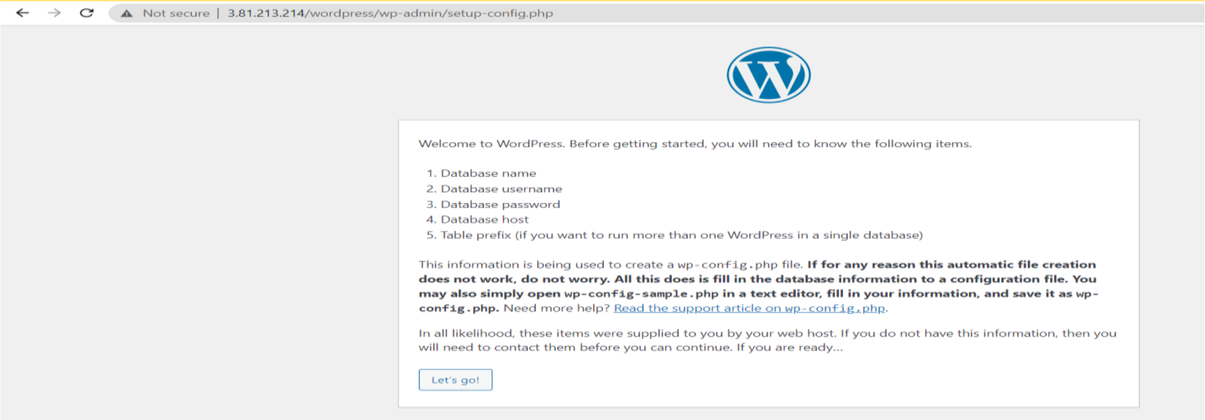
```
[ec2-user@ip-10-0-5-142 wordpress]$ sudo mysql -h database-1.cbtmsiri9grk.us-east-1.rds.amazonaws.com -u admin -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MySQL connection id is 448
Server version: 8.0.28 Source distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MySQL [(none)]> create database database1;
Query OK, 1 row affected (0.00 sec)

MySQL [(none)]> show databases;
+--------------------+
| Database           |
+--------------------+
| database1          |
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
5 rows in set (0.00 sec)

MySQL [(none)]> exit
Bye
[ec2-user@ip-10-0-5-142 wordpress]$
```

Step 4 – Go to html using path cd /var/www/html then, download the WordPress module and unzip it

- wget https://wordpress.org/latest.tar.gz
- tar -xzf latest.tar.gz



```
[ec2-user@ip-10-0-5-142 ~]$ cd /var/www/html/
[ec2-user@ip-10-0-5-142 html]$ sudo wget https://wordpress.org/latest.tar.gz
--2023-03-13 07:49:46--  https://wordpress.org/latest.tar.gz
Resolving wordpress.org (wordpress.org)... 198.143.164.252
Connecting to wordpress.org (wordpress.org)|198.143.164.252|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 22751086 (22M) [application/octet-stream]
Saving to: 'latest.tar.gz'

100%[===================================================================================================================================================>] 22,751,086  38.3MB/s   in 0.6s

2023-03-13 07:49:46 (38.3 MB/s) - 'latest.tar.gz' saved [22751086/22751086]

[ec2-user@ip-10-0-5-142 html]$ ls
latest.tar.gz
[ec2-user@ip-10-0-5-142 html]$ sudo tar -xzf latest.tar.gz
[ec2-user@ip-10-0-5-142 html]$ ls
latest.tar.gz  wordpress
[ec2-user@ip-10-0-5-142 html]$ 
```



Not secure | 3.81.213.214/wordpress/wp-admin/setup-config.php

Welcome to WordPress. Before getting started, you will need to know the following items.

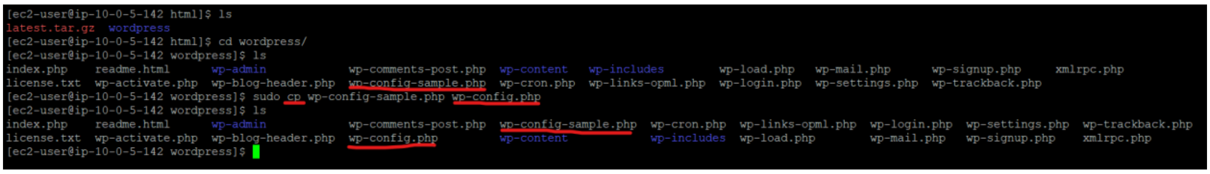
1. Database name
2. Database username
3. Database password
4. Database host
5. Table prefix (if you want to run more than one WordPress in a single database)

This information is being used to create a wp-config.php file. **If for any reason this automatic file creation does not work, do not worry. All this does is fill in the database information to a configuration file. You may also simply open wp-config-sample.php in a text editor, fill in your information, and save it as wp-config.php.** Need more help? Read the support article on wp-config.php.

In all likelihood, these items were supplied to you by your web host. If you do not have this information, then you will need to contact them before you can continue. If you are ready…

Step 5 - Move into WordPress folder and backup the default config file

- cd wordpress
- cp wp-config-sample.php wp-config.php



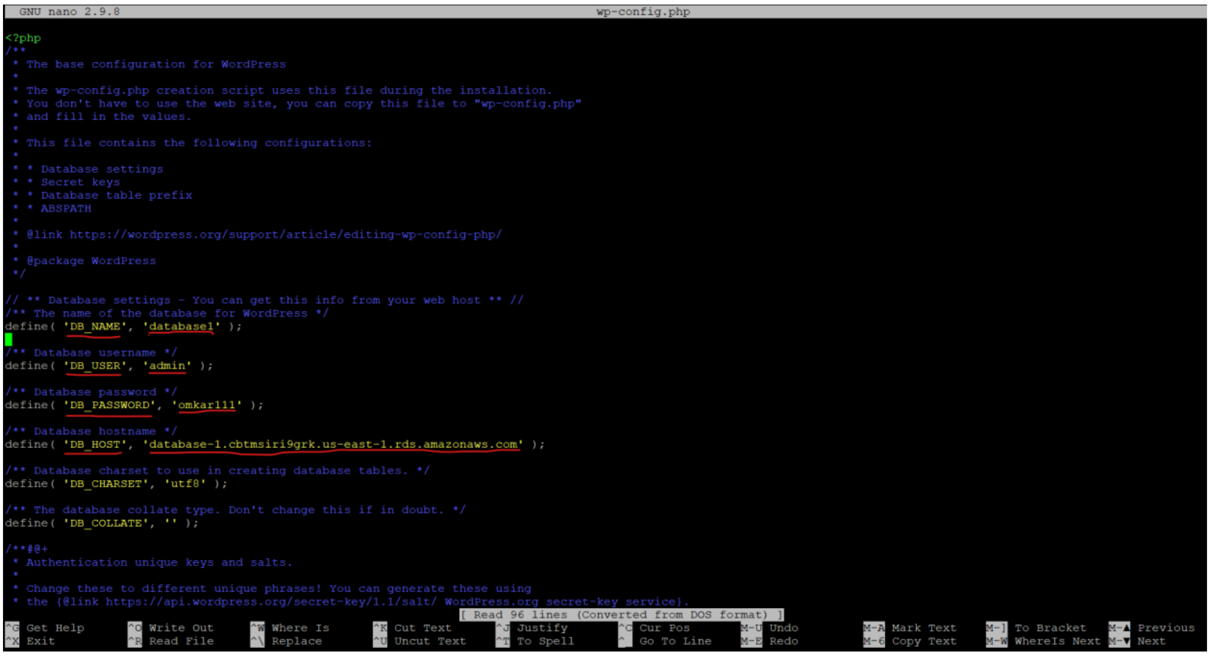
```
[ec2-user@ip-10-0-5-142 html]$ ls
latest.tar.gz  wordpress
[ec2-user@ip-10-0-5-142 html]$ cd wordpress/
[ec2-user@ip-10-0-5-142 wordpress]$ ls
index.php    readme.html      wp-admin              wp-comments-post.php  wp-content    wp-includes        wp-load.php   wp-mail.php      wp-signup.php     xmlrpc.php
license.txt  wp-activate.php  wp-blog-header.php    wp-config-sample.php  wp-cron.php   wp-links-opml.php  wp-login.php  wp-settings.php  wp-trackback.php
[ec2-user@ip-10-0-5-142 wordpress]$ sudo cp wp-config-sample.php wp-config.php
[ec2-user@ip-10-0-5-142 wordpress]$ ls
index.php    readme.html      wp-admin              wp-comments-post.php  wp-config-sample.php  wp-cron.php   wp-links-opml.php  wp-login.php  wp-settings.php  wp-trackback.php
license.txt  wp-activate.php  wp-blog-header.php    wp-config.php         wp-content            wp-includes   wp-load.php        wp-mail.php   wp-signup.php    xmlrpc.php
[ec2-user@ip-10-0-5-142 wordpress]$ 
```

Step 6 -After that use nano to edit the wp-config.php file

- nano wp-config.php

Step 7 - Modify the following script into the correct value:

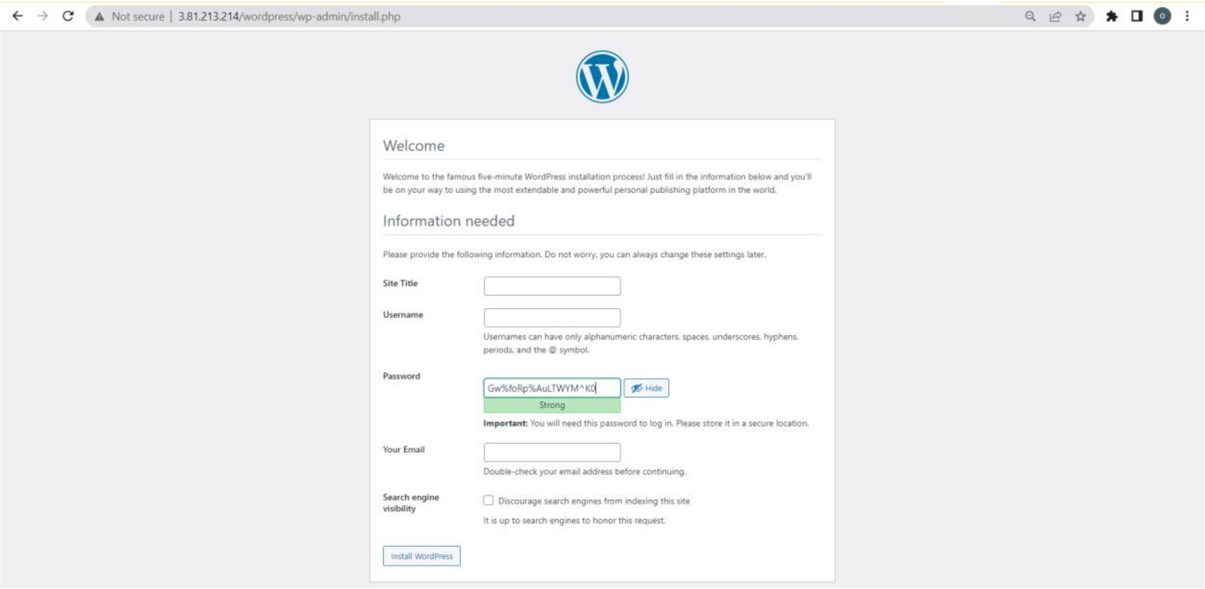
DB_NAME: 'wordpress'● DB_USER: 'wordpress' ● DB_PASSWORD: 'wordpress-pass'● DB_HOST: your RDS endpoint and save it.



```
  GNU nano 2.9.8                                                              wp-config.php

<?php
/**
 * The base configuration for WordPress
 *
 * The wp-config.php creation script uses this file during the installation.
 * You don't have to use the web site, you can copy this file to "wp-config.php"
 * and fill in the values.
 *
 * This file contains the following configurations:
 *
 * * Database settings
 * * Secret keys
 * * Database table prefix
 * * ABSPATH
 *
 * @link https://wordpress.org/support/article/editing-wp-config-php/
 *
 * @package WordPress
 */

// ** Database settings - You can get this info from your web host ** //
/** The name of the database for WordPress */
define( 'DB_NAME', 'database1' );

/** Database username */
define( 'DB_USER', 'admin' );

/** Database password */
define( 'DB_PASSWORD', 'omkar111' );

/** Database hostname */
define( 'DB_HOST', 'database-1.cbtmsiri9grk.us-east-1.rds.amazonaws.com' );

/** Database charset to use in creating database tables. */
define( 'DB_CHARSET', 'utf8' );

/** The database collate type. Don't change this if in doubt. */
define( 'DB_COLLATE', '' );

/**#@+
 * Authentication unique keys and salts.
 *
 * Change these to different unique phrases! You can generate these using
 * the {@link https://api.wordpress.org/secret-key/1.1/salt/ WordPress.org secret-key service}.
                                                            [ Read 96 lines (Converted from DOS format) ]
^G Get Help     ^O Write Out    ^W Where Is     ^K Cut Text     ^J Justify      ^C Cur Pos      M-U Undo        M-A Mark Text   M-] To Bracket  M-▲ Previous
^X Exit         ^R Read File    ^\ Replace      ^U Uncut Text   ^T To Spell     ^_ Go To Line   M-E Redo        M-6 Copy Text   M-W WhereIs Next M-▼ Next
```

Step 8 - Select the EC2 instance, and find the Public IPv4 DNS in Details below and paste it on your browser, then you will see the setup page of WordPress.

In setup page, enter your own value in the Site Title, Username, Password and Your Email, then click Install WordPress



Welcome

Welcome to the famous five-minute WordPress installation process! Just fill in the information below and you'll be on your way to using the most extendable and powerful personal publishing platform in the world.

Information needed

Please provide the following information. Do not worry, you can always change these settings later.

Site Title

Username

Usernames can have only alphanumeric characters, spaces, underscores, hyphens, periods, and the @ symbol.

Password: Gw%foRp%AuLTWYM^K0

Important: You will need this password to log in. Please store it in a secure location.

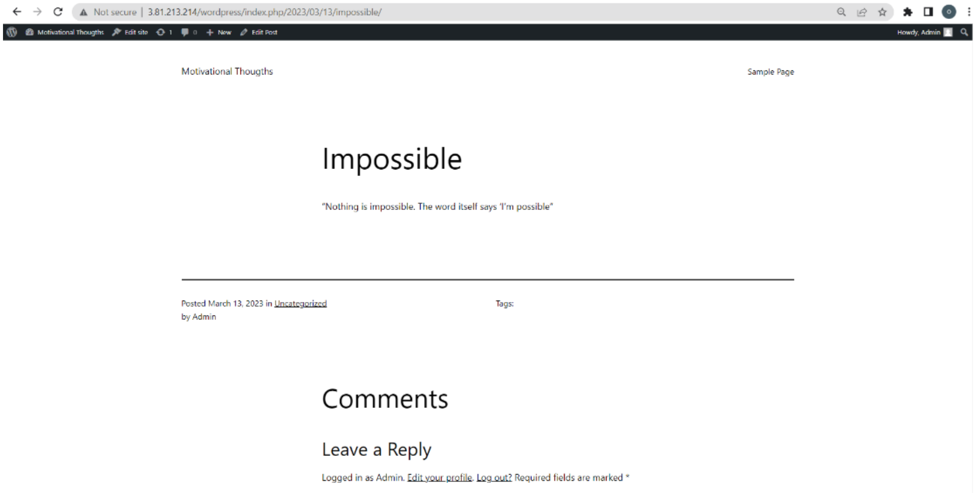
Your Email

Double-check your email address before continuing.

Search engine visibility: □ Discourage search engines from indexing this site

It is up to search engines to honor this request.

- After few seconds, it will be redirected to Login page,
- Enter your username and password, and click Login button, you will see the admin page,
- You can use Admin dashboard enhance your blog.
- Now, you can view your blog in <your ec2 domain>



Not secure | 3.81.213.214/wordpress/index.php/2023/03/13/impossible/

Motivational Thougths

Sample Page

Impossible

"Nothing is impossible. The word itself says 'I'm possible'"

Posted March 13, 2023 in Uncategorized
by Admin

Tags:

Comments

Leave a Reply

Logged in as Admin. Edit your profile. Log out? Required fields are marked *

Successfully hosted a simple WordPress website on EC2 instance.