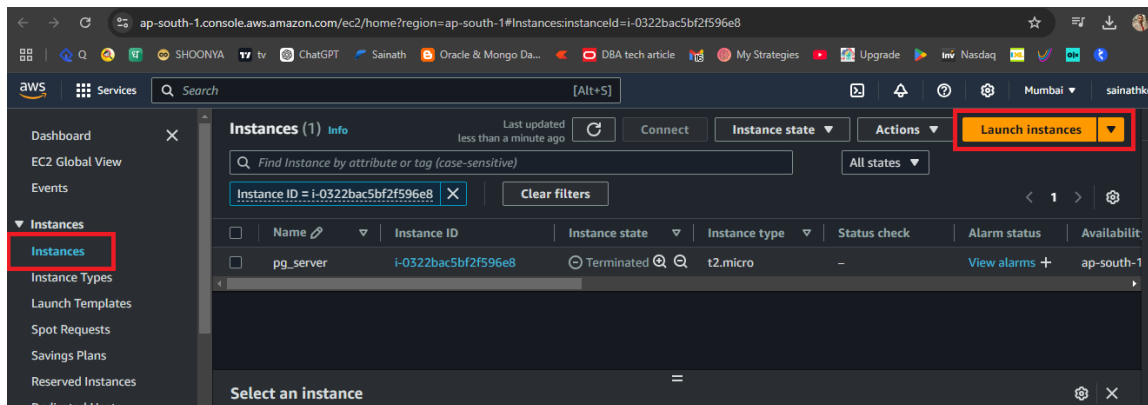


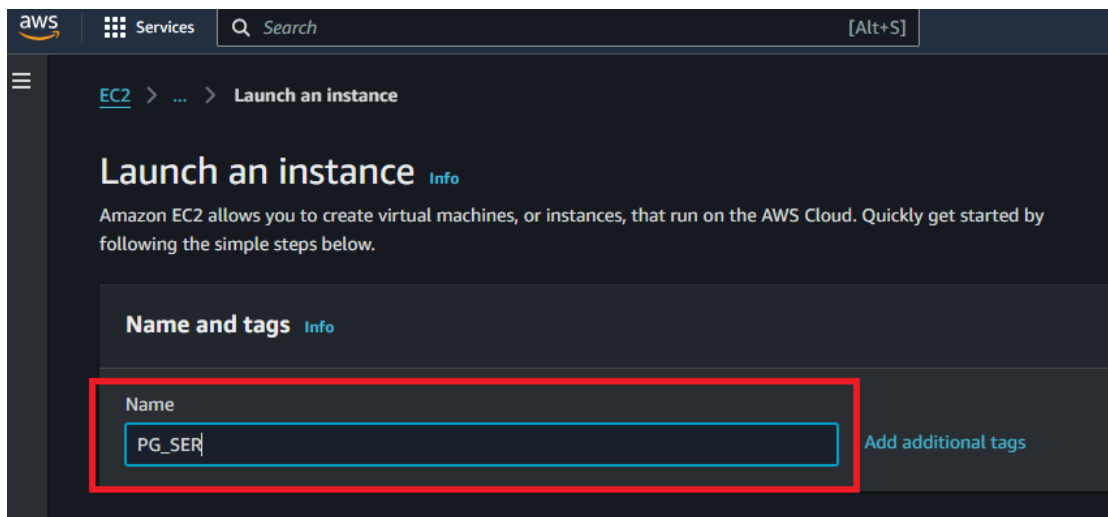
Steps for installing PostgreSQL 15 on an AWS EC2 instance with Amazon Linux 2023:

Creat Your EC2 Instance

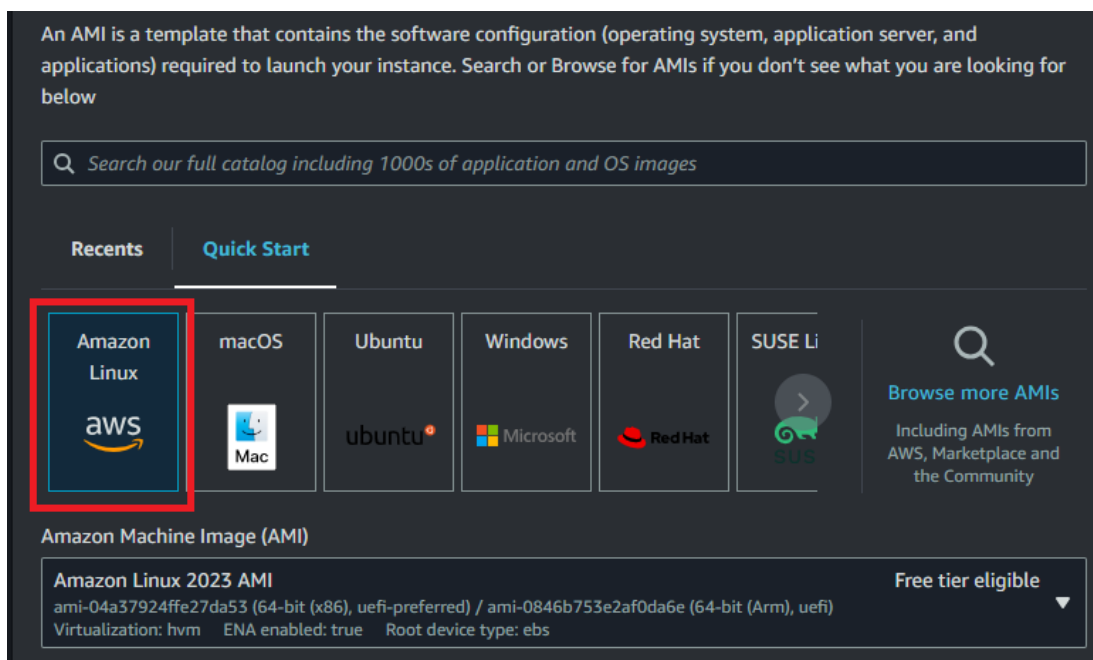
Click on launch instance



Give any name for the instance



Select Amazon Linux



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

Instance type

t2.micro Free tier eligible

Family: t2 1 vCPU 1 GiB Memory Current generation: true

On-Demand Linux base pricing: 0.0124 USD per Hour

On-Demand Windows base pricing: 0.017 USD per Hour

On-Demand RHEL base pricing: 0.0268 USD per Hour

On-Demand Ubuntu Pro base pricing: 0.0142 USD per Hour

On-Demand SUSE base pricing: 0.0124 USD per Hour

☐ All generations

[Compare instance types](#)

[Additional costs apply for AMIs with pre-installed software](#)

Create new key pair for remote connectivity.

▼ **Key pair (login)** [Info](#)

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

Key pair name - *required*

[Create new key pair](#)

Create key pair ×

Key pair name

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

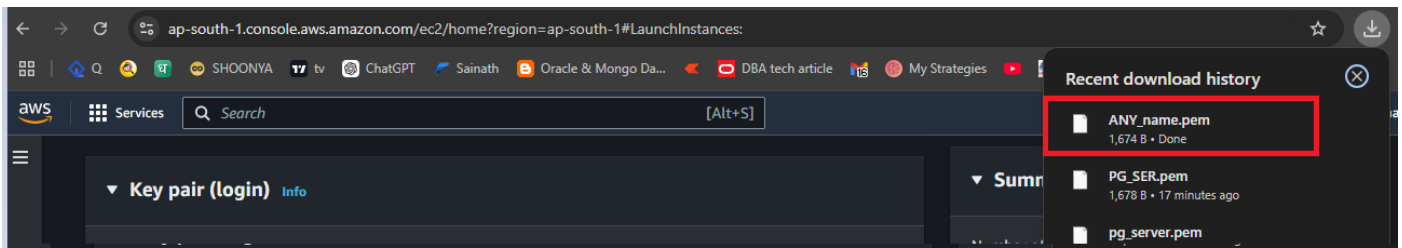
☐ **.ppk**

For use with PuTTY

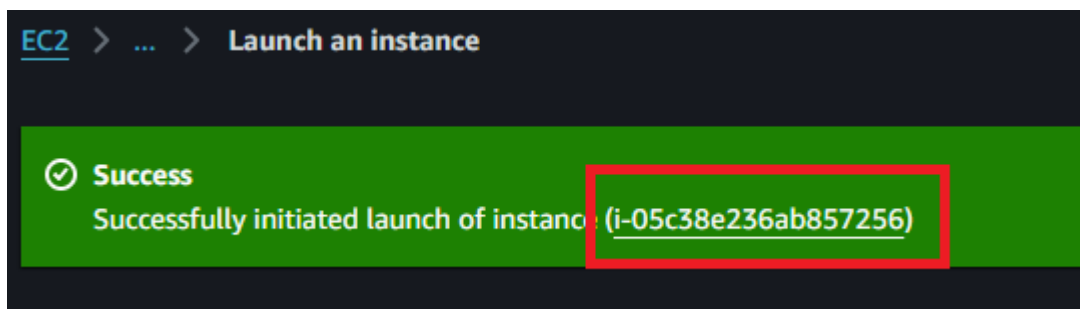
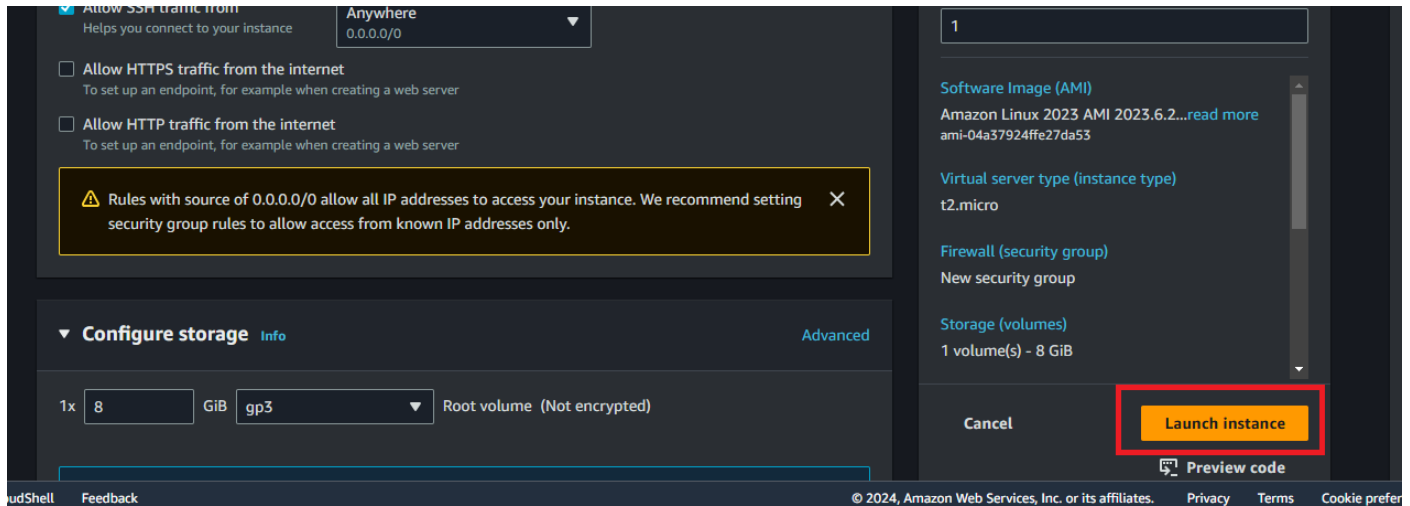
[When prompted, store the private key in a secure and accessible location on your local device.](#)

[Cancel](#) [Create key pair](#)

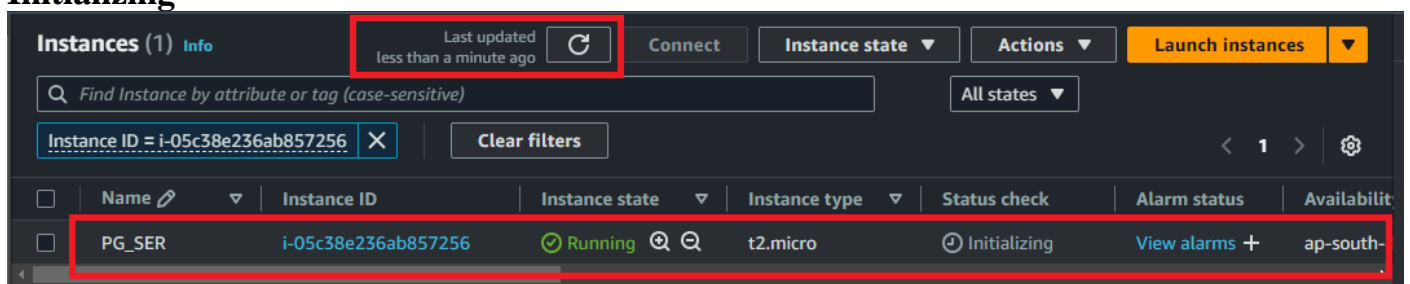
It will down the key to connect to the server from putty.



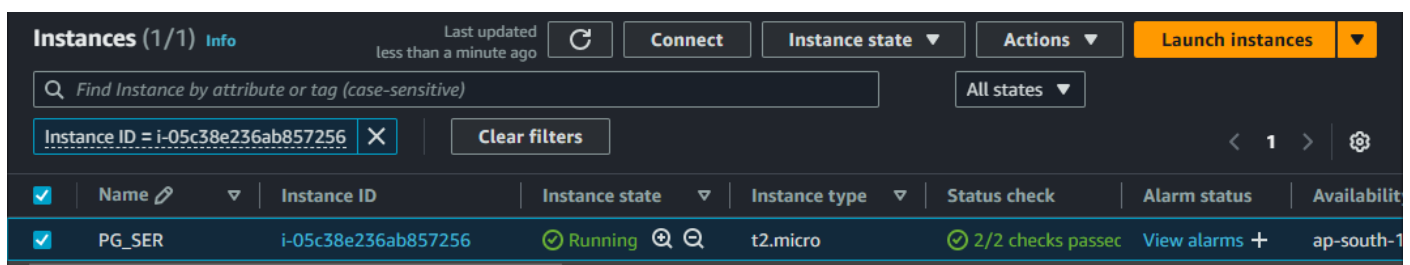
Launch the instance creation



Initializing



Ready to use



- Use SSH to connect to your EC2 instance. This example uses `ec2-user` as the default user.

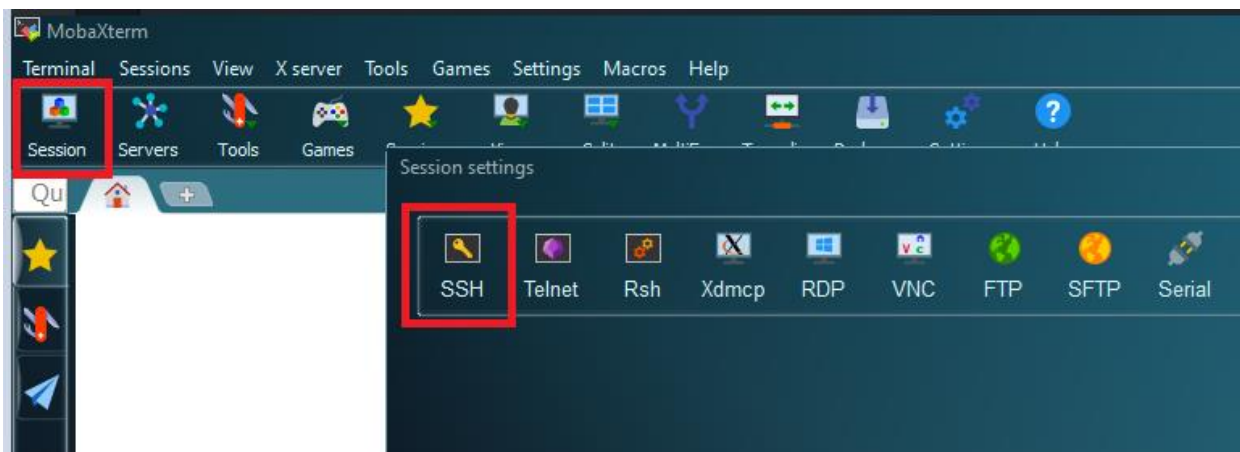
Instances (1/1) Info		Last updated 5 minutes ago	Connect	Instance state ▼	Actions ▼	Launch instances ▼
Find Instance by attribute or tag (case-sensitive)						All states ▼
Instance ID = i-05c38e236ab857256 X		Clear filters				
✓	Name PG_SER	Instance ID i-05c38e236ab857256	Instance state Running	Instance type t2.micro	Status check 2/2 checks passed	Alarm status View alarms +
✓	PG_SER	i-05c38e236ab857256	Running	t2.micro	2/2 checks passed	View alarms + ap-south-

Instance summary for i-05c38e236ab857256 (PG_SER) Info		Connect	Instance state ▼	Actions ▼
Updated less than a minute ago				
Instance ID i-05c38e236ab857256	Public IPv4 address 13.235.81.76 open address	Private IPv4 addresses 172.31.3.83		
IPv6 address -	Instance state Running	Public IPv4 DNS ec2-13-235-81-76.ap-south-1.compute.amazonaws.com open address		

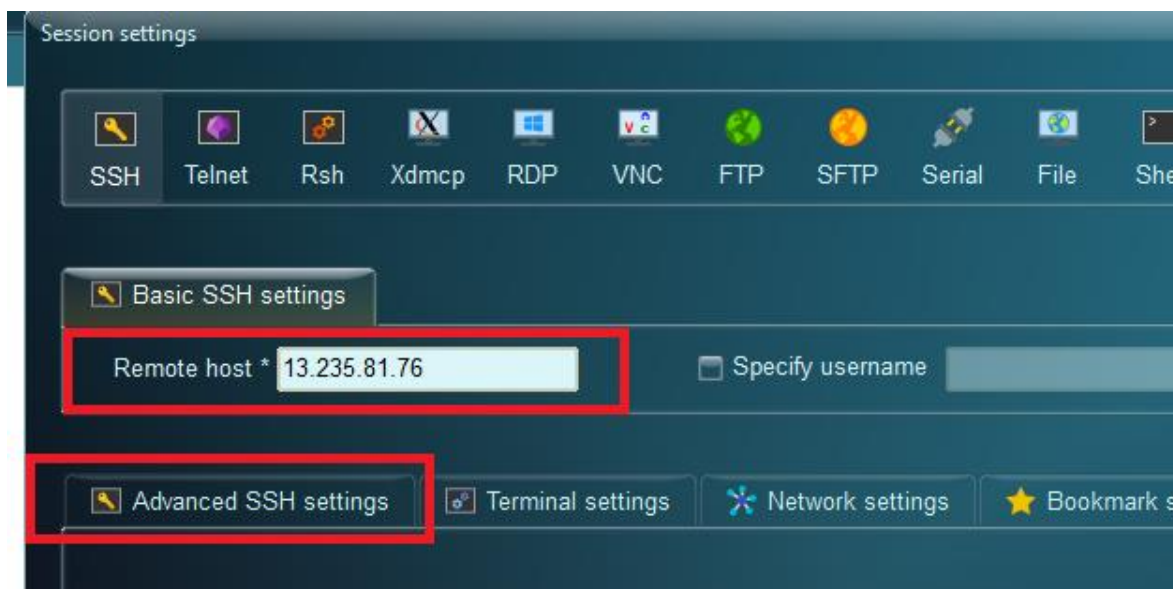
MobaXterm to connect:

Use the below link to download MobaXterm

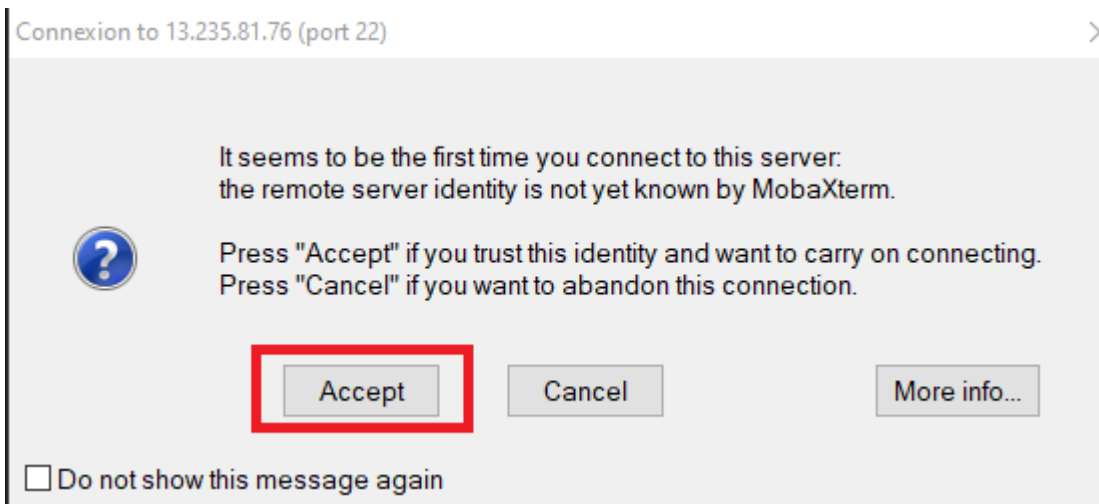
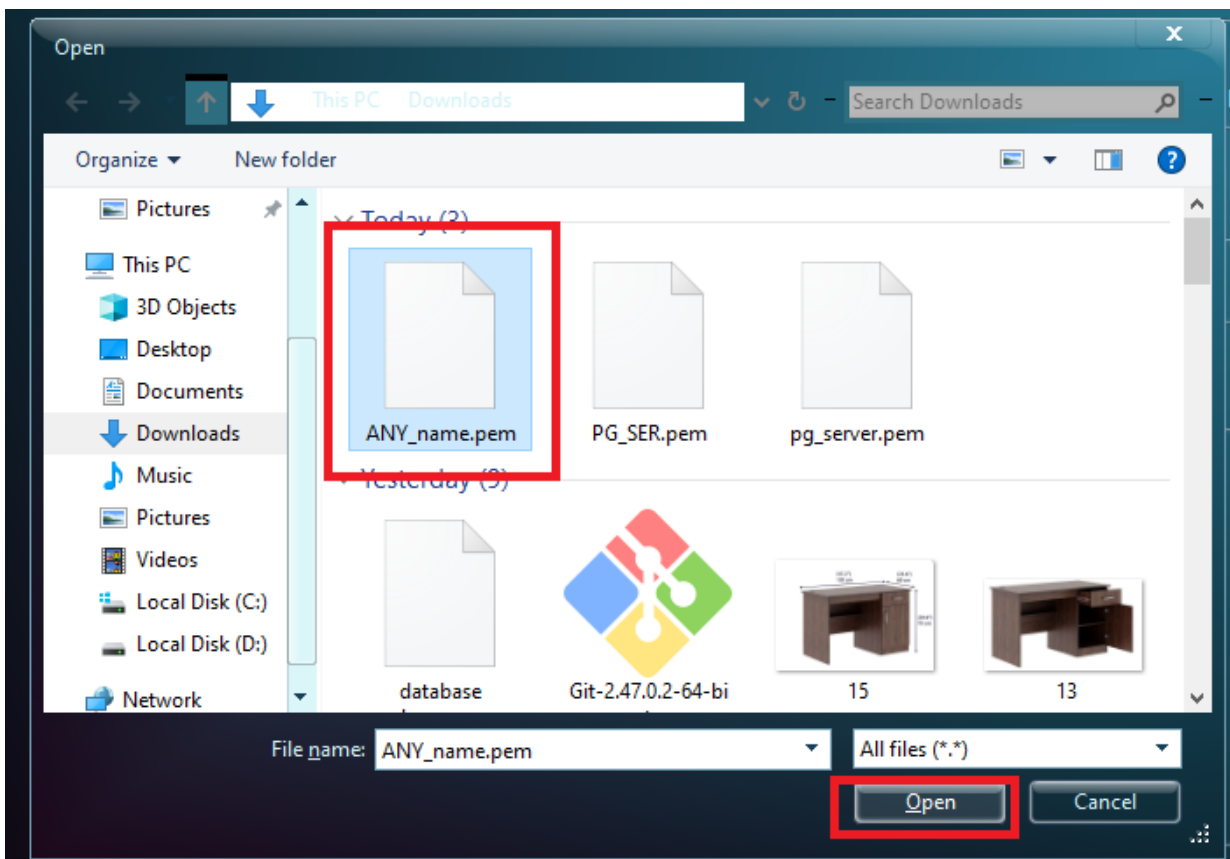
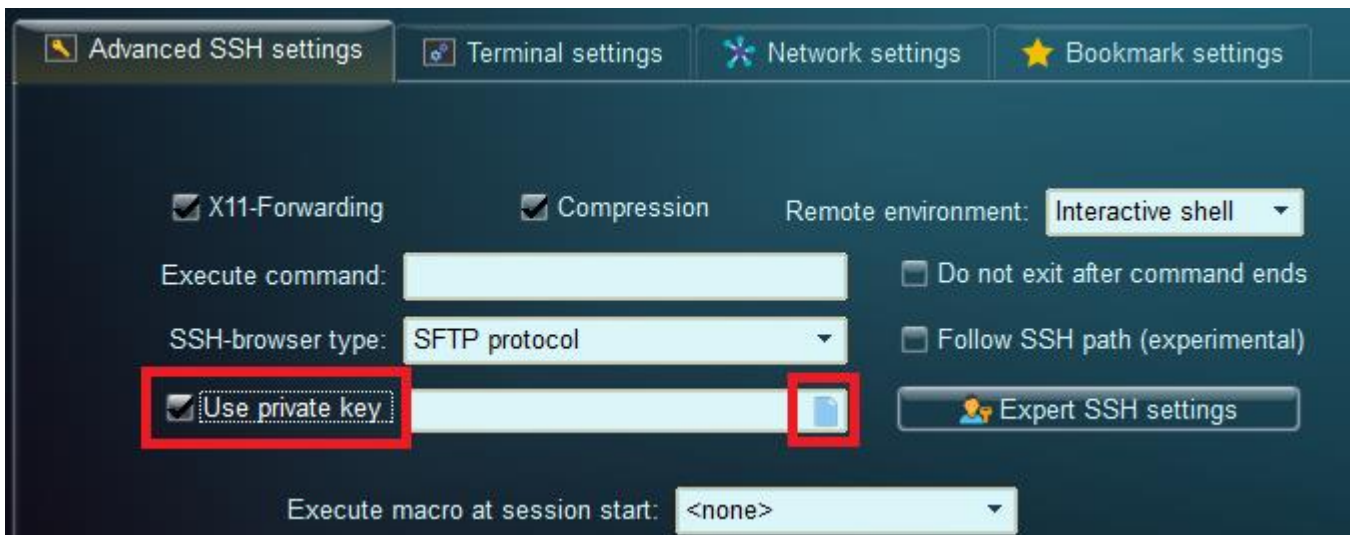
<https://mobaxterm.mobatek.net/download-home-edition.html>



IP Address : Public IPv4 address



Browse the key location and select the key which we have downloaded



Install PostgreSQL 15 and

Server Packages

- Install PostgreSQL 15 along with the required server packages using `dnf`. This command will also pull in necessary dependencies.

```
sudo dnf install -y postgresql15.x86_64 postgresql15-server
```

```
[ec2-user@ip-172-31-1-19 ~]$ sudo dnf install -y postgresql15.x86_64 postgresql15-server
Last metadata expiration check: 0:04:16 ago on Fri Nov 1 07:02:45 2024.
Dependencies resolved.
=====
Package                                Architecture      Version            Repository          Size
=====
Installing:
postgresql15                           x86_64            15.8-1.amzn2023.0.1  amazonlinux         1.6 M
postgresql15-server                    x86_64            15.8-1.amzn2023.0.1  amazonlinux         6.3 M
Installing dependencies:
libicu                                  x86_64            67.1-7.amzn2023.0.3  amazonlinux         9.6 M
postgresql15-private-libs              x86_64            15.8-1.amzn2023.0.1  amazonlinux         145 k
=====
Transaction Summary
=====
Install 4 Packages

Total download size: 18 M
Installed size: 65 M
Downloading Packages:
(1/4): postgresql15-private-libs-15.8-1.amzn2023.0.1.x86_64.rpm           1.4 MB/s | 145 kB    00:00
(2/4): postgresql15-15.8-1.amzn2023.0.1.x86_64.rpm                     9.3 MB/s | 1.6 MB    00:00
(3/4): libicu-67.1-7.amzn2023.0.3.x86_64.rpm                             35 MB/s | 9.6 MB    00:00
(4/4): postgresql15-server-15.8-1.amzn2023.0.1.x86_64.rpm              17 MB/s | 6.3 MB    00:00
-----
Total                                                                    34 MB/s | 18 MB    00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing      :                                                    1/1
  Installing     : postgresql15-private-libs-15.8-1.amzn2023.0.1.x86_64 1/4
  Installing     : postgresql15-15.8-1.amzn2023.0.1.x86_64             2/4
  Installing     : libicu-67.1-7.amzn2023.0.3.x86_64                   3/4
  Verifying      : postgresql15-server-15.8-1.amzn2023.0.1.x86_64      4/4
=====
WARNING:
A newer release of "Amazon Linux" is available.

Available Versions:

Version 2023.6.20241028:
Run the following command to upgrade to 2023.6.20241028:

    dnf upgrade --releasever=2023.6.20241028

Release notes:
https://docs.aws.amazon.com/linux/al2023/release-notes/relnotes-2023.6.20241028.html

Version 2023.6.20241031:
Run the following command to upgrade to 2023.6.20241031:

    dnf upgrade --releasever=2023.6.20241031

Release notes:
https://docs.aws.amazon.com/linux/al2023/release-notes/relnotes-2023.6.20241031.html
=====
Installed:
libicu-67.1-7.amzn2023.0.3.x86_64      postgresql15-15.8-1.amzn2023.0.1.x86_64      postgresql15-private-libs-15.8-1.amzn2023.0.1.x86_64
postgresql15-server-15.8-1.amzn2023.0.1.x86_64

Complete!
```

Initialize the PostgreSQL Database

- After installation, initialize the database by running the PostgreSQL setup command. This will create the necessary data directory for PostgreSQL.

```
sudo postgresql-setup --initdb
```

```
[ec2-user@ip-172-31-1-19 ~]$ sudo postgresql-setup --initdb
* Initializing database in '/var/lib/pgsql/data'
* Initialized, logs are in /var/lib/pgsql/initdb_postgresql.log
```

Start and Enable PostgreSQL Service

- Start the PostgreSQL service and enable it to start automatically on boot.

```
sudo systemctl start postgresql
sudo systemctl enable postgresql
```

```
[ec2-user@ip-172-31-1-19 ~]$ sudo systemctl start postgresql
[ec2-user@ip-172-31-1-19 ~]$ sudo systemctl enable postgresql
Created symlink /etc/systemd/system/multi-user.target.wants/postgresql.service → /usr/lib/systemd/system/postgresql.service.
```

- Check the status to confirm it's running:

```
sudo systemctl status postgresql
```

```
[ec2-user@ip-172-31-1-19 ~]$ sudo systemctl status postgresql

• postgresql.service - PostgreSQL database server
   Loaded: loaded (/usr/lib/systemd/system/postgresql.service; enabled; preset: disabled)
   Active: active (running) since Fri 2024-11-01 07:07:18 UTC; 14s ago
   Main PID: 23911 (postgres)
     Tasks: 7 (limit: 1112)
    Memory: 17.0M
       CPU: 36ms
    CGroup: /system.slice/postgresql.service
            └─23911 /usr/bin/postgres -D /var/lib/pgsql/data
            └─23933 "postgres: logger "
            └─23954 "postgres: checkpointer "
            └─23955 "postgres: background writer "
            └─23961 "postgres: walwriter "
            └─23962 "postgres: autovacuum launcher "
            └─23963 "postgres: logical replication launcher "

Nov 01 07:07:17 ip-172-31-1-19.ap-south-1.compute.internal systemd[1]: Starting postgresql.service - PostgreSQL database server
Nov 01 07:07:18 ip-172-31-1-19.ap-south-1.compute.internal postgres[23911]: 2024-11-01 07:07:18.033 UTC [23911] LOG: redirecting log output to stderr
Nov 01 07:07:18 ip-172-31-1-19.ap-south-1.compute.internal postgres[23911]: 2024-11-01 07:07:18.033 UTC [23911] HINT: Future log output will be sent to stderr.
Nov 01 07:07:18 ip-172-31-1-19.ap-south-1.compute.internal systemd[1]: Started postgresql.service - PostgreSQL database server
lines 1-20/20 (END)
```

Switch to the PostgreSQL User

- Switch to the `postgres` system user to configure and manage the PostgreSQL database.

```
su - postgres
sudo passwd postgres
```

```
[ec2-user@ip-172-31-1-19 ~]$ su - postgres
Password:
su: Authentication failure
[ec2-user@ip-172-31-1-19 ~]$ sudo passwd postgres
Changing password for user postgres.
New password:
BAD PASSWORD: The password contains the user name in some form
Retype new password:
passwd: all authentication tokens updated successfully.
[ec2-user@ip-172-31-1-19 ~]$ su - postgres
Password:
Last failed login: Fri Nov  1 07:08:17 UTC 2024 on pts/0
There was 1 failed login attempt since the last successful login.
[postgres@ip-172-31-1-19 ~]$ psql
psql (15.8)
Type "help" for help.

postgres=# \l+
```


Verify Database Installation

- Use the \l+ command in psql to list available databases and verify the installation.

sql

\l+

```
postgres=# \l+
          List of databases
  Name      | Owner   | Encoding | Collate | Ctype   | ICU Locale | Locale Provider | Access privileges | Size  | Tablespace | Description
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
postgres   | postgres | UTF8     | C.UTF-8 | C.UTF-8 |             | libc            |                   | 7669 kB | pg_default | default administrative connection database
template0  | postgres | UTF8     | C.UTF-8 | C.UTF-8 |             | libc            | =c/postgres      | 7513 kB | pg_default | unmodifiable empty database
template1  | postgres | UTF8     | C.UTF-8 | C.UTF-8 |             | libc            | =c/postgres      | 7609 kB | pg_default | default template for new databases
(3 rows)
```

postgres=#