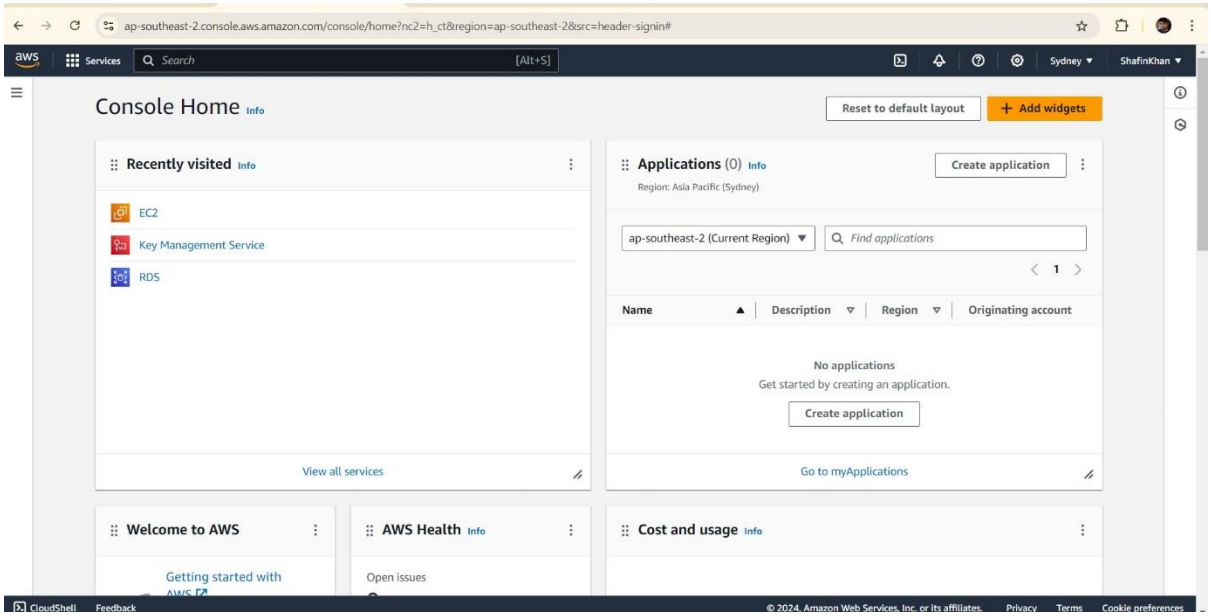
REPORT

Week-1 Task-To deploy application in both monolithic and microservices architecture

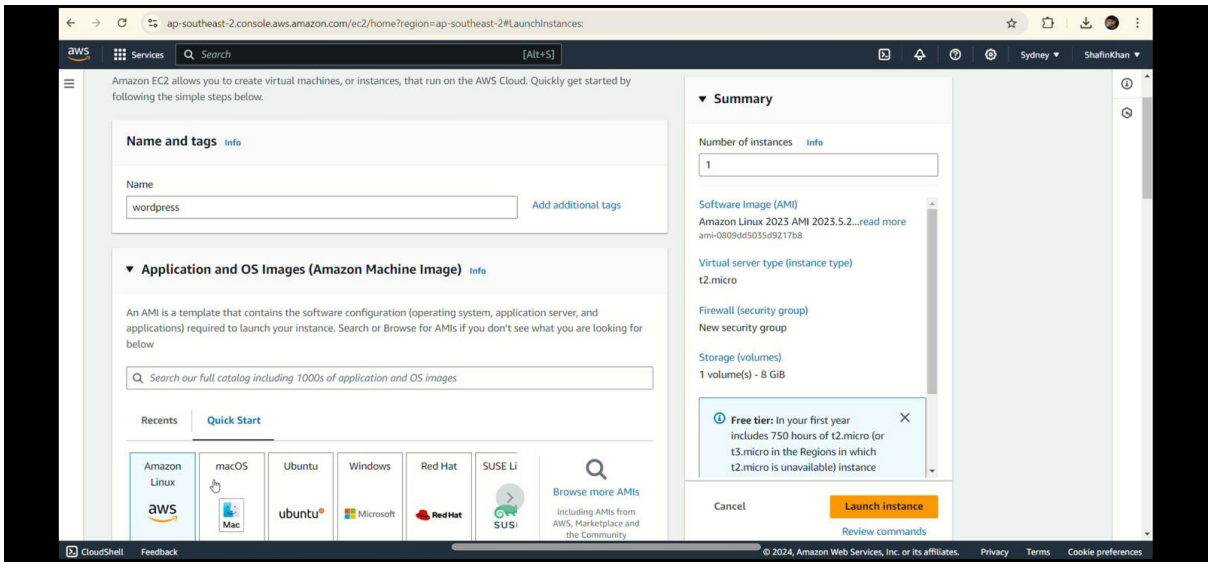
First to create a monolithic application I have created an AWS free-tier account



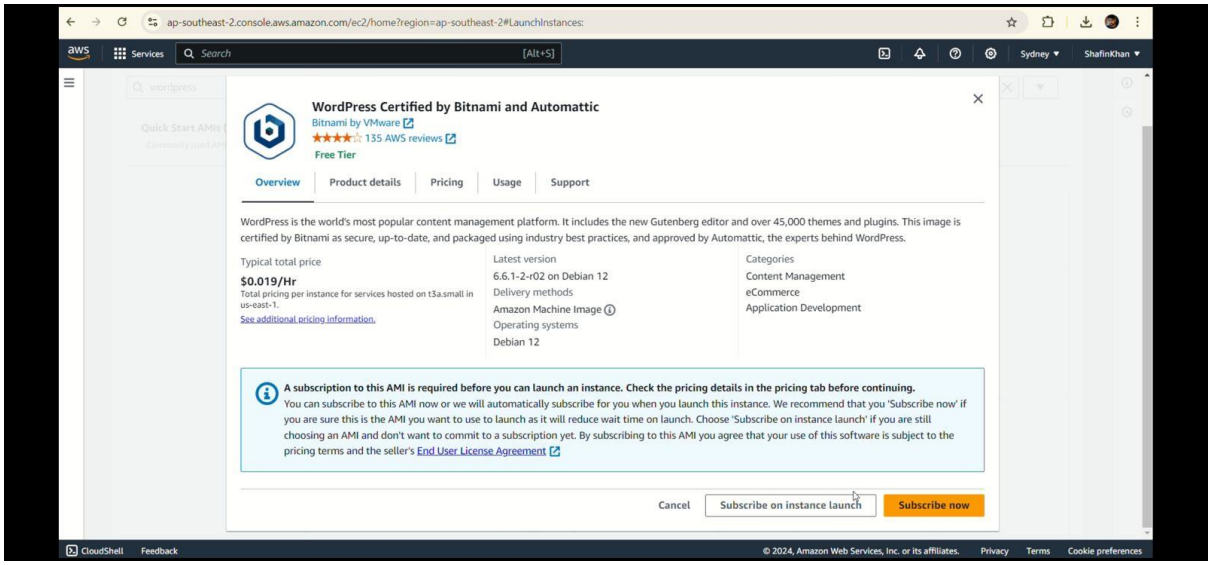
Creating the monolithic Application

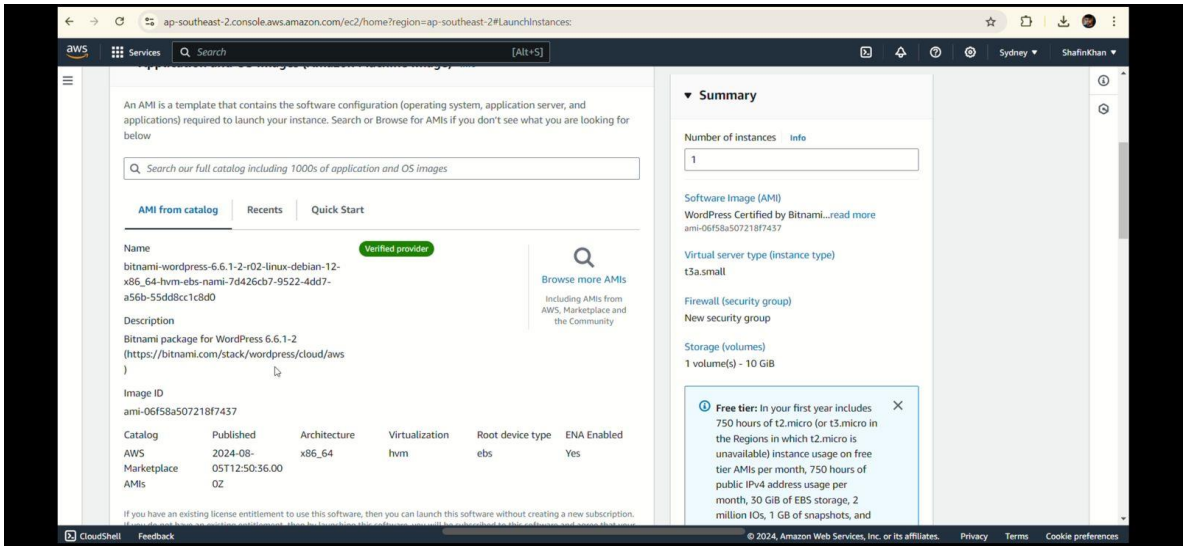
Click on the EC2 instance and click the launch instance

The server is named as WordPress

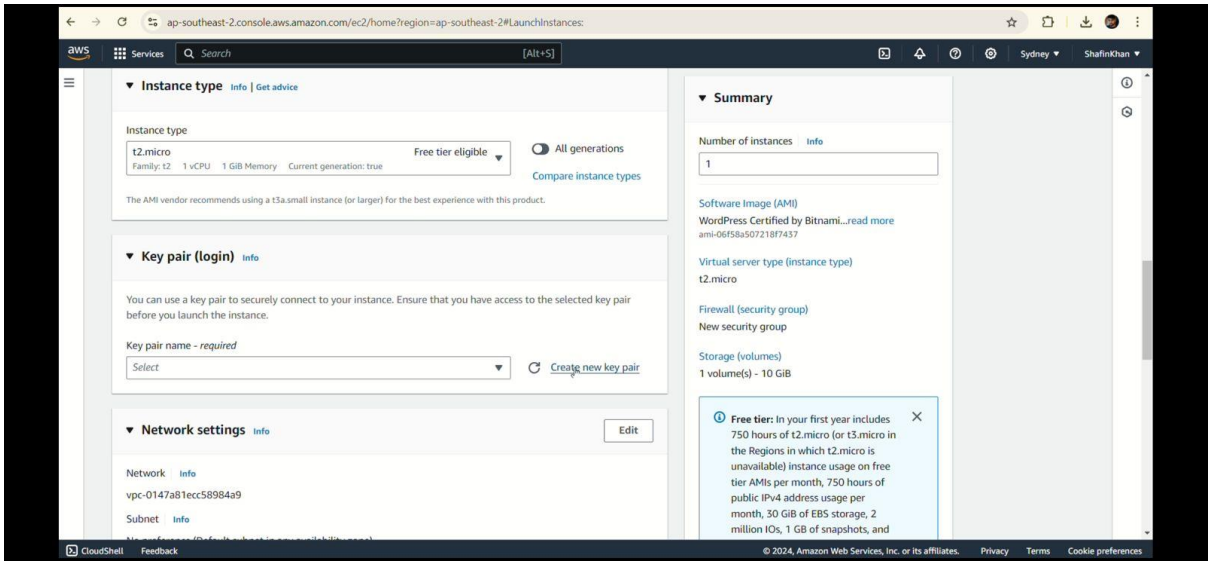


The applications and the OS images (Amazon Machine Image) ,I selected WordPress Certified by Bitnami and Automatic as it is monolithic and this AMI is in-built with MySQL database

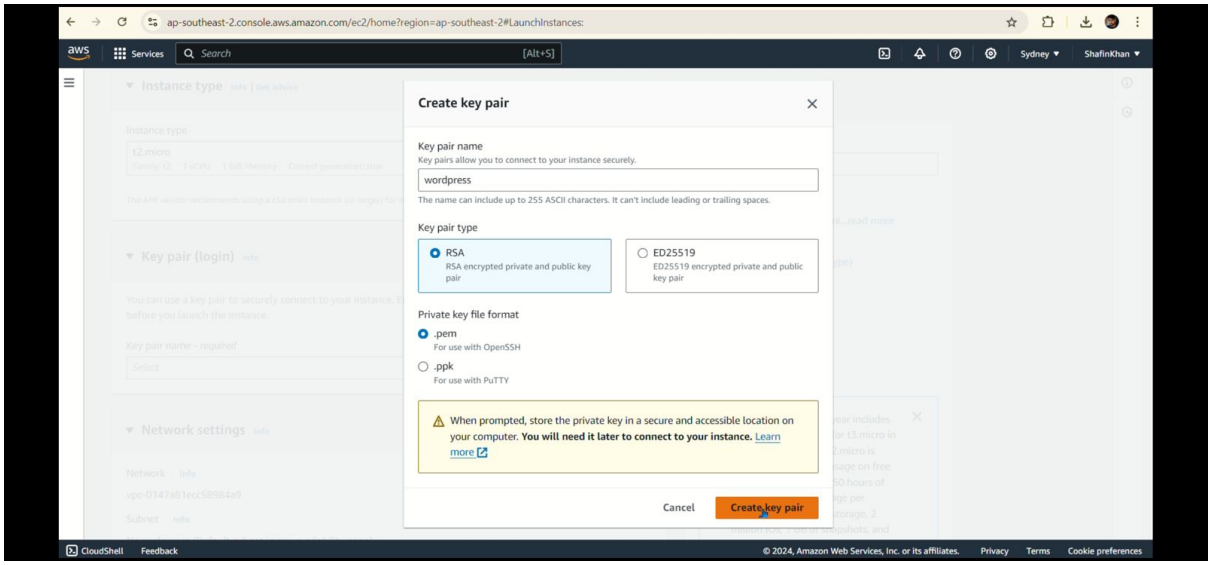




For the instance type I have selected the t2.micro as I just need the demo application



For the keypair I have created a new WordPress keypair

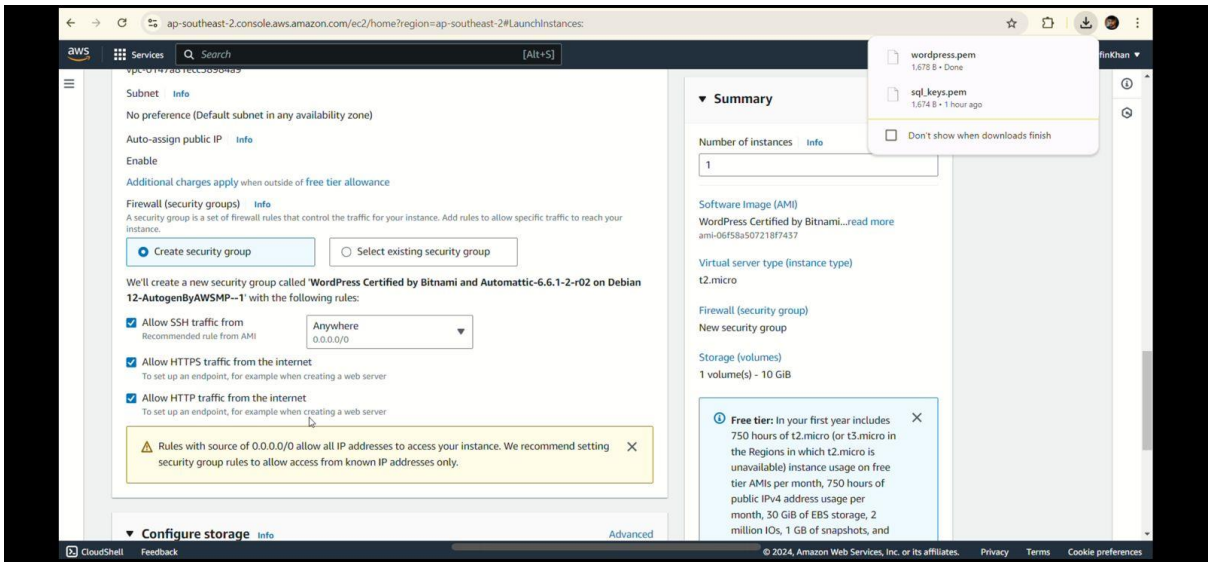


The network settings are not changed as the default settings satisfies the needs

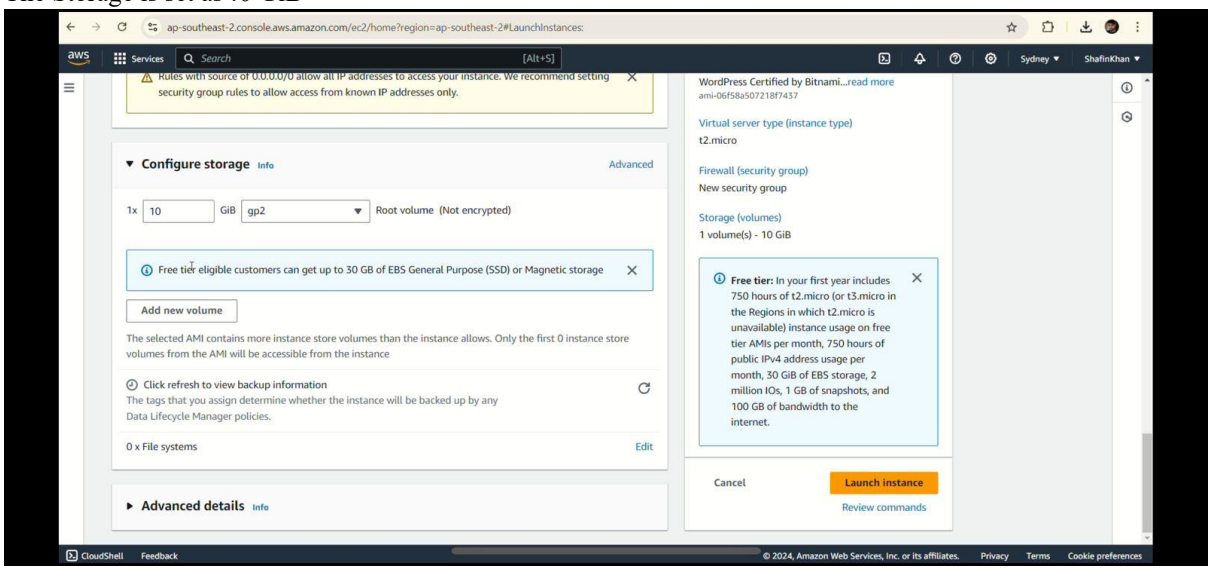
Network type is vpc-0147a81ecc58984a9

And the SSH traffic port is set to be accessed from anywhere

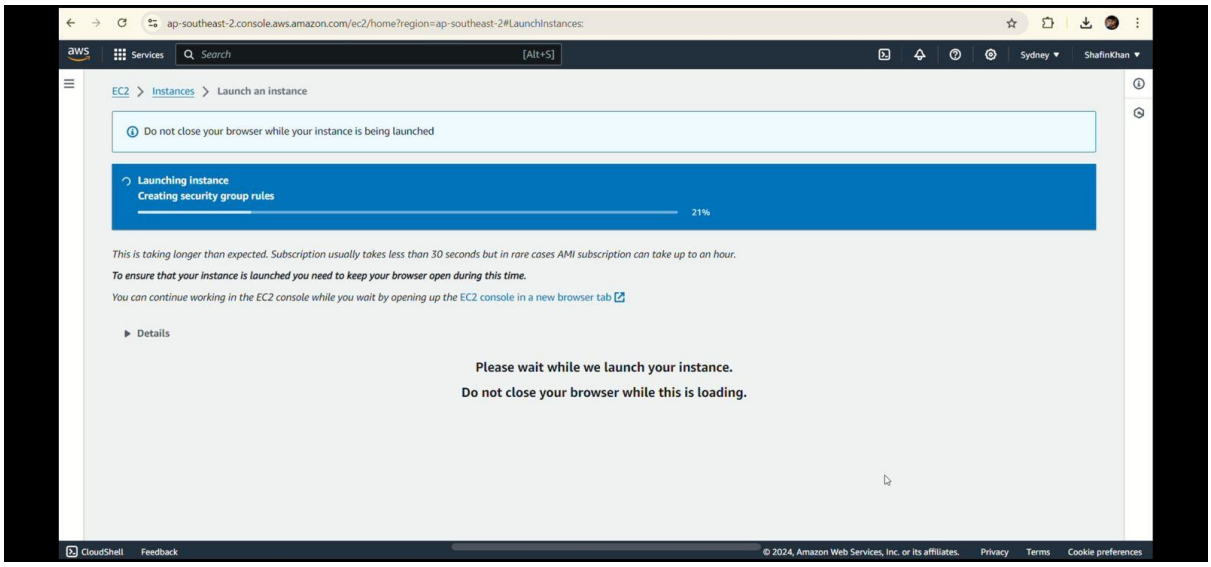
And the HTTPS traffic is set to be accessed from internet

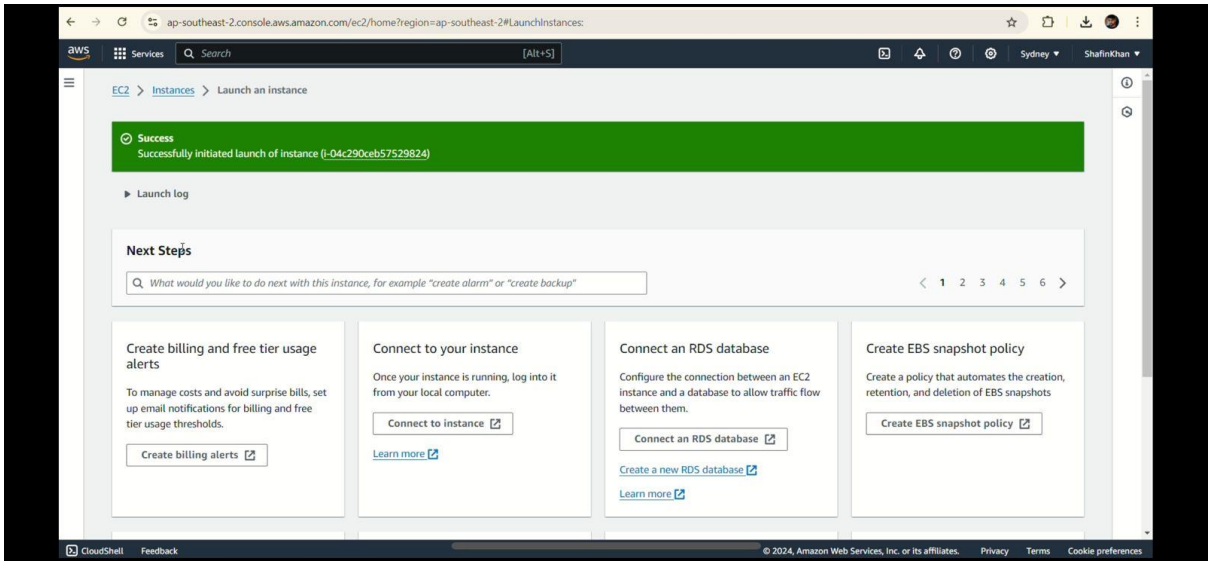


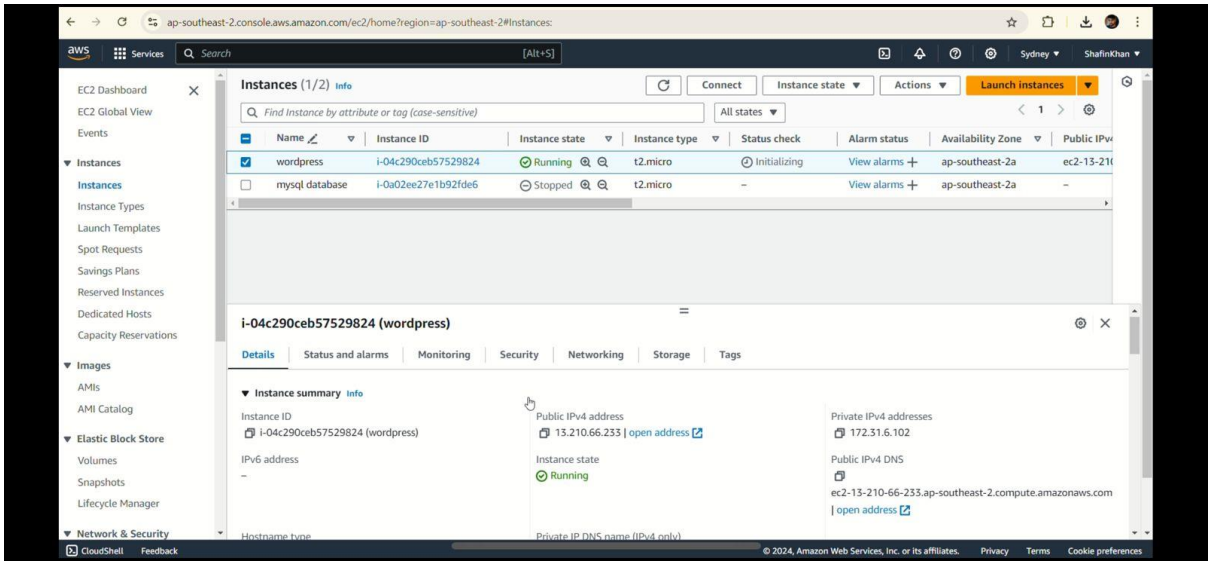
The Storage is set as !0 GiB



Finally the instance is Launched







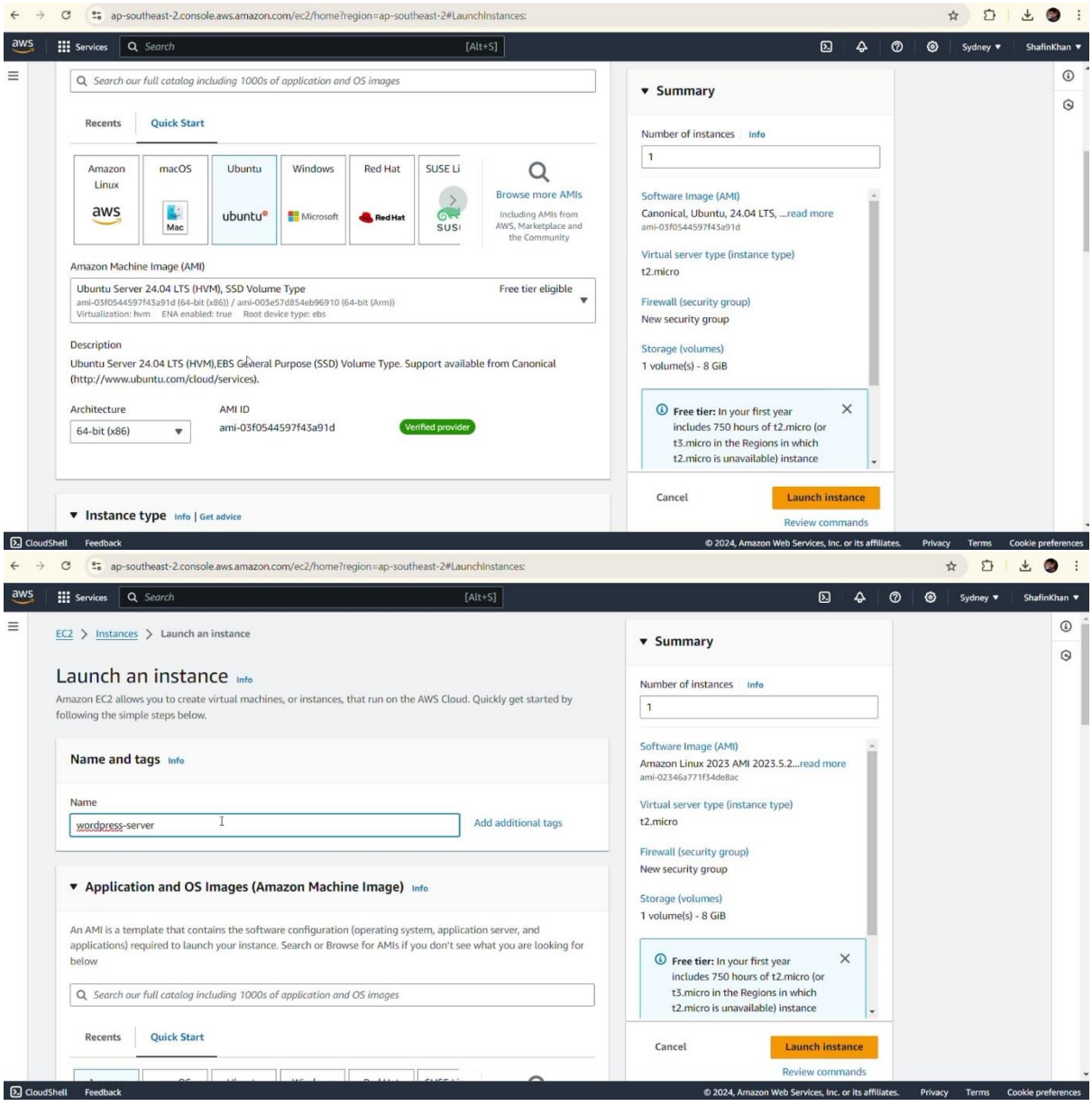
As Monolithic everything will be run in the same instances

Microservice architecture-Two instances (one for wordpress and another for mysql)

Instance for wordpress

Launch the instance and name it Wordpress-server

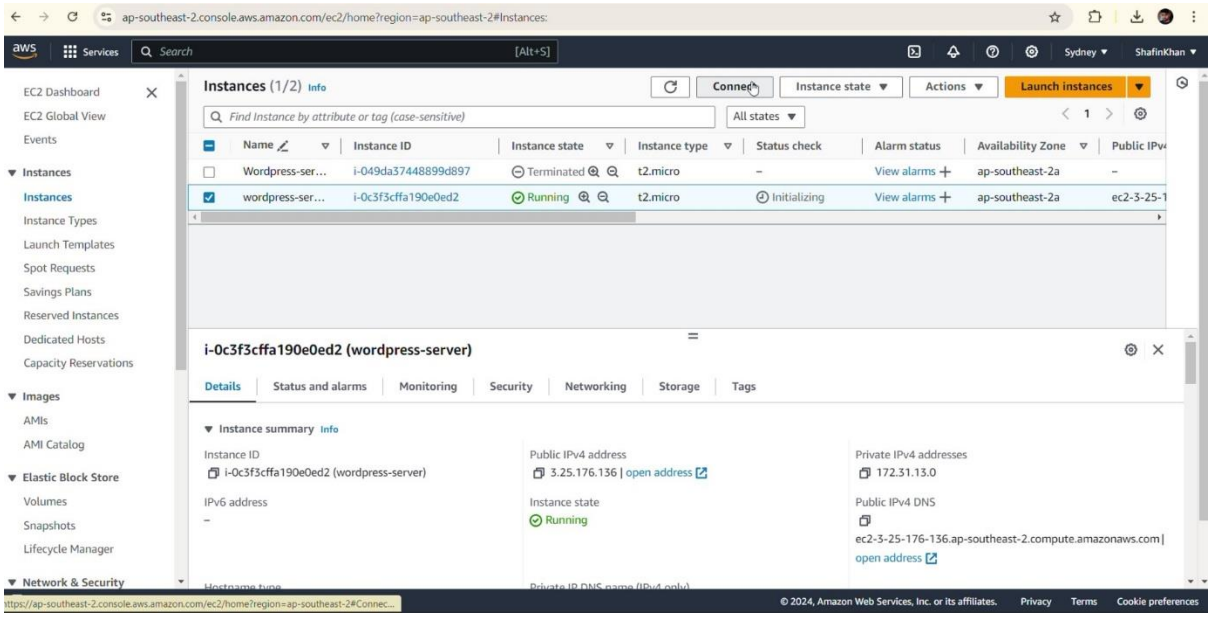
Chose the ubuntu server AMI



Select t2.micro instance

Set the keypair wordpress-key and allow SSH traffic and HTTP traffic from anyroot

Now connect to the ec2 instance through web

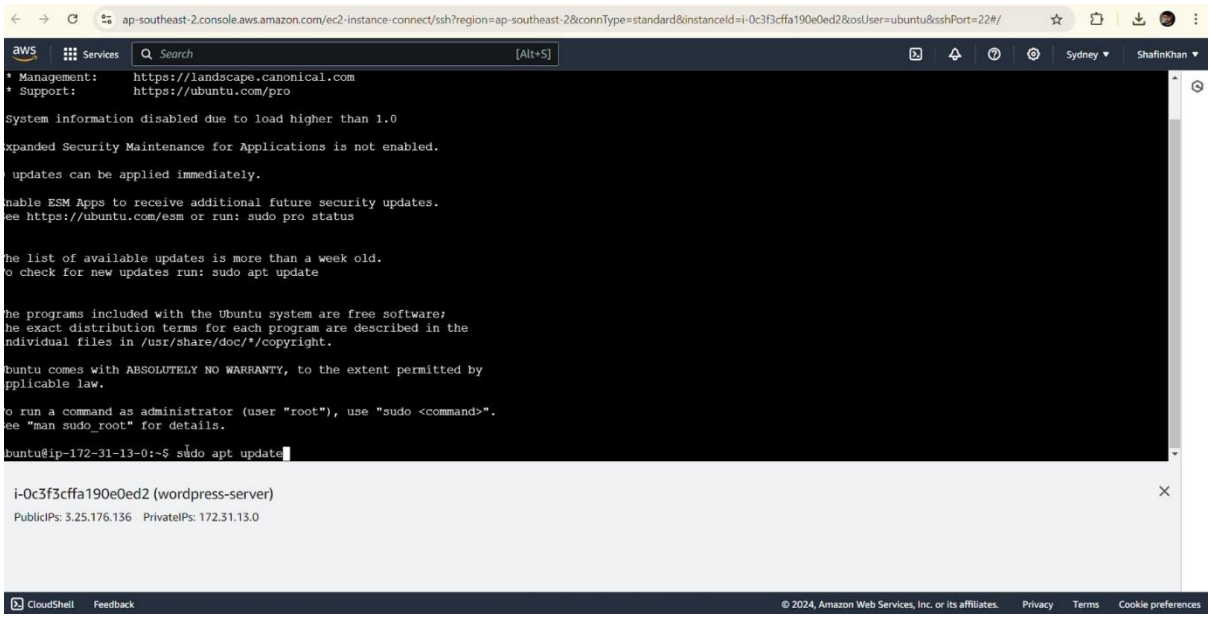


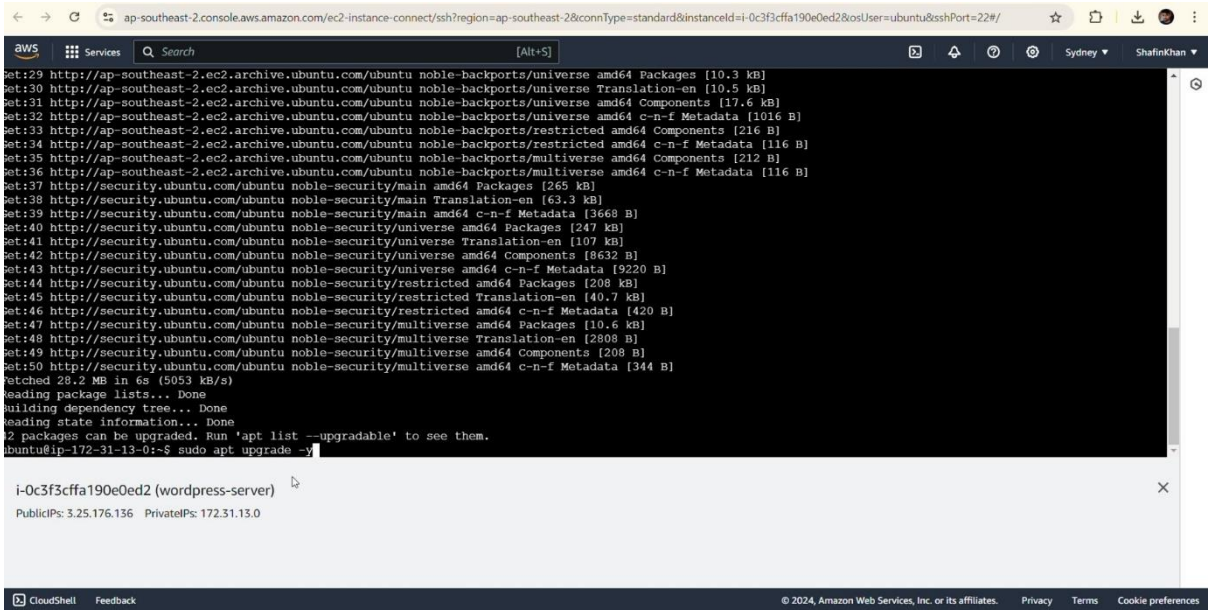
Now first Install Apache, MySQl ,and PHP

To update packages

sudo apt update

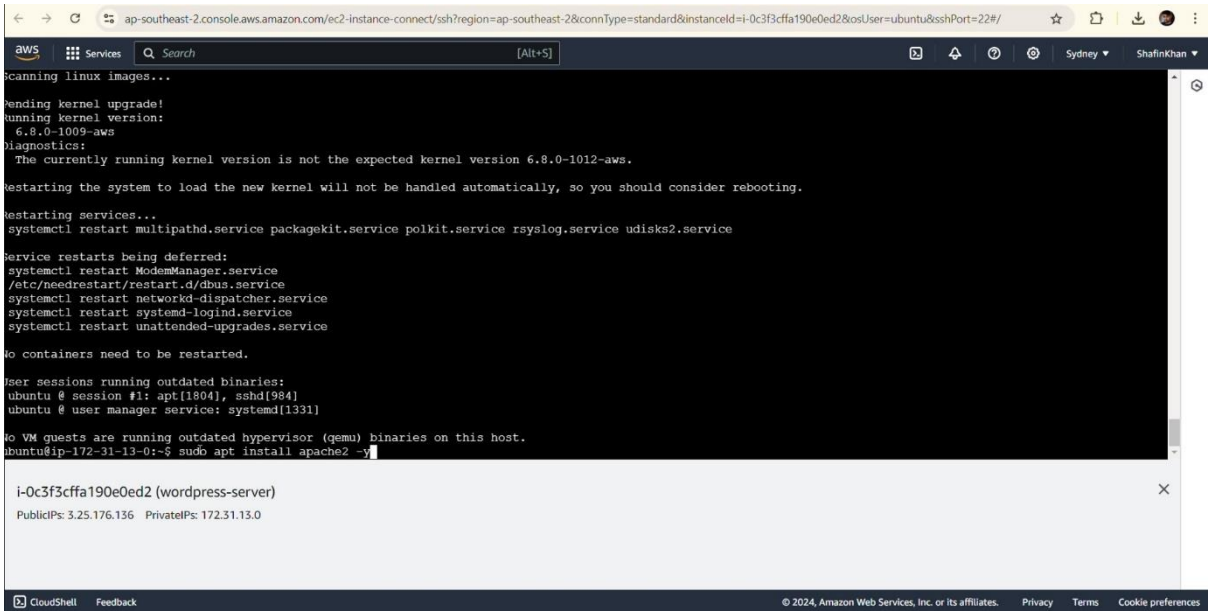
sudo apt upgrade -y





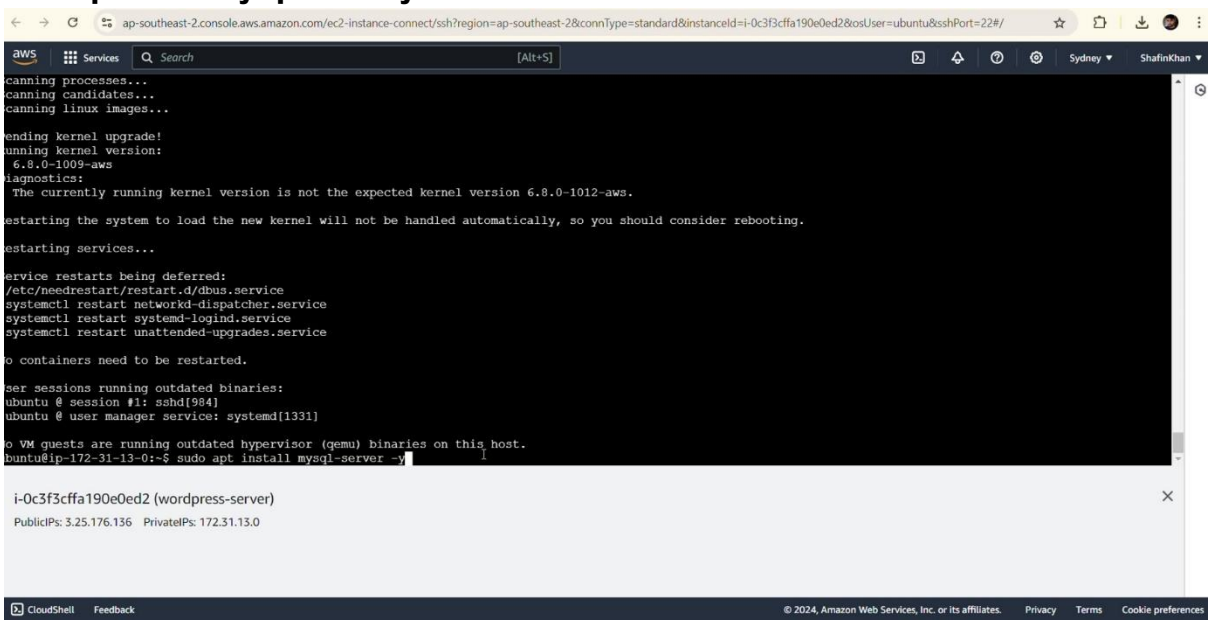
Install Apache:

sudo apt install apache2 -y

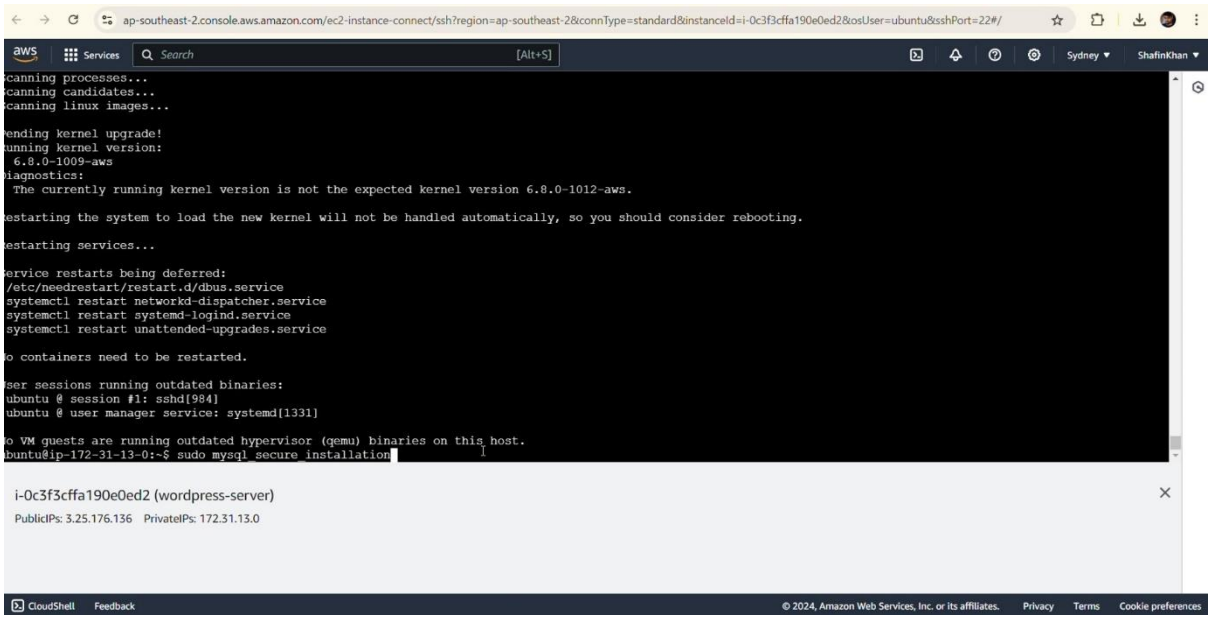


Install MySQL:

sudo apt install mysql-server -y

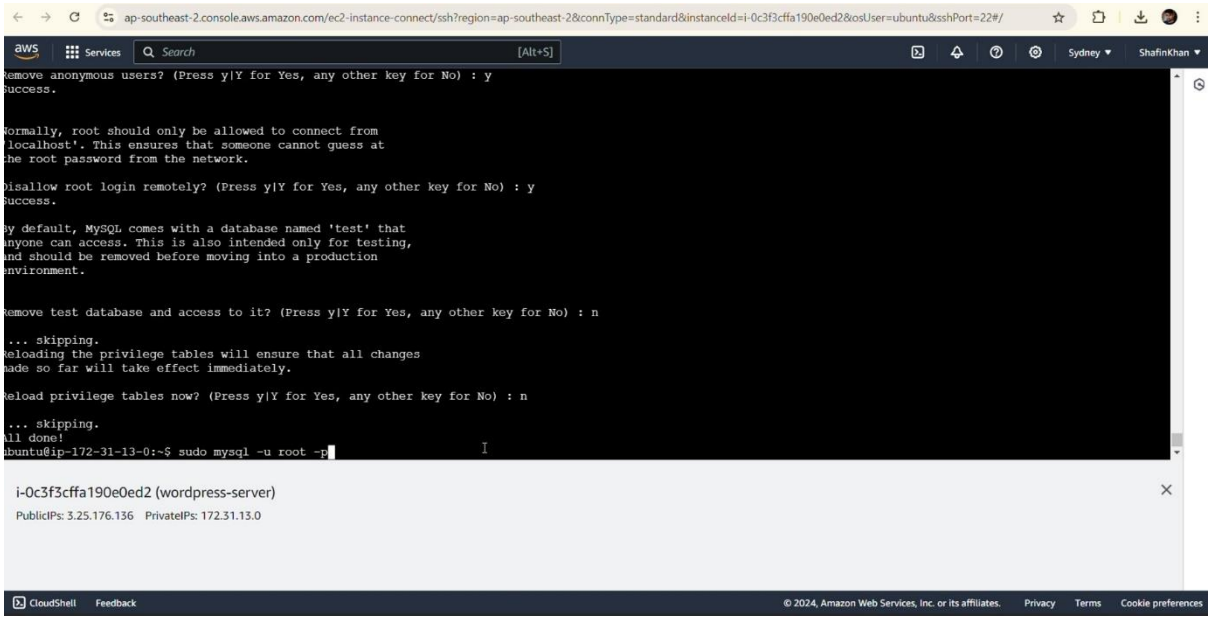


sudo mysql_secure_installation



To create a MySQL Database and User for WordPress

sudo mysql -u root -p



Then run the following SQL commands:

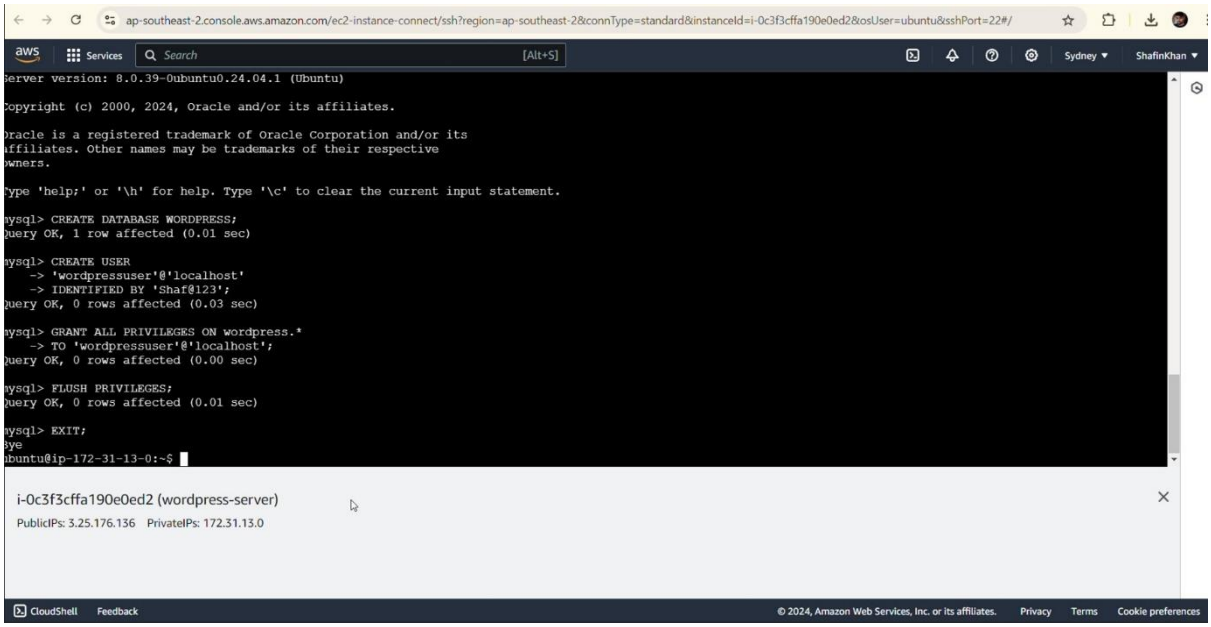
CREATE DATABASE wordpress;

CREATE USER 'wordpressuser'@'localhost' IDENTIFIED BY 'password';

GRANT ALL PRIVILEGES ON wordpress.* TO 'wordpressuser'@'localhost';

FLUSH PRIVILEGES;

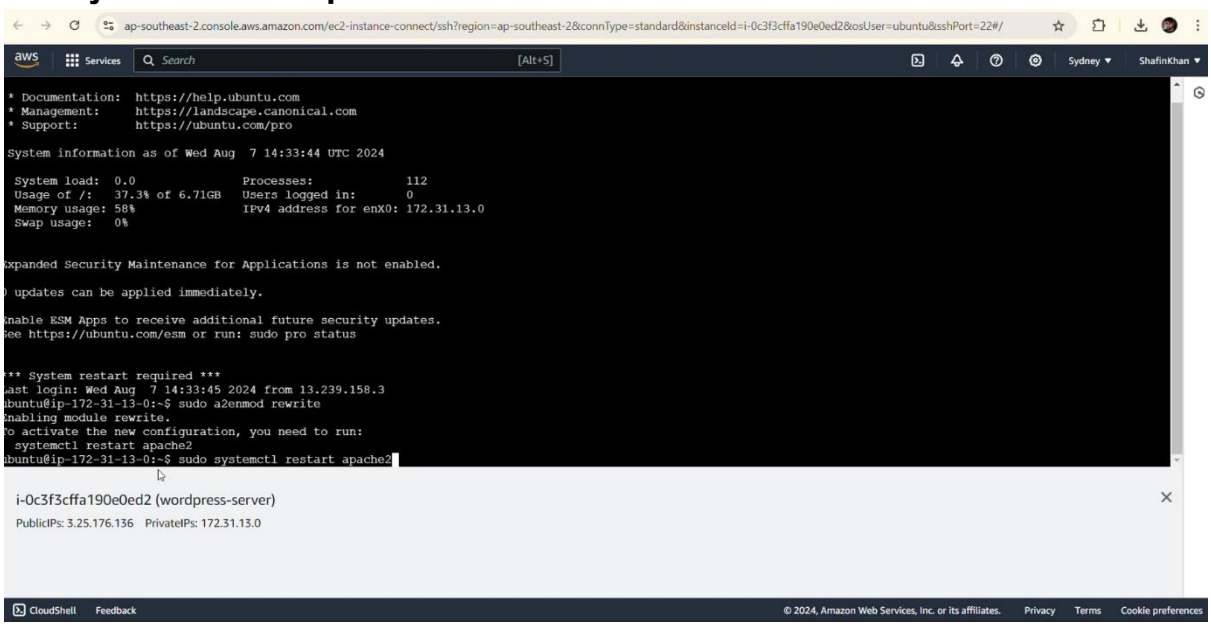
EXIT;



To Install PHP and Related Modules

sudo apt install php libapache2-mod-php php-mysql php-xml php-curl php-gd php-mbstring -y

sudo systemctl restart apache2

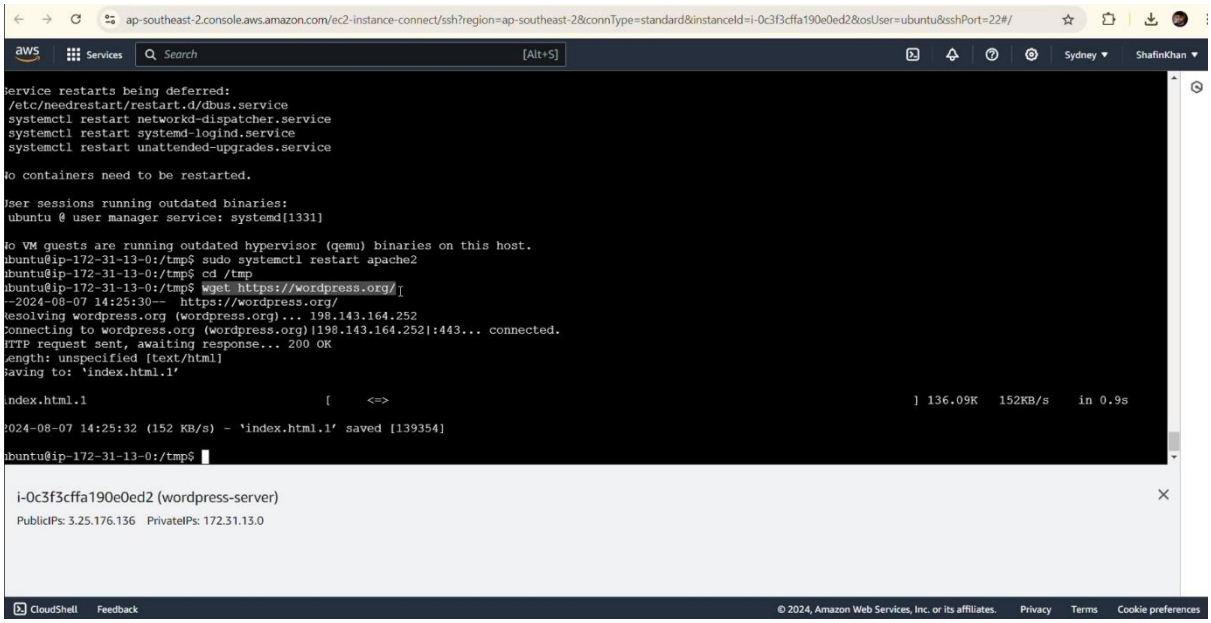


Now Download and Configure WordPress

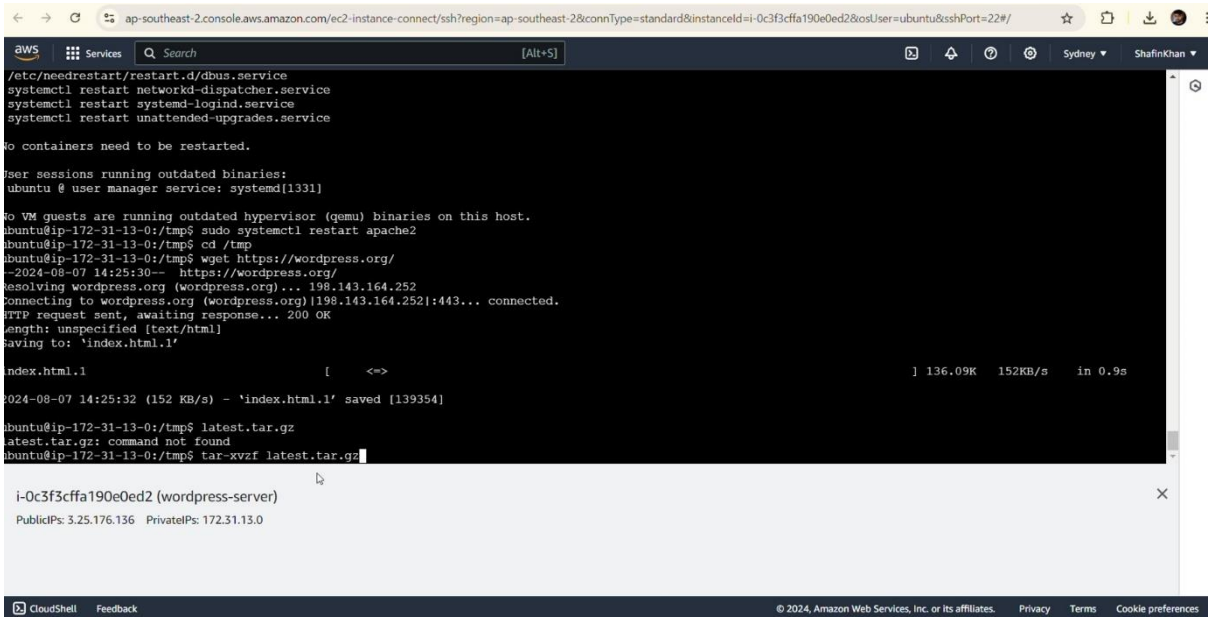
Download WordPress:

cd /tmp

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

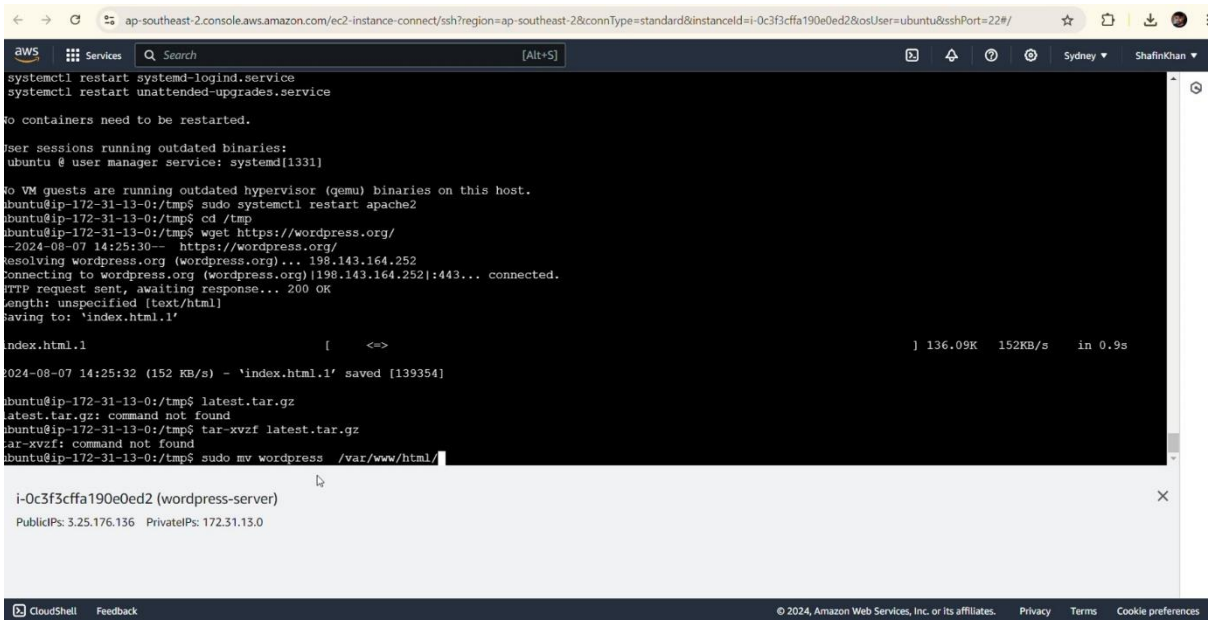


tar -xvzf latest.tar.gz



To Move WordPress Files to the Web Directory:

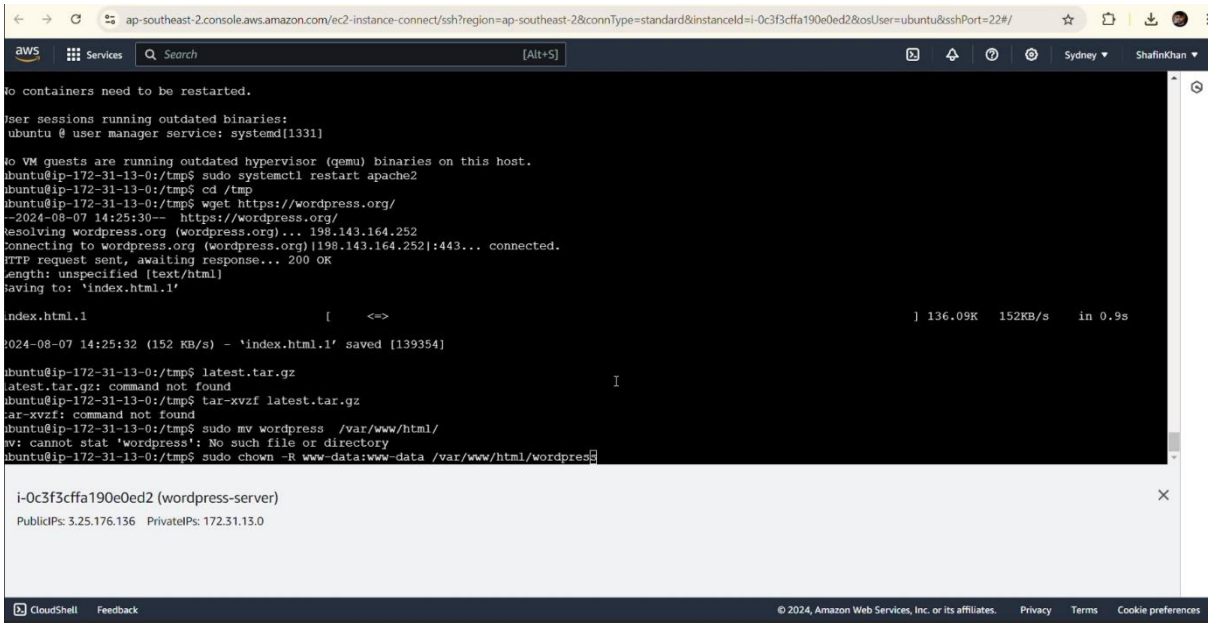
sudo mv wordpress /var/www/html/



To set Permissions:

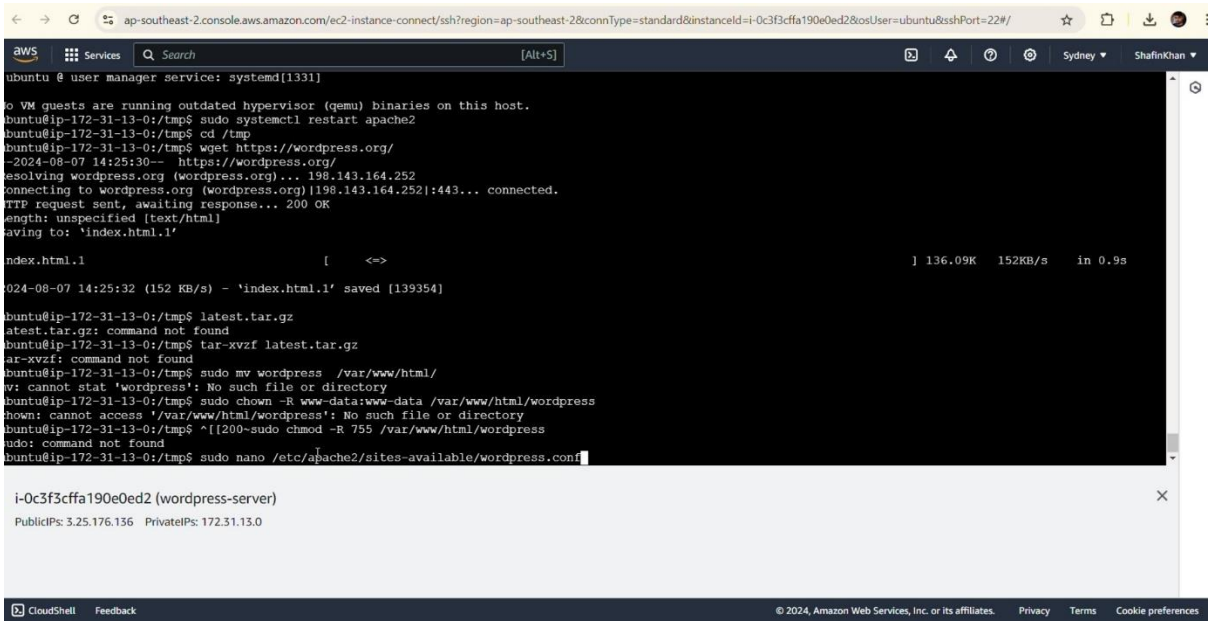
sudo chown -R www-data:www-data /var/www/html/wordpress

sudo chmod -R 755 /var/www/html/wordpress



To configure Apache for WordPress

sudo nano /etc/apache2/sites-available/wordpress.conf



Add the following content:

<VirtualHost *:80>

ServerAdmin admin@example.com

DocumentRoot /var/www/html/wordpress

ServerName your-ec2-public-dns

<Directory /var/www/html/wordpress>

Options FollowSymLinks

AllowOverride All

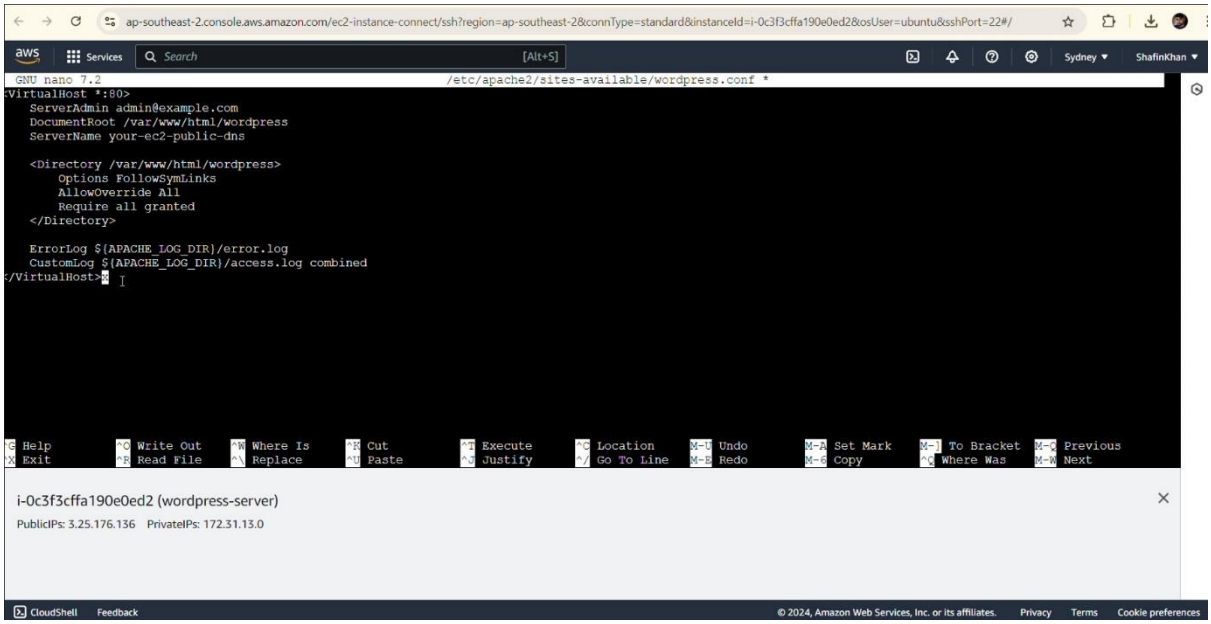
Require all granted

</Directory>

ErrorLog ${APACHE_LOG_DIR}/error.log

CustomLog ${APACHE_LOG_DIR}/access.log combined

</VirtualHost>

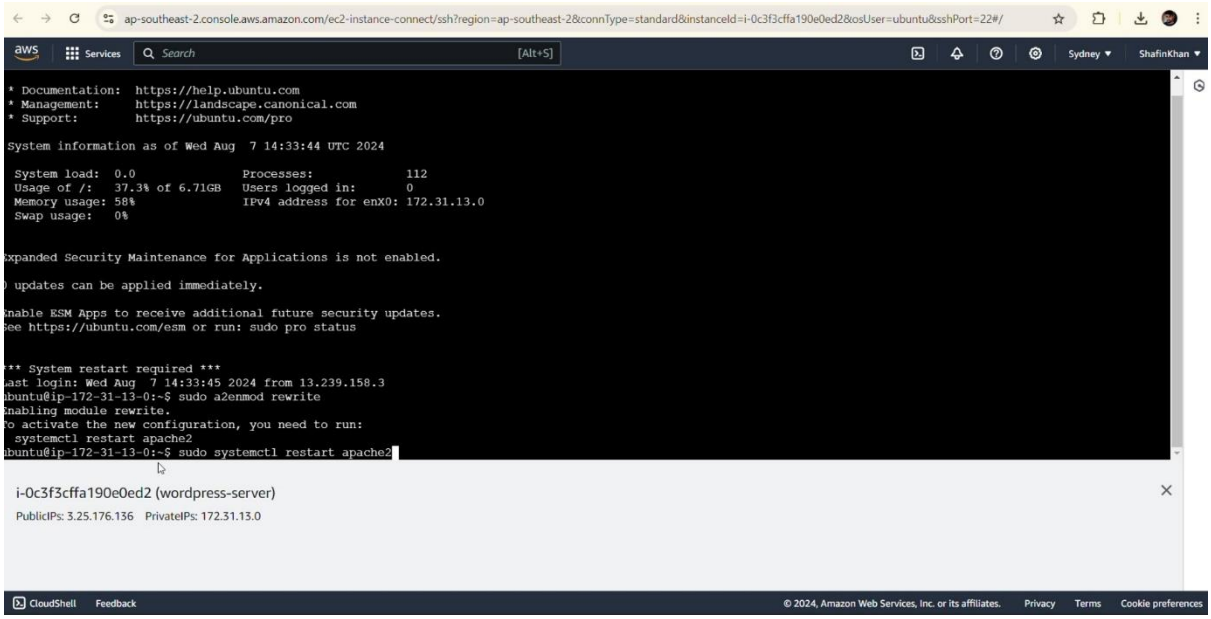


Finally to enable the New Configuration and Rewrite Module:

sudo a2ensite wordpress.conf

sudo a2enmod rewrite

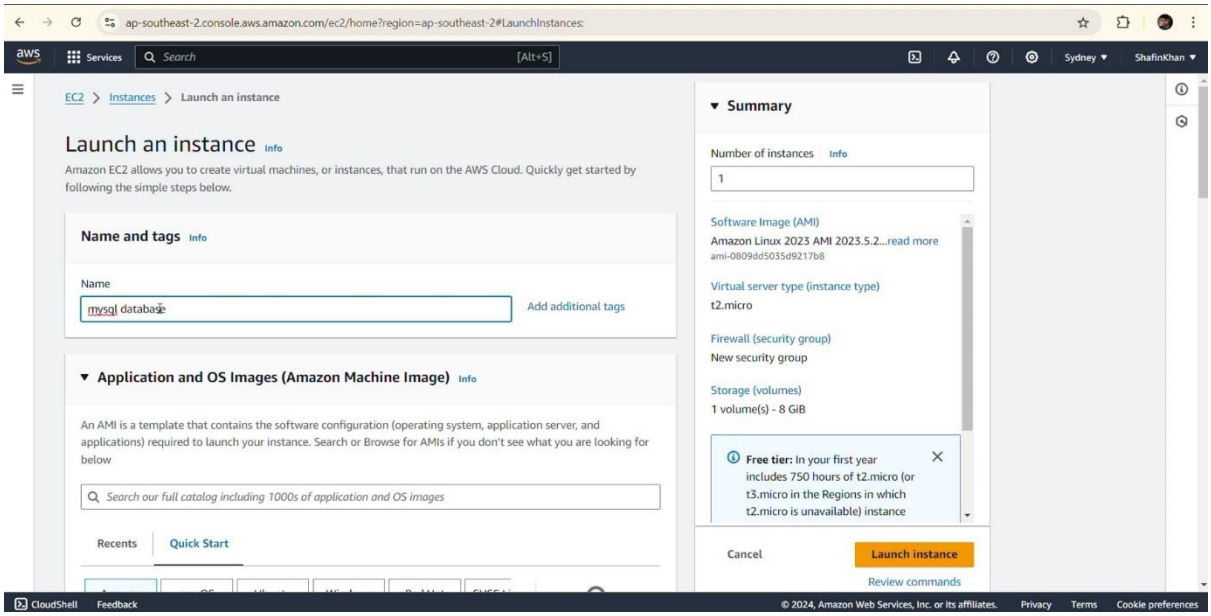
sudo systemctl restart apache2



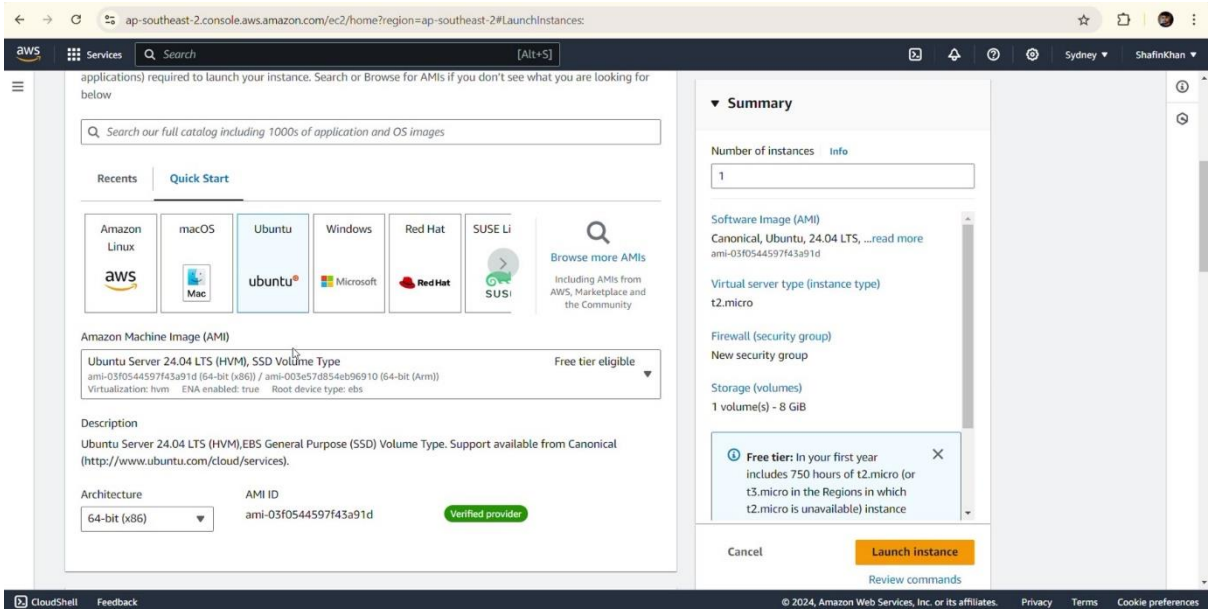
Instance for MySQL database

Launch another instance ec2

Name the server as mysql-database

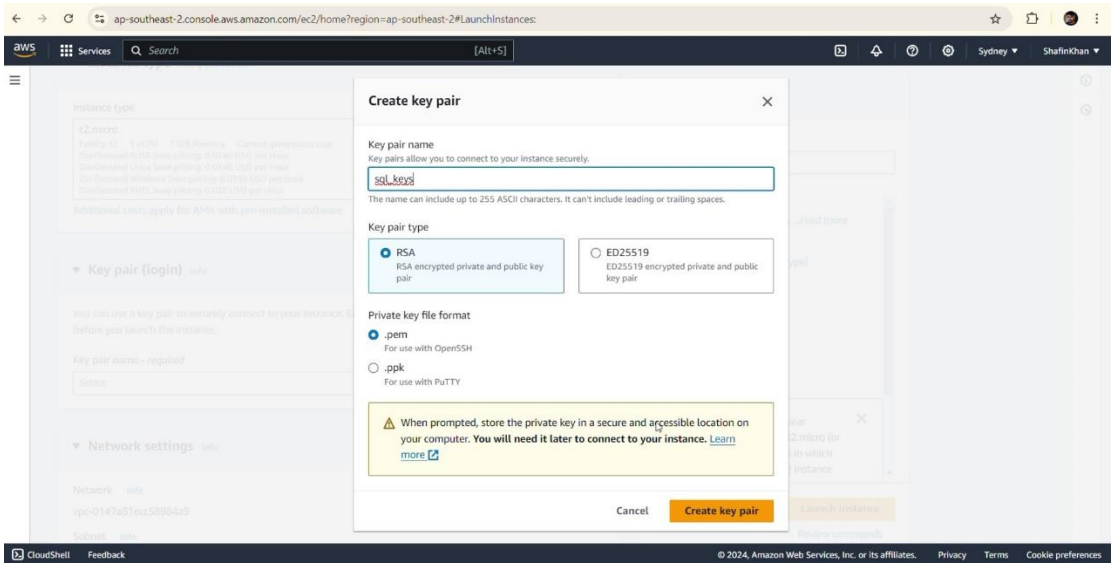


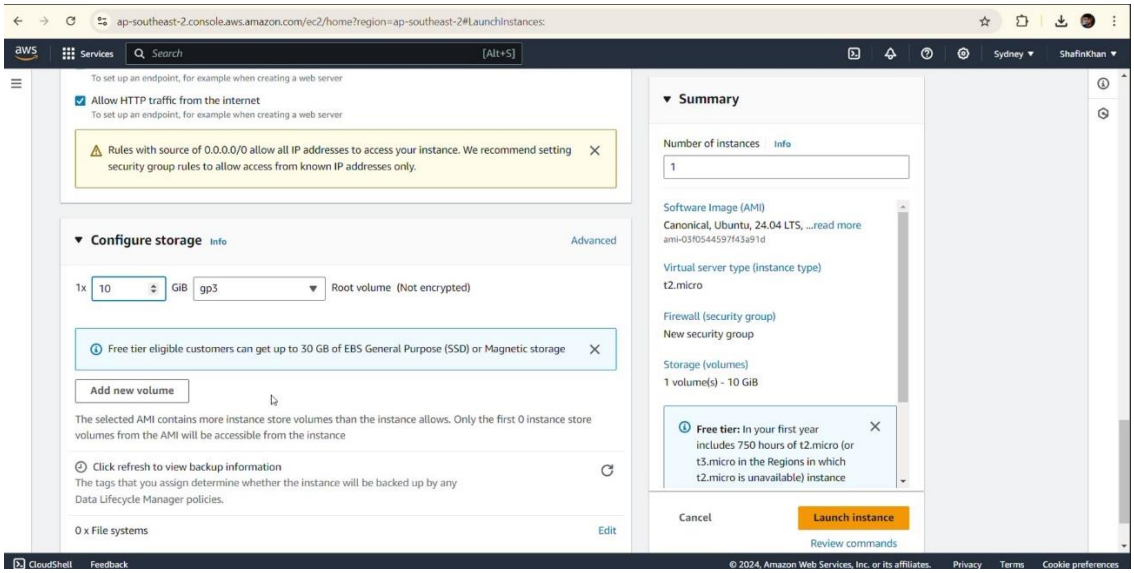
The applications and the OS images (Amazon Machine Image),I have selected Ubuntu AMI



For the instance ,I have selected t2.micro

Created a new keypair



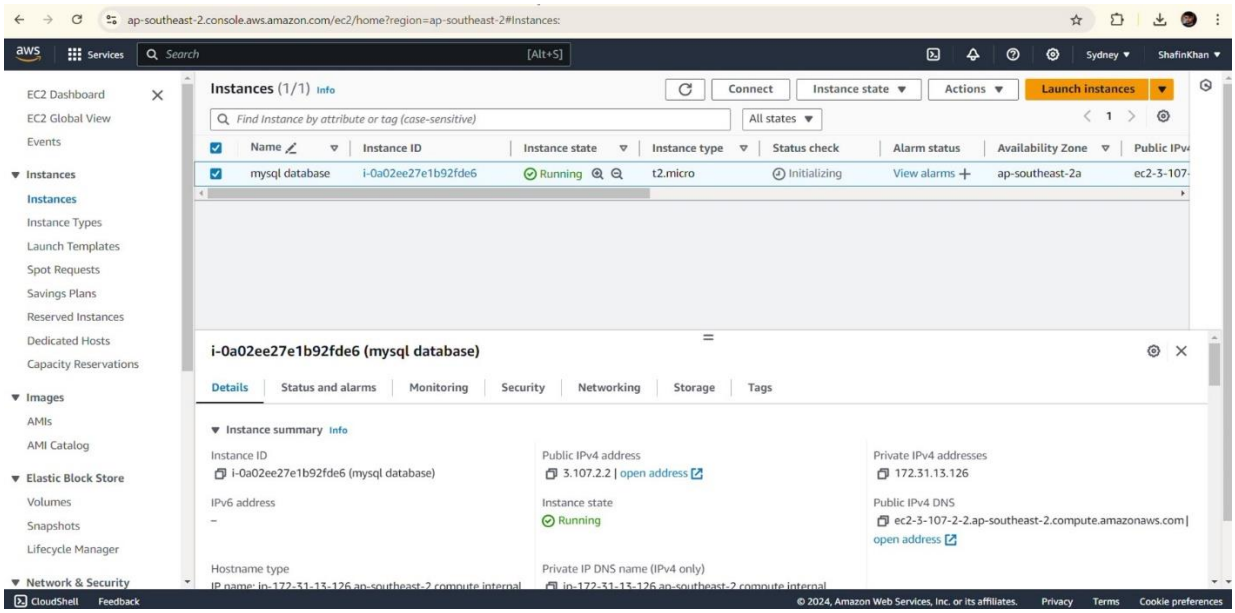


The storage is set as 10 Gib

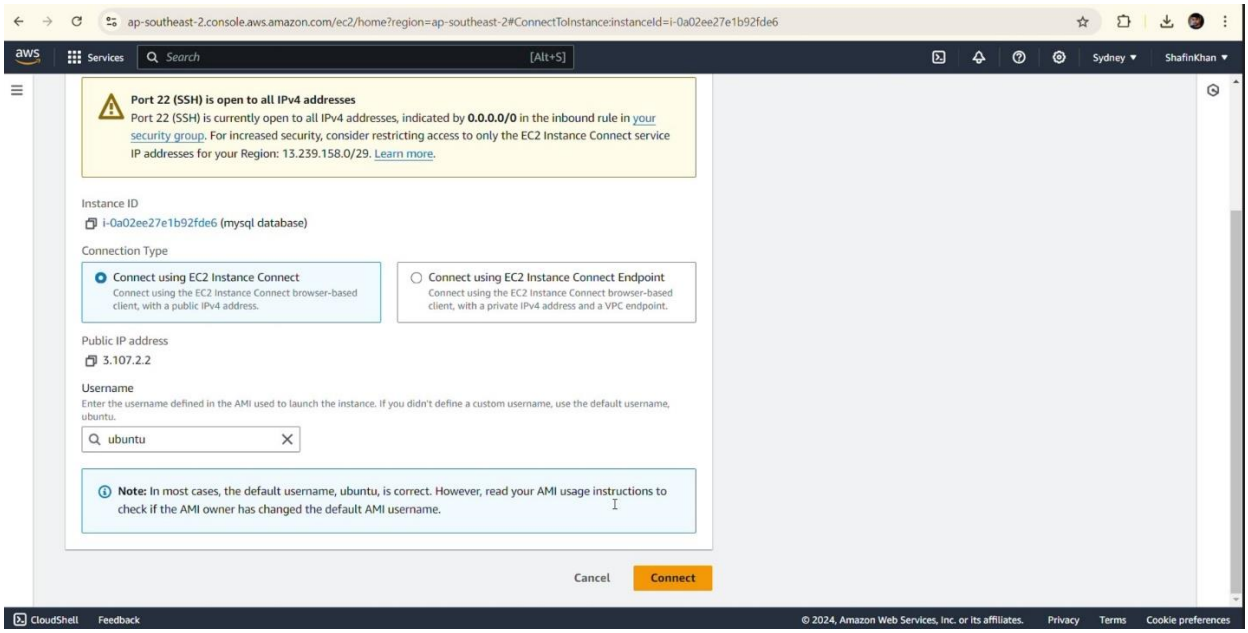
SSH and HTTPS traffic is allowed from anywhere

And the rest of the thing set to be the default

And the instance is launched

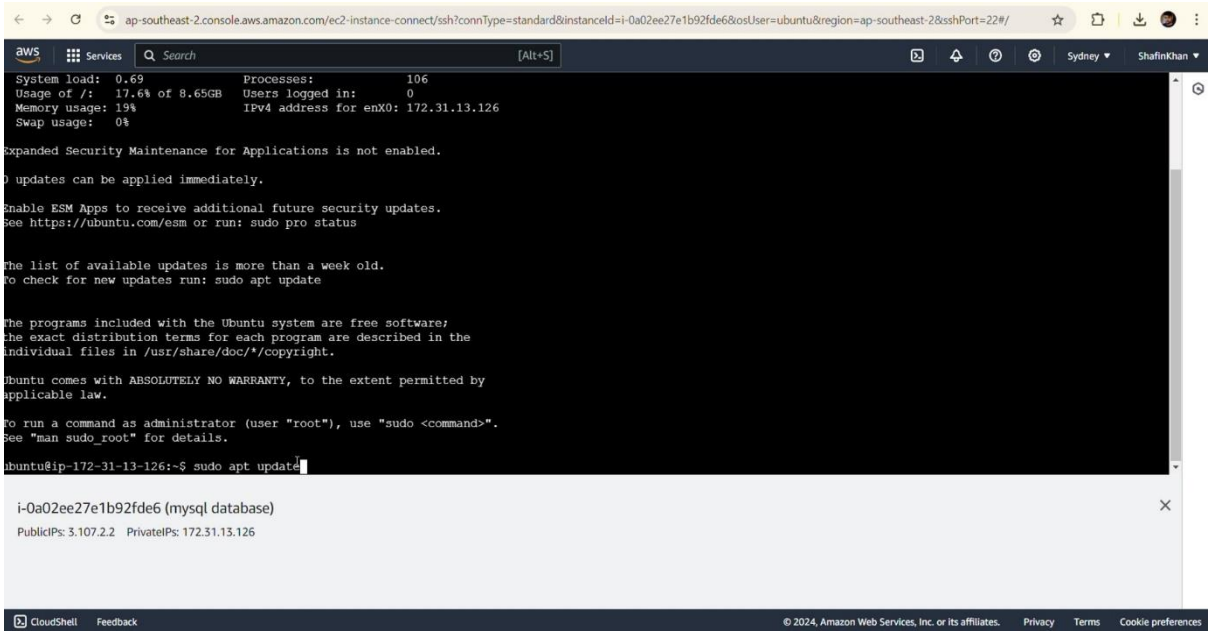


By clicking the connect, I established connection with the machine from the web



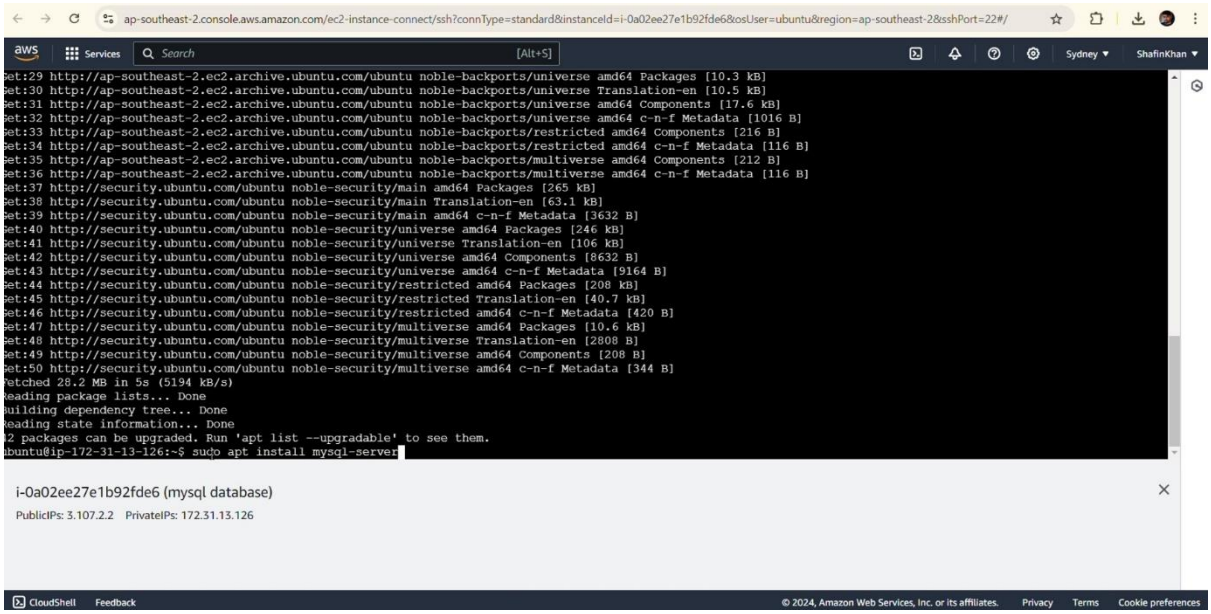
In the console to update the system the command is

sudo apt update



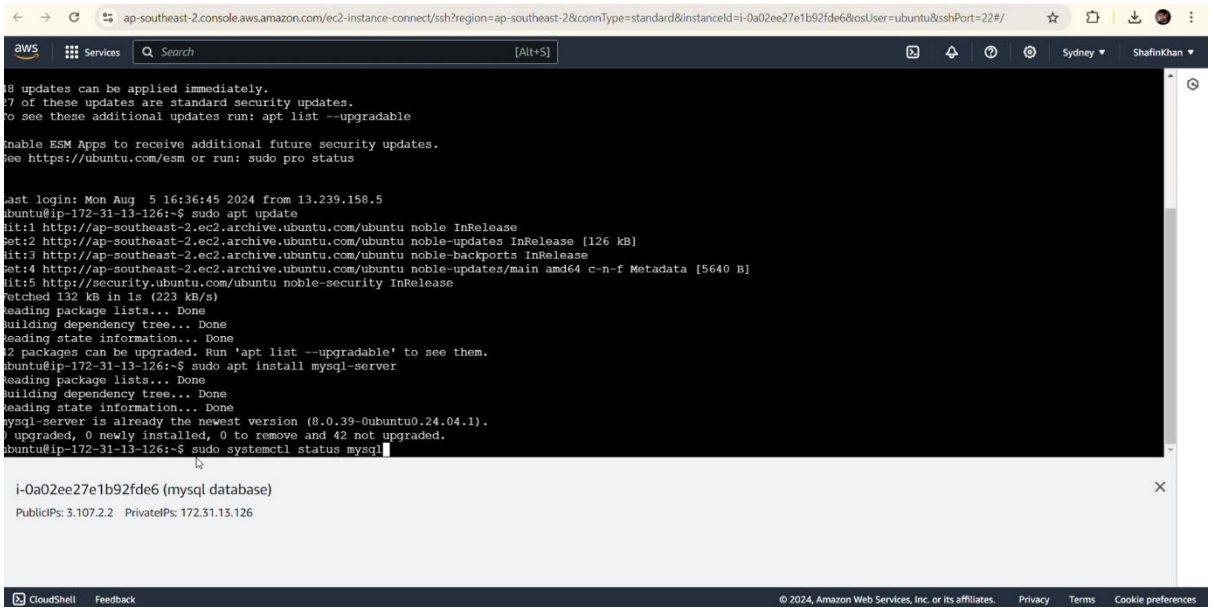
Next to install Mysql the command is

sudo apt install mysql-server



Next to check the status of the MySql active or not the command is

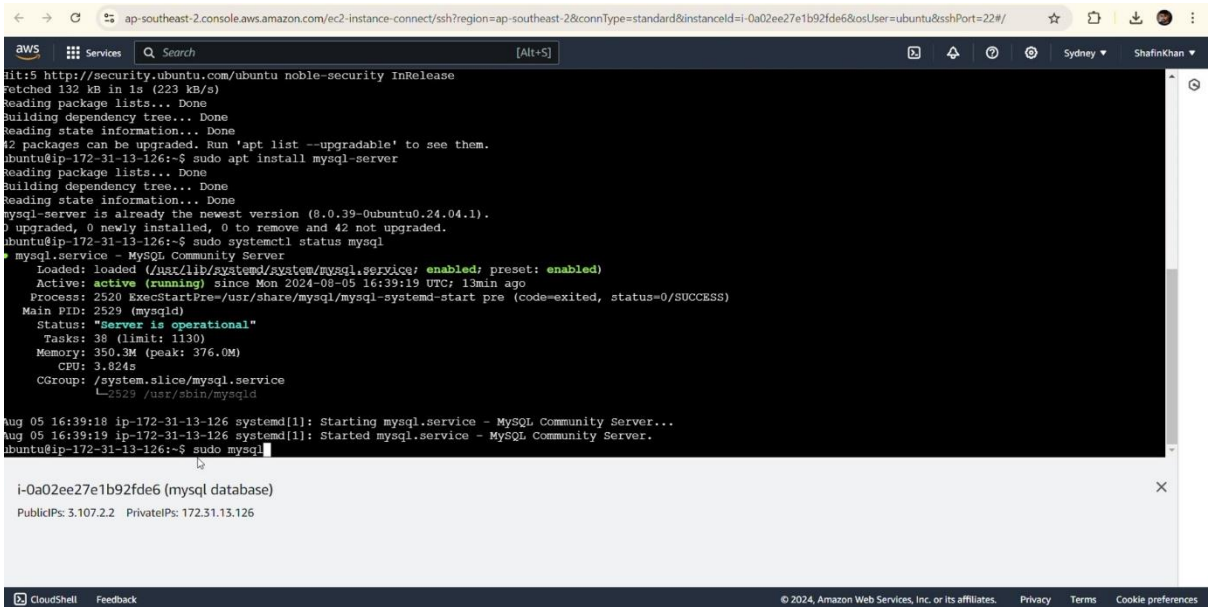
sudo systemctl ststus mysql



The console will display Active

Next to login to Mysql as a root the command is

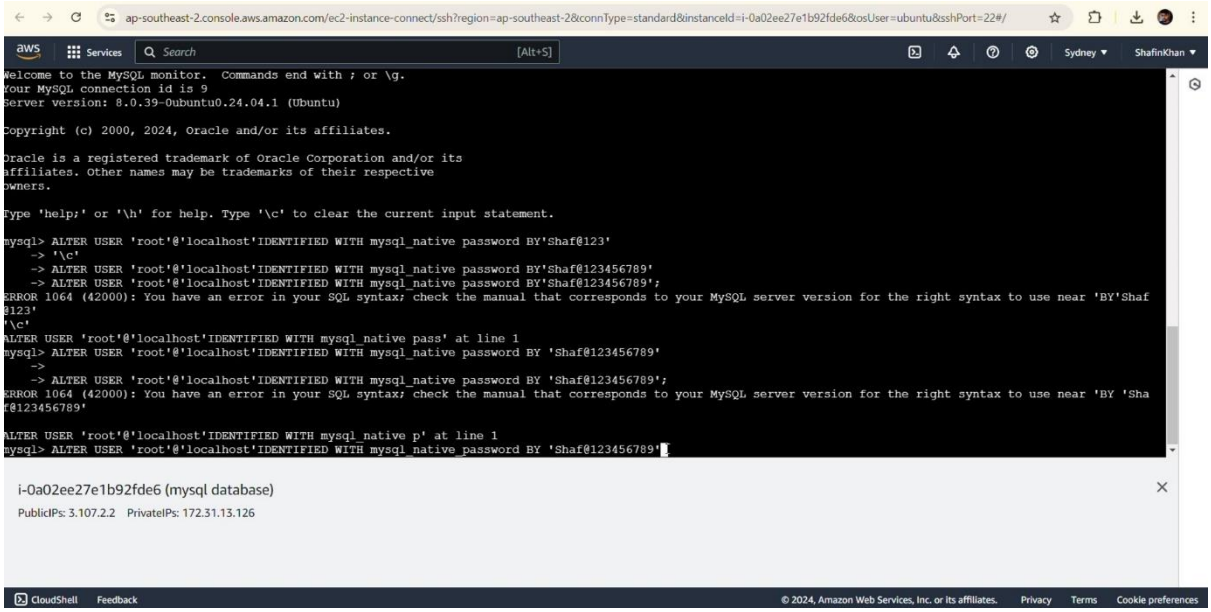
sudo mysql



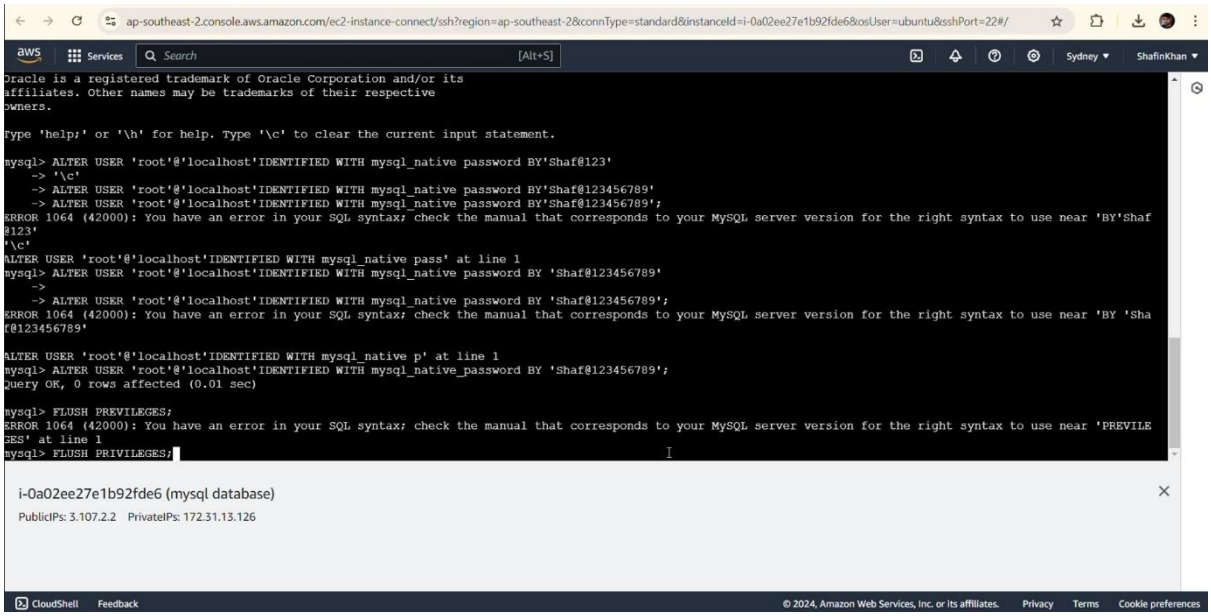
Next to update the password for the MySql server the command is

ALTER USER 'root'@'localhost'IDENTIFIED WITH mysql_native_password BY 'Shaf@123456789'

I entered my password



And command **FLUSH PRIVILEGES**; to check the queries



Next to test the MySql server if it is working by running sample sql queries the commands are

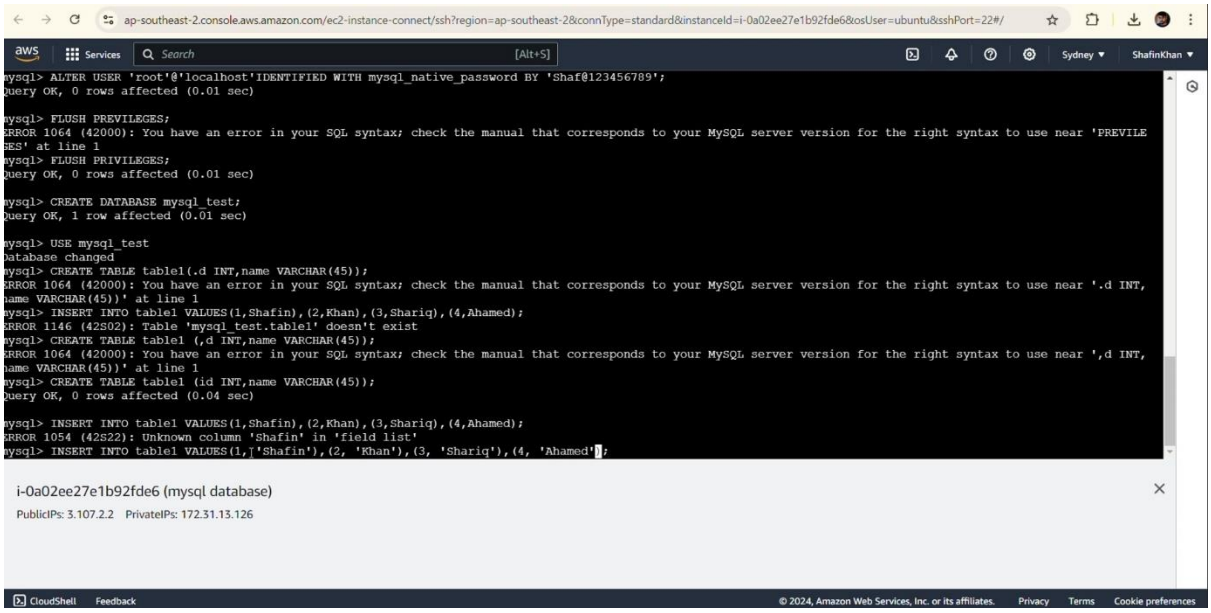
CREATE DATABASE mysql_test;

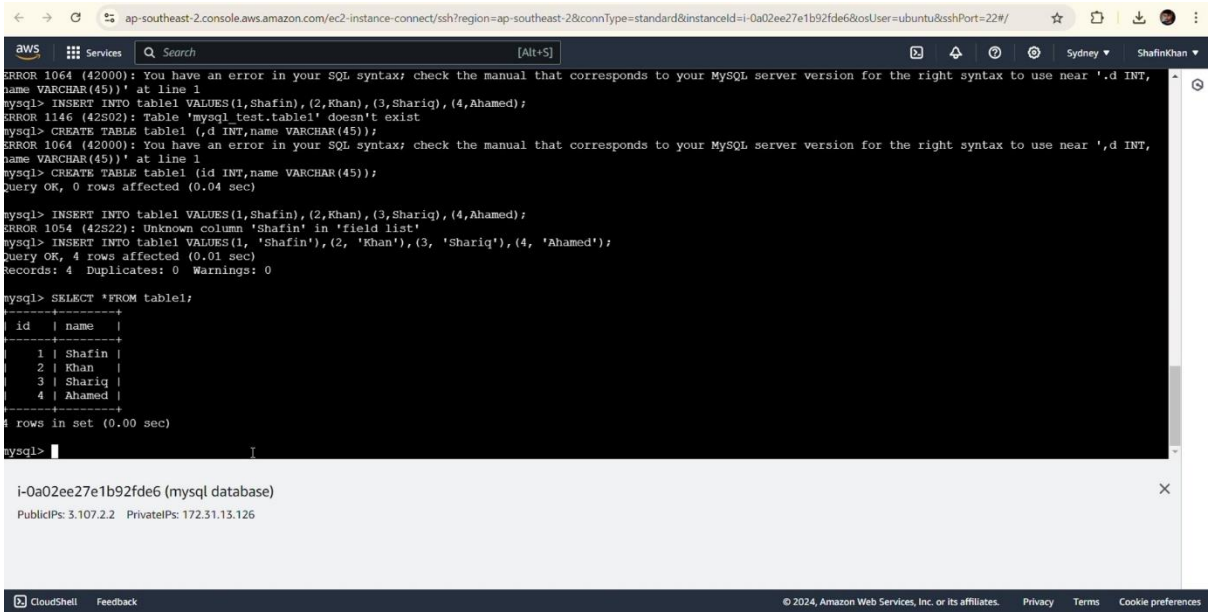
USE mysql_test;

CREATE TABLE table1(id INT,name VARCHAR(45));

INSERT INTO table1 VALUES(1,'Shafin'),(2,'Khan'),(3,'Shariq'),(4,'Ahamed');

SELECT*FROM table1;





The table will be displayed with the entered data