

Task: Deploy application in monolithic and microservices architecture

❖ Description:

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For monolithic : 1 EC2 instance, deploy wordpress and MYSQL on the same instances

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For microservices: 2 EC2 instance, 1 for wordpress and 1 for MYSQL

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Configure the necessary security group for the instances

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EC2 instance type: t2-micro, AMI: ubuntu-*

➤ For Monolithic :-

Launched one instance using AWS EC2 Service with Ubuntu-22.04 image and instance type t2.micro.

Deployment of WordPress and database will be in same instance.

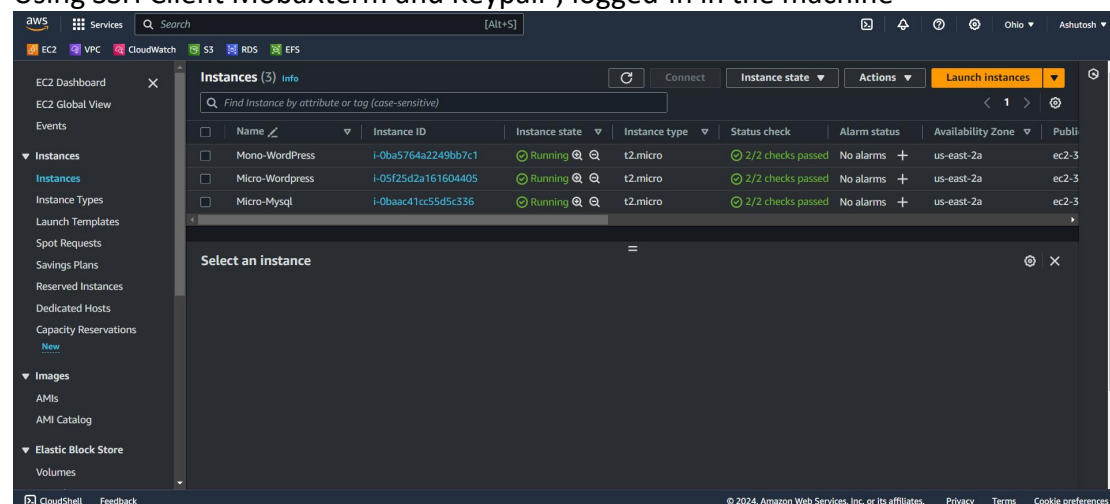
Using SSH Client MobaXterm and Keypair , logged-in in the machine.

➤ For Microservice :-

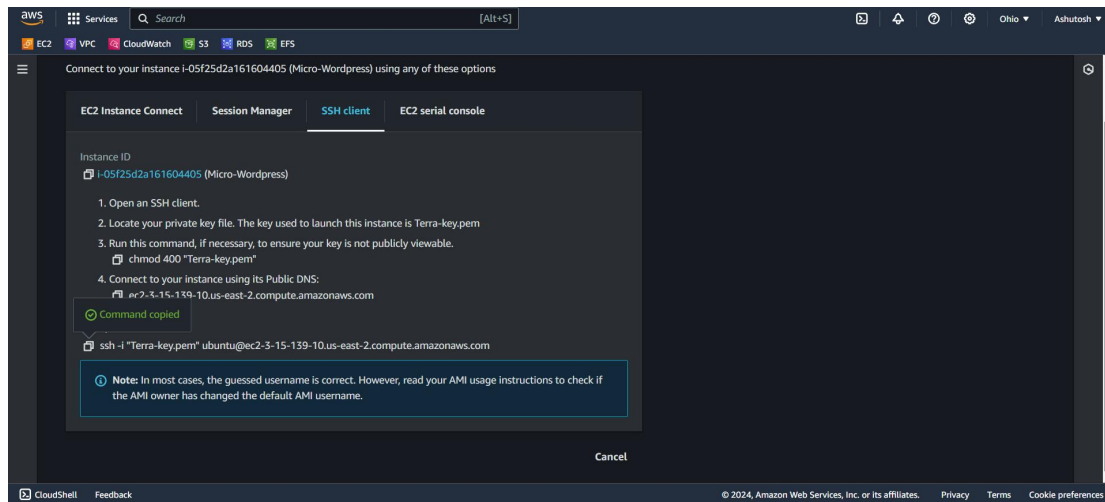
Launched two instances using AWS EC2 Service with Ubuntu-22.04 image and instance type t2.micro.

One for WordPress deployment and other for mysql database.

Using SSH Client MobaXterm and Keypair , logged-in in the machine



Filter rules						1
Name	Security group rule ID	Port range	Protocol	Source	Security groups	
-	sgr-0685cc68de18851e0	22	TCP	0.0.0.0/0	Wordpress-sg	
-	sgr-0839ca50add9f1da	80	TCP	0.0.0.0/0	Wordpress-sg	
-	sgr-0b65998d406fa081c	3306	TCP	0.0.0.0/0	Wordpress-sg	
-	sgr-0f1f5638ba1bae2a6	443	TCP	0.0.0.0/0	Wordpress-sg	



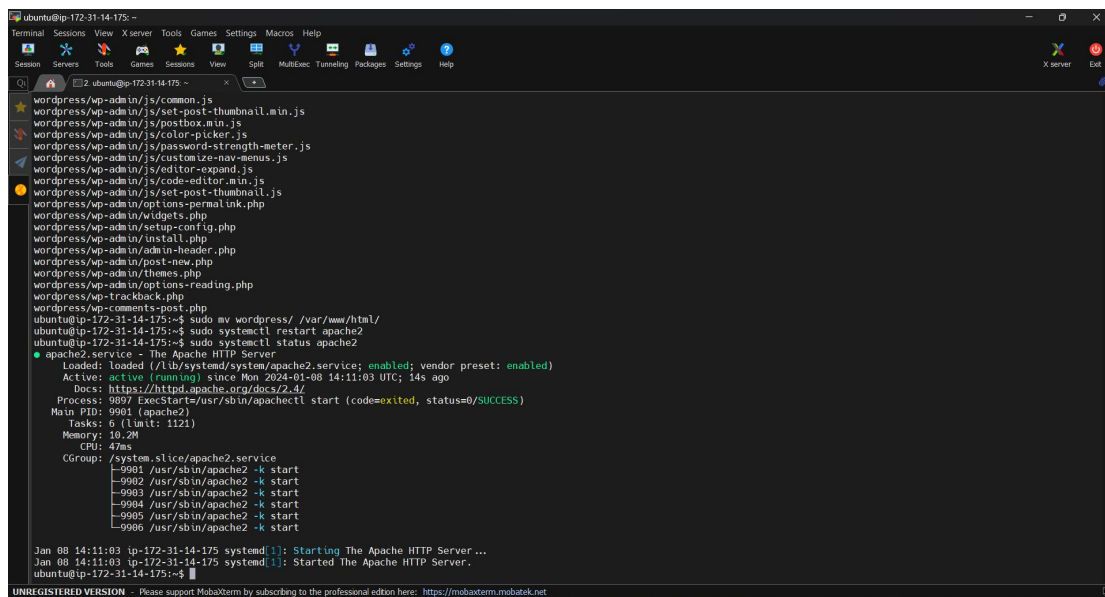
◆ Commands for Setup of Apache2 and PHP:-

- Install Apache server on Ubuntu

`sudo apt install apache2`

- Install php runtime and php mysql connector

`sudo apt install php libapache2-mod-php php-mysql`





◆ Commands to download and move wordpress file in apache:-

- Download wordpress

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

- Unzip

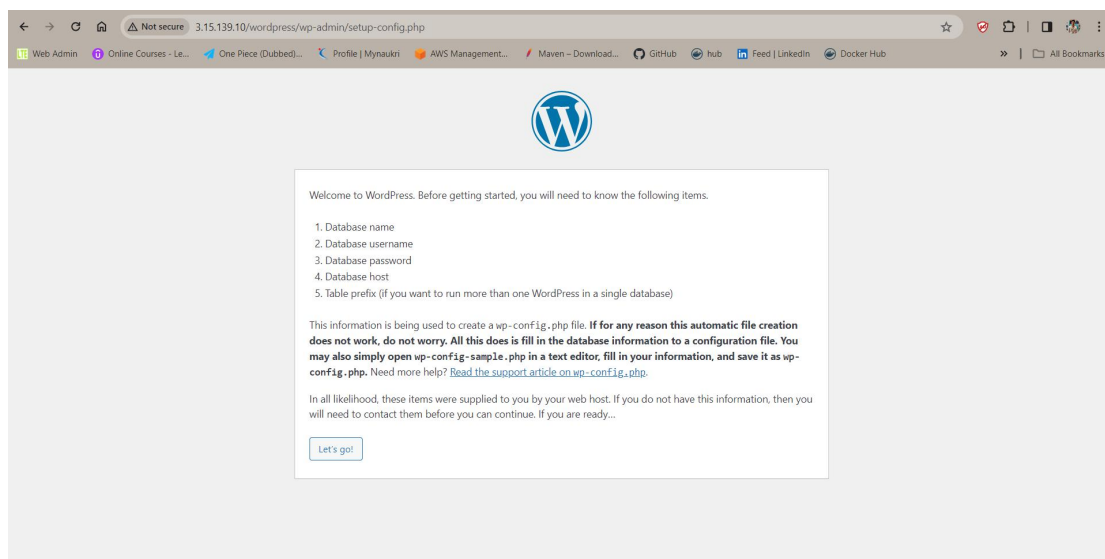
tar -xvf latest.tar.gz

- Move wordpress folder to apache document root

sudo mv wordpress/ /var/www/html

- Command to restart/reload apache server

sudo systemctl restart apache2



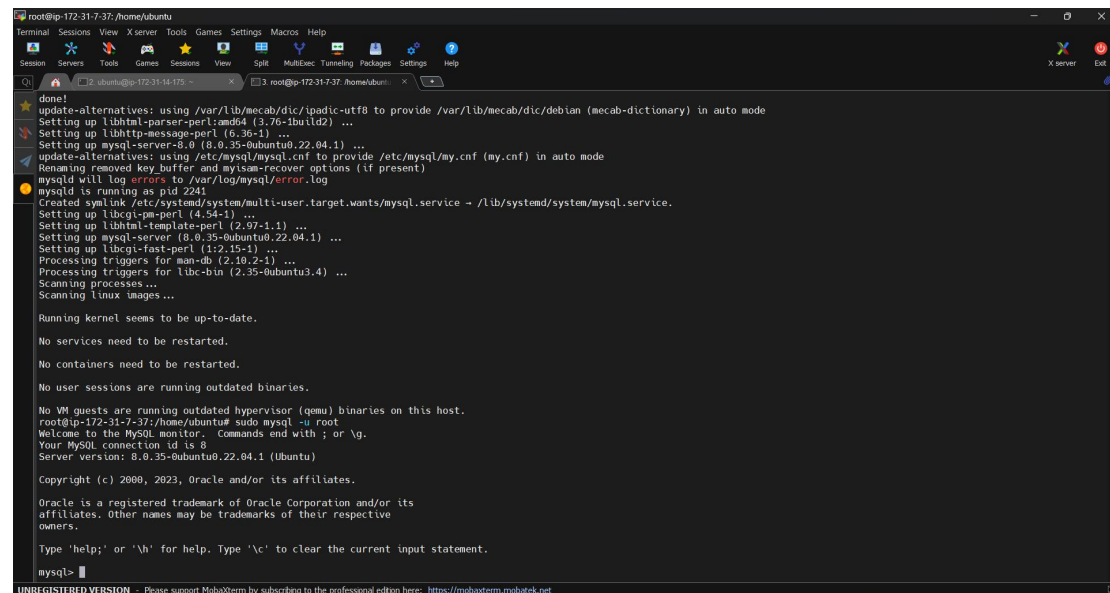
◆ Commands to install and configure Mysql:-

- Install MySQL server

sudo apt install mysql-server

- Login to MySQL server

sudo mysql -u root



```
root@ip-172-31-7-37:/home/ubuntu
done!
update-alternatives: using /var/lib/mecab/dic/ipadic-utf8 to provide /var/lib/mecab/dic/debian (mecab-dictionary) in auto mode
Setting up libhtml-parser-perl:amd64 (3.76-1build2) ...
Setting up libhttp-message-perl (6.36-1) ...
Setting up mysql-server-8.0 (8.0.35-0ubuntu0.22.04.1) ...
update-alternatives: using /etc/mysql/mysql.cnf to provide /etc/mysql/my.cnf (my.cnf) in auto mode
Removing removed key_buffer and myisam-recover options (if present)
mysqld will log errors to /var/log/mysql/error.log
mysqld is running as pid 2241
Created symlink /etc/systemd/system/multi-user.target.wants/mysql.service - /lib/systemd/system/mysql.service.
Setting up libecj-pm-perl (4.54-1) ...
Setting up libhtml-template-perl (2.97-1.1) ...
Setting up mysql-server (8.0.35-0ubuntu0.22.04.1) ...
Setting up libcgi-fast-perl (1:2.15-1) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.4) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
root@ip-172-31-7-37:/home/ubuntu# sudo mysql -u root
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.35-0ubuntu0.22.04.1 (Ubuntu)

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owners.

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

mysql>
```

- Change authentication plugin to mysql_native_password (change the password to something strong)

ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password by 'Testpassword@123';

- Create a new database user for wordpress (change the password to something strong)

CREATE USER 'wp_user'@localhost IDENTIFIED BY 'Testpassword@123';

- Create a database for wordpress

CREATE DATABASE wp;

- Grant all privileges on the database 'wp' to the newly created user

GRANT ALL PRIVILEGES ON wp.* TO 'wp_user'@localhost;

- Change the Username, Password and Database name accordingly.

```
root@ip-172-31-7-37:/home/ubuntu
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Your MySQL connection id is 8
Server version: 8.0.35-0ubuntu0.22.04.1 (Ubuntu)
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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> ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password by 'Testpassword@123';
Query OK, 0 rows affected (0.02 sec)
mysql> CREATE USER 'wp_user'@'localhost' IDENTIFIED BY 'Testpassword@123';
Query OK, 0 rows affected (0.02 sec)
mysql> CREATE DATABASE wp;
Query OK, 1 row affected (0.01 sec)
mysql> GRANT ALL PRIVILEGES ON wp.* TO 'wp_user'@'localhost';
Query OK, 0 rows affected (0.03 sec)
mysql> quit
Bye
root@ip-172-31-7-37:/home/ubuntu# systemctl restart mysql
root@ip-172-31-7-37:/home/ubuntu# systemctl status mysql
● mysql.service - MySQL Community Server
   Loaded: loaded (/lib/systemd/system/mysql.service; enabled; vendor preset: enabled)
   Active: active (running) since Mon 2024-01-08 14:20:36 UTC; 30s ago
     Process: 2566 ExecStartPre=/usr/share/mysql/mysql-systemd-start pre (code=exited, status=0/SUCCESS)
    Main PID: 2575 (mysqld)
      Status: "Server is operational"
        Tasks: 38 (limit: 1121)
      Memory: 394.1M
         CPU: 1.121s
       CGroup: /system.slice/mysql.service
               └─2575 /usr/sbin/mysqld
Jan 08 14:20:35 ip-172-31-7-37 systemd[1]: Starting MySQL Community Server...
Jan 08 14:20:36 ip-172-31-7-37 systemd[1]: Started MySQL Community Server.
root@ip-172-31-7-37:/home/ubuntu#
```

