Name: **A.Yogeshwaran**

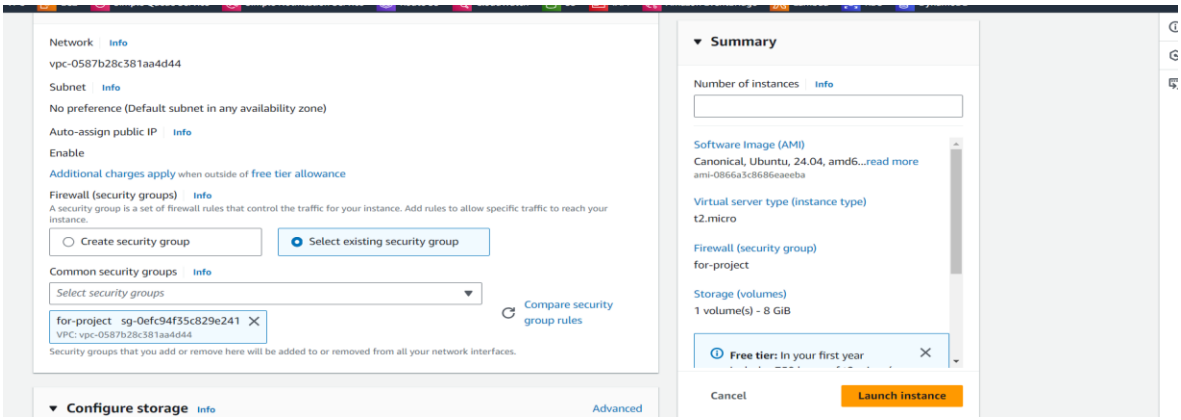
Domain : **Cloud AWS**

Purpose: **Submitting of Task Week1 to Techplement.**

2.For microservices: 2 EC2 instances, 1 for wordpress and 1 for MYSQL. Configure the necessary security group for the instances. EC2 instance type: t2-micro, AMI: ubuntu-*. Create a welcome page in wordpress that will be the homepage.

Prerequisites

1. **AWS Account** with access to EC2 and Security Groups.
2. **IAM Role** with permissions to launch instances and manage security groups (usually `EC2FullAccess`).
3. **SSH Key Pair** for accessing your instances.



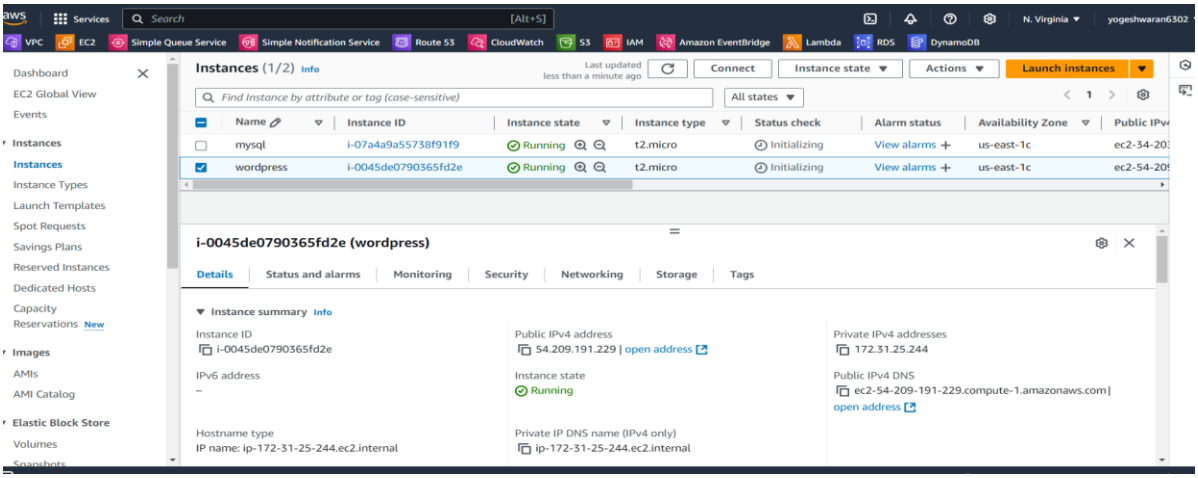
Step 1: Create EC2 Instances

a) Launch MySQL Instance

1. Go to **EC2 Dashboard → Launch Instances**.
2. Choose **Ubuntu Server** as the AMI and select `t2.micro` as the instance type.
3. Configure **Instance Details** as needed (use the default VPC and subnet).
4. Add **Storage** as required (at least 8GB should suffice).
5. Configure a **Security Group** (create or choose an existing one).
    - **MySQL Security Group Rules**:
        - Inbound Rule: Allow MySQL (port 3306) from the **private IP address** of the WordPress EC2 instance (not from `0.0.0.0/0` for security reasons).
6. Launch the instance and make note of its **private IP address**.

b) Launch WordPress Instance

1. Repeat the steps above to launch another `t2.micro` instance with Ubuntu AMI for WordPress.
2. Configure **Security Group** as follows:
    - **WordPress Security Group Rules**:
        - Inbound Rule: Allow HTTP (port 80) from `0.0.0.0/0` (for public web access).
        - Inbound Rule: Allow SSH (port 22) from your IP (for remote access).
3. Launch the instance and take note of its **public IP address**.



Step 2: Install MySQL on the MySQL Instance

1. Connect to the MySQL instance using SSH.

    ```
    ssh -i /path/to/your-key.pem ubuntu@<MYSQL_INSTANCE_PUBLIC_IP>
    ```

2. Update packages and install MySQL:

    ```
    sudo apt update
    sudo apt install mysql-server -y
    ```

3. Secure the MySQL installation:

    ```
    Copy code
    sudo mysql_secure_installation
    ```

4. Create a WordPress database and user:

    ```
    sudo mysql -u root -p

    CREATE DATABASE wordpress;
    CREATE USER 'wordpressuser'@'%' IDENTIFIED BY 'password';
    GRANT ALL PRIVILEGES ON wordpress.* TO 'wordpressuser'@'%';
    FLUSH PRIVILEGES;
    EXIT;
    ```

5. Configure MySQL to accept remote connections:

```
sudo nano /etc/mysql/mysql.conf.d/mysqld.cnf
```

   - Find the line `bind-address = 127.0.0.1` and change it to:

```
bind-address = 0.0.0.0
```

6. Restart MySQL:

```
sudo systemctl restart mysql
```

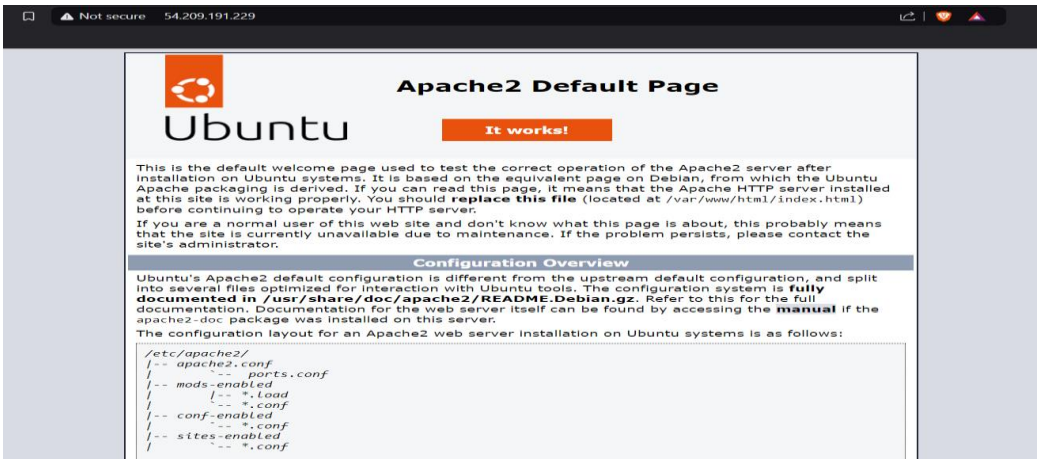
Step 3: Install WordPress on the WordPress Instance

1. Connect to the WordPress instance using SSH.

```
ssh -i /path/to/your-key.pem ubuntu@<WORDPRESS_INSTANCE_PUBLIC_IP>
```

2. Update packages and install necessary software:

```
sudo apt update
sudo apt install apache2 php php-mysql -y
```



3. Download and configure WordPress:

```
wget https://wordpress.org/latest.tar.gz
tar -xzf latest.tar.gz
sudo mv wordpress /var/www/html/
sudo chown -R www-data:www-data /var/www/html/wordpress
sudo chmod -R 755 /var/www/html/wordpress
```

4. Configure WordPress to connect to the MySQL database:

```
cd /var/www/html/wordpress
```

```
cp wp-config-sample.php wp-config.php
nano wp-config.php
```

- Update the database settings:

```
define('DB_NAME', 'wordpress');
define('DB_USER', 'wordpressuser');
define('DB_PASSWORD', 'password');
define('DB_HOST', '<MYSQL_INSTANCE_PRIVATE_IP>');
```

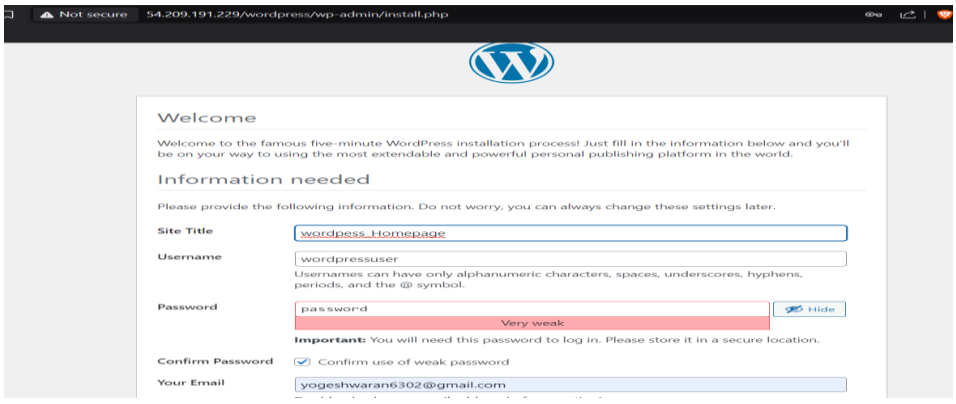
```
<?php
/**
 * The base configuration for WordPress
 *
 * The wp-config.php creation script uses this file during t
 * You don't have to use the website, you can copy this file
 * and fill in the values.
 *
 * This file contains the following configurations:
 *
 * * Database settings
 * * Secret keys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

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

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

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

5. Restart Apache:

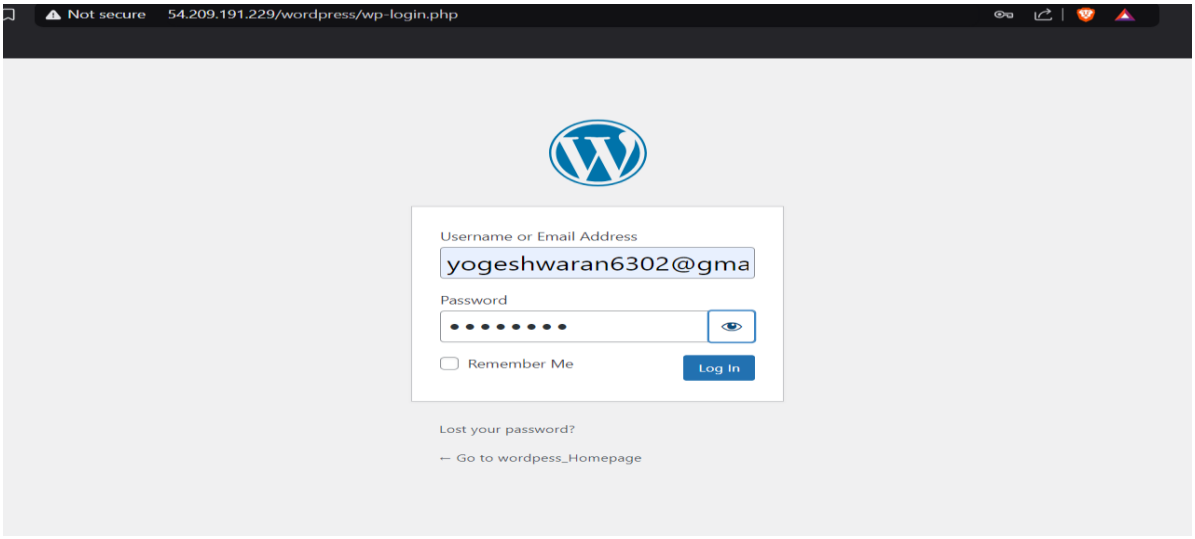
```
sudo systemctl restart apache2
```

Step 4: Set Up a WordPress Welcome Page

1. In a browser, navigate to the WordPress instance's public IP (e.g., http://<WORDPRESS_INSTANCE_PUBLIC_IP>/wordpress).
2. Complete the WordPress setup:
   - Select language, set up a site name, admin user, password, and email.

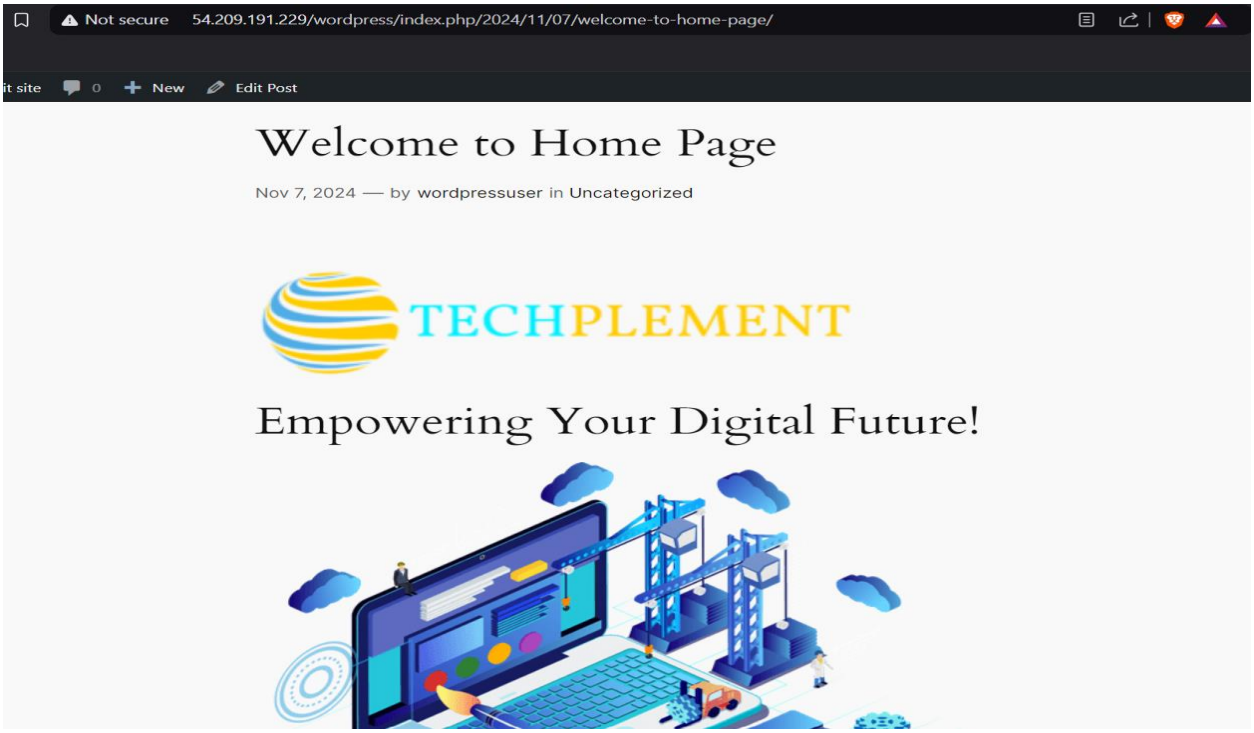


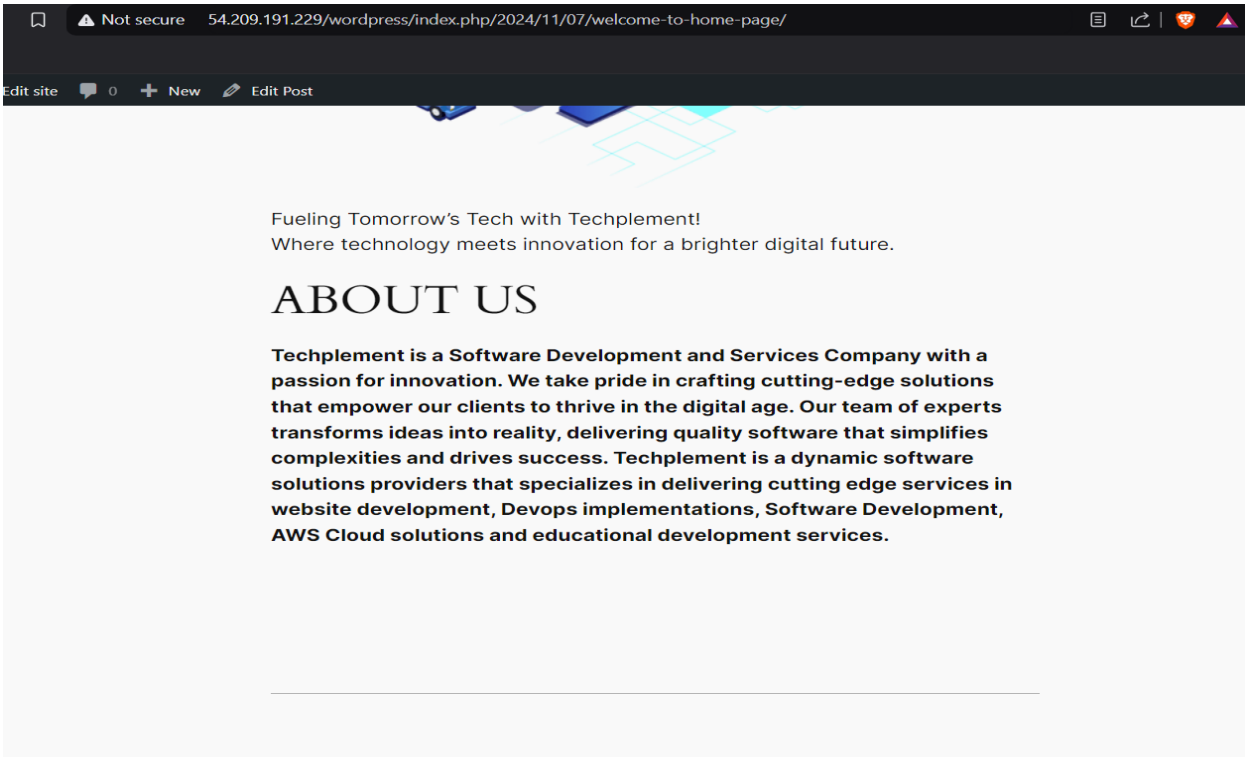
3. Log in to WordPress, go to **Pages → Add New**, create a page titled "Welcome" and add your desired content.



- Set the **Welcome Page** as the homepage:
  - Go to **Settings → Reading**.
  - Under **Your homepage displays**, select **A static page** and choose "Welcome" as the homepage.

- Save the changes.





- Access the public IP of the WordPress instance in your browser to confirm the homepage displays the Welcome page.
- Verify that WordPress can connect to the MySQL instance by checking for any errors.