

Cloud(AWS) Week 1 Task:

- ❖ **Prerequisites:** Create your free-tier AWS account.
- ❖ **Task:** Deploy application in monolithic and microservices architecture.
- ❖ **Description:** For monolithic : 1 EC2 instance, deploy wordpress and MYSQL on the same instances.

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.

Screenshots:

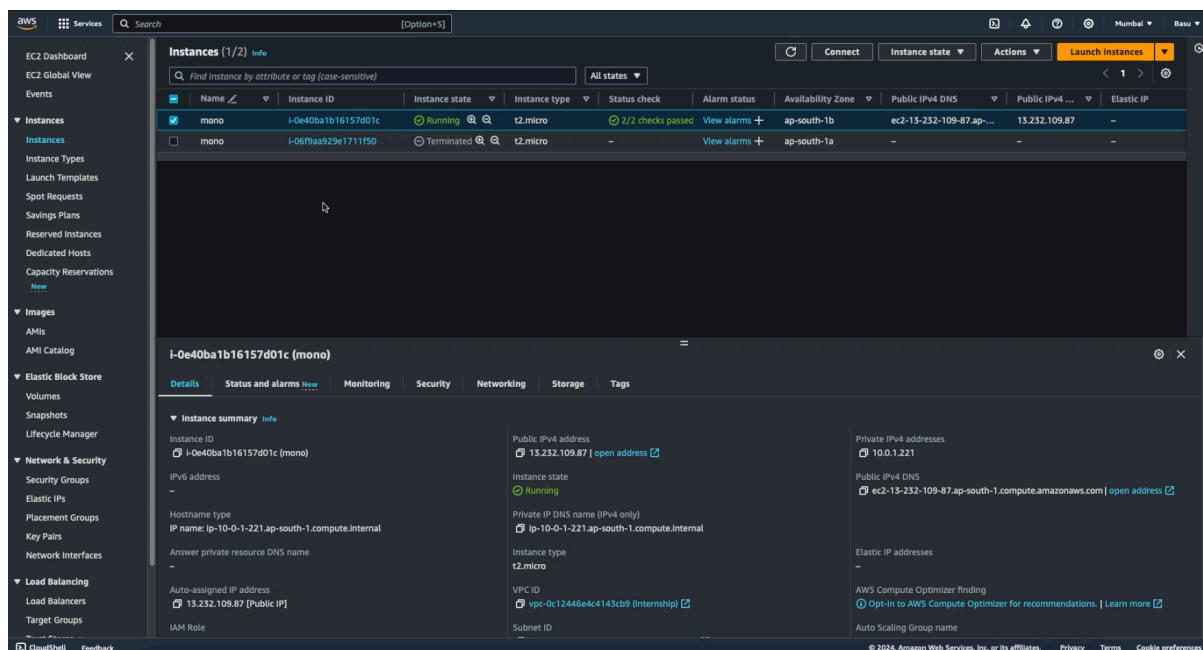
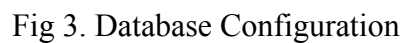
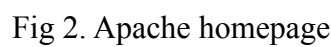


Fig 1. Monolithic Instance



```
ubuntu@ip-10-0-1-221: /var/www/html (B.0875)
cat 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 website, 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/documentation/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', 'database_name_here' );

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

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

/** Database hostname */
define( 'DB_HOST', 'localhost' );

/** 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}.
 *
 * You can change these at any point in time to invalidate all existing cookies.
 * This will force all users to have to log in again.
 *
 * @since 2.6.0
 */
define( 'AUTH_KEY', 'put your unique phrase here' );
define( 'SECURE_AUTH_KEY', 'put your unique phrase here' );
define( 'LOGGED_IN_KEY', 'put your unique phrase here' );
define( 'NONCE_KEY', 'put your unique phrase here' );
define( 'AUTH_SALT', 'put your unique phrase here' );
define( 'SECURE_AUTH_SALT', 'put your unique phrase here' );
define( 'LOGGED_IN_SALT', 'put your unique phrase here' );
define( 'NONCE_SALT', 'put your unique phrase here' );

/* That's all, stop editing! Happy blogging. */

/** Absolute path to the WordPress directory. */
if ( !defined( 'ABSPATH' ) ) {
    define( 'ABSPATH', dirname( __FILE__ ) . '/' );
}

/** Sets up WordPress vars and included files. */
require_once( ABSPATH . 'wp-settings.php' );
```

Fig 4. Php file configuration

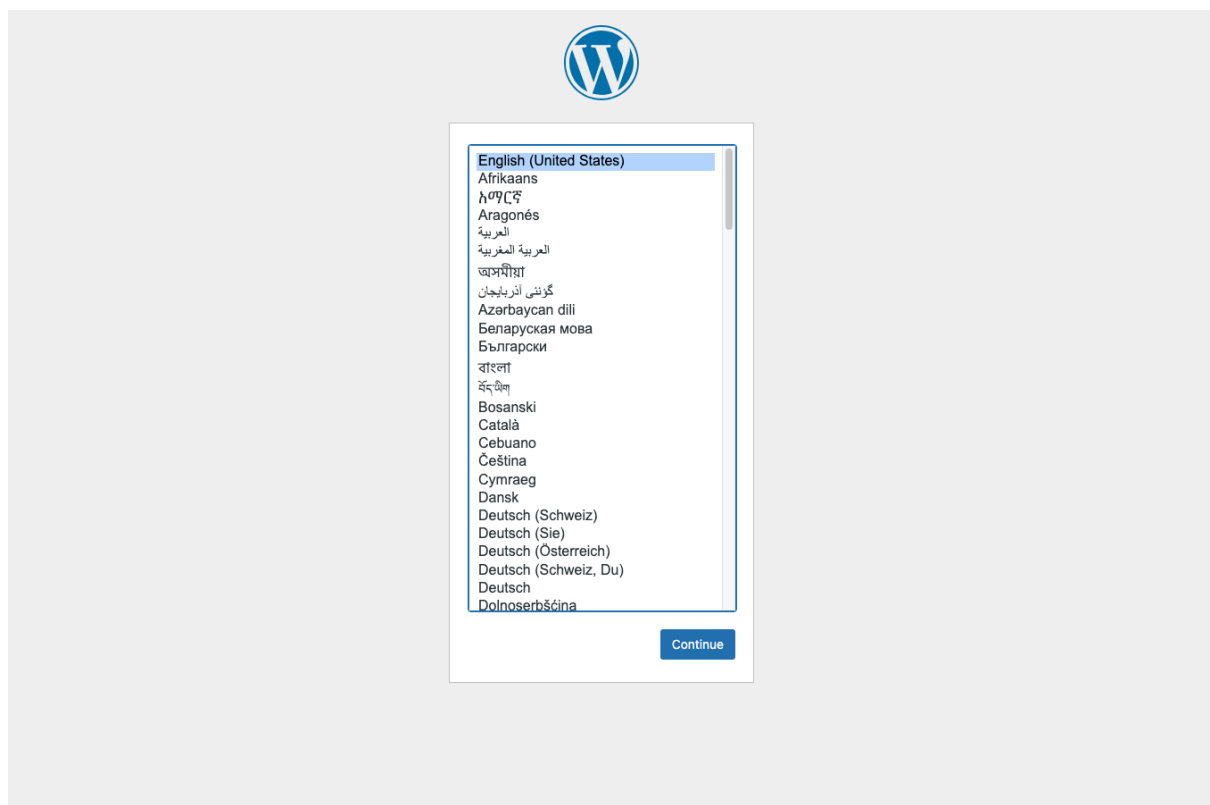



Fig 5. Wordpress Installation



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

internship

Username

cloud@intern

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

Password

Cloud108@intern

Hide

Medium

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

Your Email

simplelogin.daisy807@aleeas.com

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.

Install WordPress

Fig 6. Wordpress installation

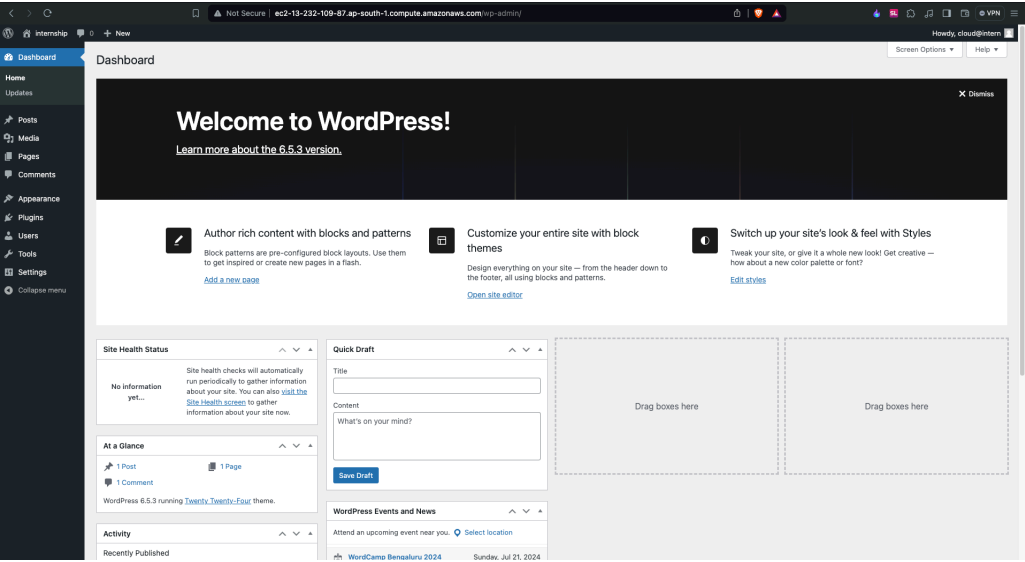


Fig 7. Stepup processes

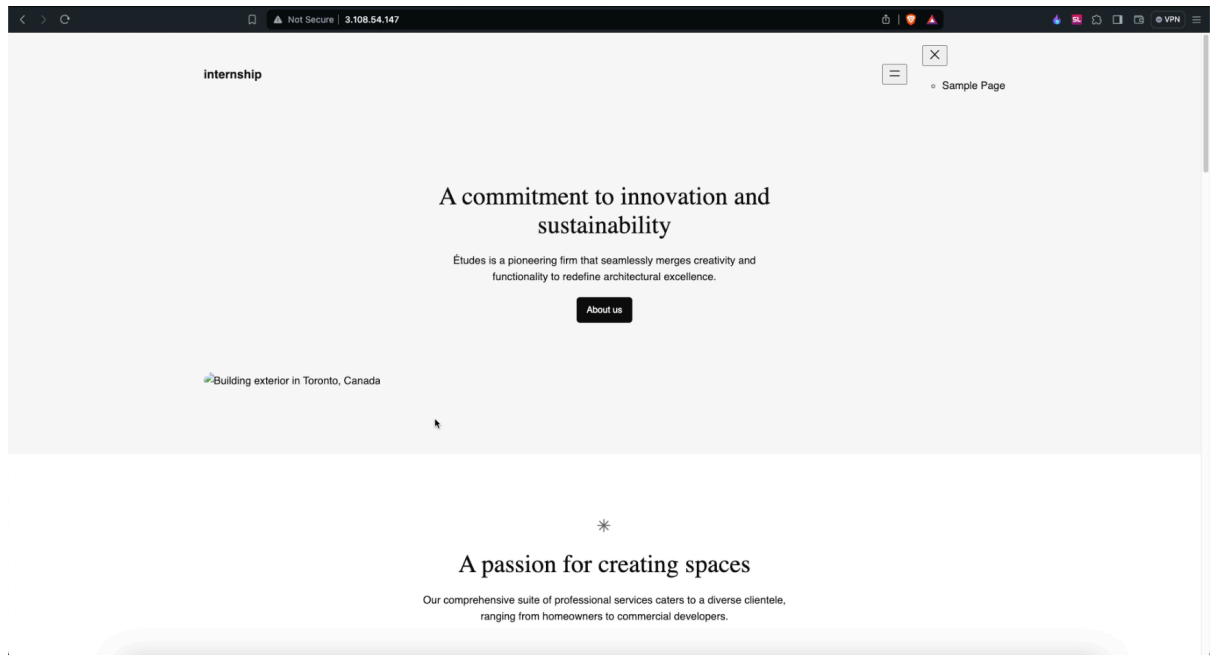


Fig 8. Welcome page

Commands Used:

1. `sudo apt update`
2. `sudo apt install php libapache2-mod-php php-mysql php-redis`
3. `sudo apt install php-curl php-gd php-mbstring php-xml php-xmlrpc php-soap php-intl php-zip`
4. `sudo apt install apache2`
5. `sudo apt install mysql-server`
6. `sudo systemctl enable apache2 mysql`
7. `wget http://wordpress.org/latest.tar.gz`
8. `sudo tar -xzf latest.tar.gz`
9. `sudo mysql_secure_installation`
10. `sudo cp -r wordpress/* /var/www/html`
11. `cd /var/www/html`
12. `sudo chown -R www-data:www-data /var/www/html/`
13. `ls`
14. `sudo rm -rf index.html`
15. `cd`
16. `sudo mysql -u root -p`
17. `sudo cp /var/www/html/wp-config-sample.php /var/www/html/wp-config.php`
18. `sudo nano /var/www/html/wp-config.php`

Microservices:

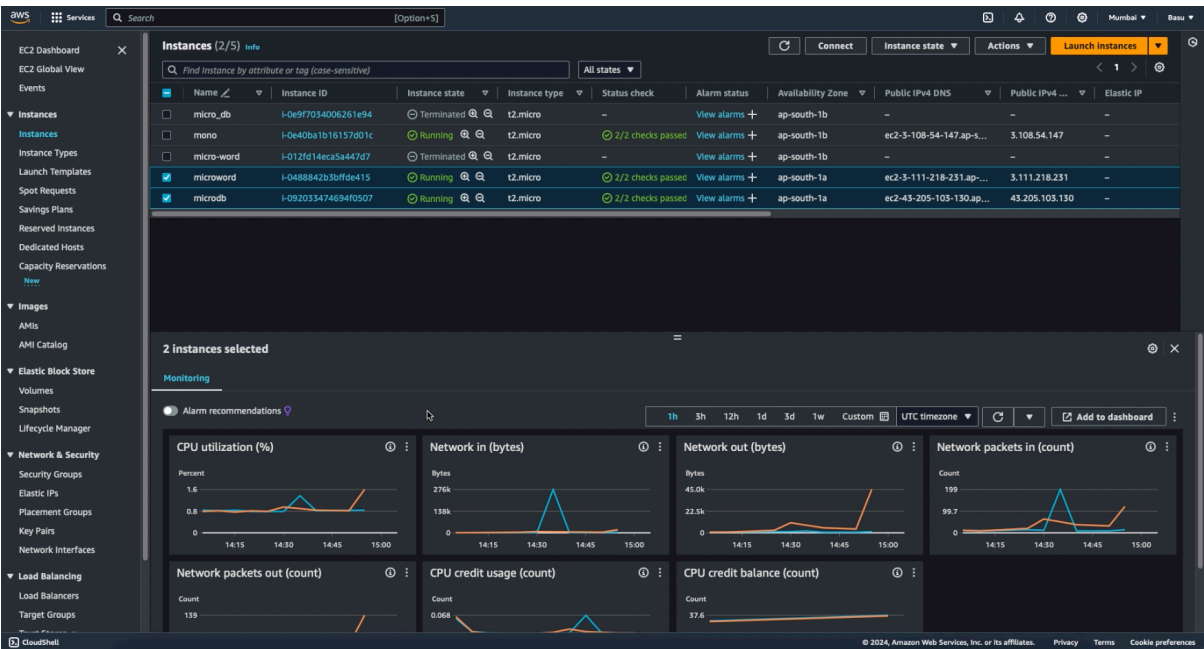


Fig 9. Microservices instances

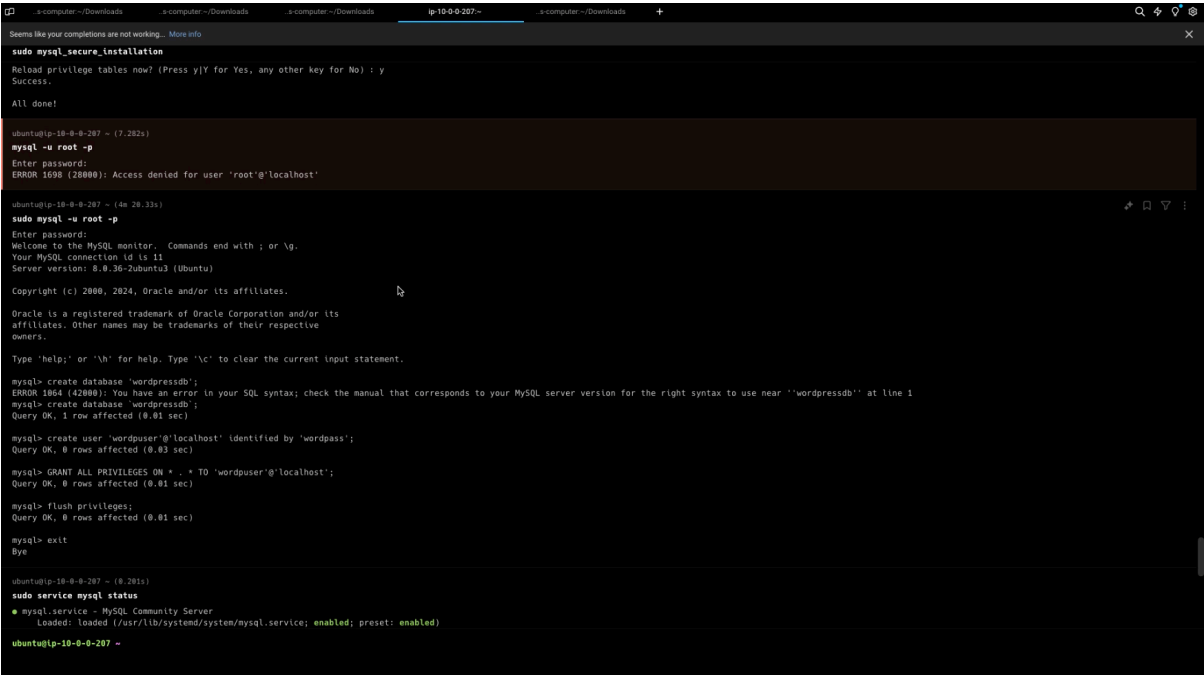


Fig 10. MicroDB setup

```
ubuntu@ip-10-0-0-55: /var/www/html (0.296s)
cat 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', 'wordpressdb' );

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

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

/** Database hostname */
define( 'DB_HOST', '10.0.0.287' );

/** 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}.
 *
 * You can change these at any point in time to invalidate all existing cookies.
 * This will force all users to have to log in again.
 *
 * @since 2.6.0
 */
define( 'AUTH_KEY',         'put your unique phrase here' );
define( 'SECURE_AUTH_KEY',  'put your unique phrase here' );
define( 'LOGGED_IN_KEY',    'put your unique phrase here' );
define( 'NONCE_KEY',        'put your unique phrase here' );
define( 'AUTH_SALT',        'put your unique phrase here' );
define( 'SECURE_AUTH_SALT', 'put your unique phrase here' );
define( 'LOGGED_IN_SALT',   'put your unique phrase here' );
define( 'NONCE_SALT',       'put your unique phrase here' );

/**#@-*/

/**
 * WordPress database table prefix.
 *
 * You can have multiple installations in one database if you give each
 * a unique prefix. Only numbers, letters, and underscores please!
 */
```

Fig 11. Php file setup in microword instance

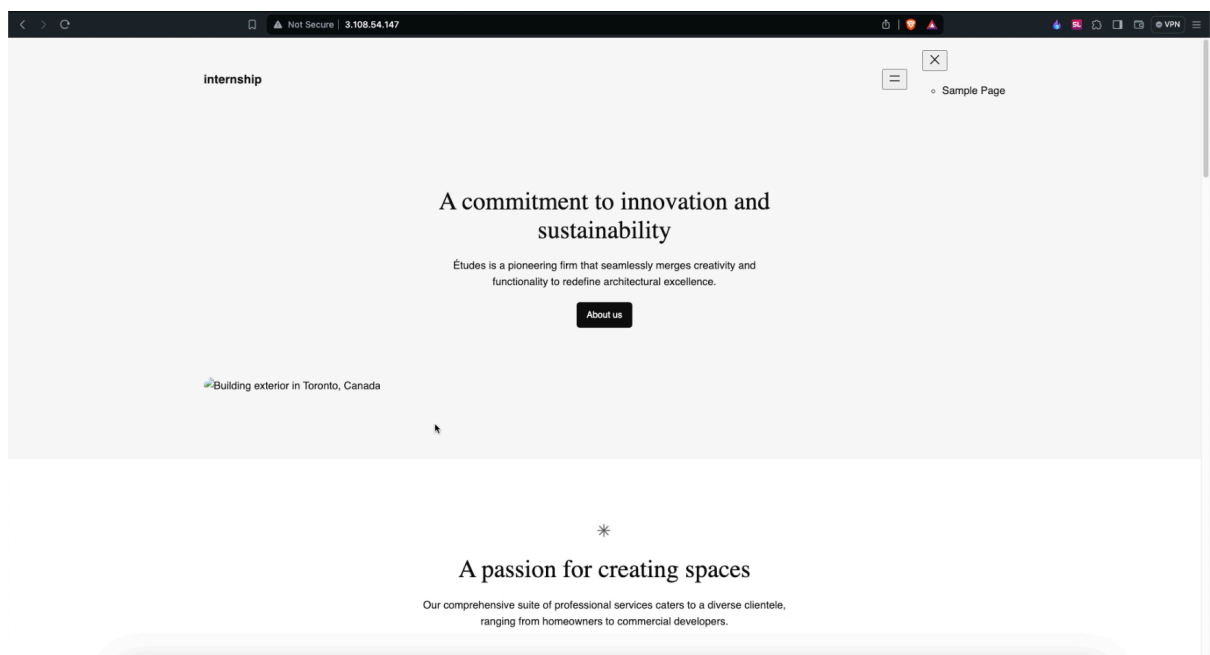


Fig 12. Front page of microservices

Commands Used:

For MicroDB:

1. `sudo apt update`
2. `sudo apt install apache2`
3. `sudo apt install mysql-server -y`
4. `sudo mysql_secure_installation`
5. `sudo systemctl enable apache2 mysql`
6. `sudo mysql_secure_installation`
7. `sudo mysql -u root -p`
8. `sudo service mysql status`

For MicroWord:

1. `sudo apt update`
2. `sudo apt install apache2 mysql-server mysql-client php libapache2-mod-php php-mysql -y`
3. `sudo systemctl enable apache2 mysql`
4. `cd /var/www/html/`
5. `wget http://wordpress.org/latest.tar.gz`
6. `sudo tar -xzf latest.tar.gz`
7. `sudo cp -r wordpress/* /var/www/html/`
8. `cd /var/www/html/`
9. `sudo chown -R www-data:www-data /var/www/html/`
10. `sudo rm -rf index.html`
11. `sudo cp /var/www/html/wp-config-sample.php /var/www/html/wp-config.php`
12. `sudo nano /var/www/html/wp-config.php`