

- **For monolithic:- Create an instance and deploy Wordpress and MYSQL within the same instance.**

Our first step is to create Ubuntu Ec2 Instance on Amazon Cloud (AWS)

Steps to create instance on AWS:

1. Sign in to the AWS Management Console and open the Amazon EC2 console at <https://console.aws.amazon.com/ec2/>.

Verify that the appropriate Region is selected.

2. Choose Launch Instance.

Complete the following fields:

- a. **Name** – Type a name for the instance.
 - b. **Application and OS Images (Amazon Machine Image)** – Select Ubuntu.
 - c. **Instance type** – Select t2.micro
 - d. **Key pair login** – Create your own key pair.
 - e. **Network settings** – Keep the default(allow SSH, HTTP and HTTPS)
 - f. **Configure storage** – Increase the volume to 256 GiB.
 - g. **Advanced settings** – Keep the default.
3. Launch the instance and SSH into it.

Do the following:

- a. Select Instances in the left navigation, then select the instance ID.
- b. Choose Connect in the top-right.
- c. Choose SSH client and follow the instructions on the screen.
- d. Open a terminal and navigate to the downloaded .pem file (likely in `~/Downloads`).
- e. The first time you follow these procedures, you will receive the message "The authenticity of host (...) can't be established." Type yes.

This is how you can create an instance and login into it using SSH.

Now our very next step is to write the commands to install wordpress and mysql on same instance. And those commands are as below:

1. Install Apache server on Ubuntu
`apt install apache2`

2. Install php runtime and php mysql connector
`apt install php libapache2-mod-php php-mysql`

3. Install MySQL server
`apt install mysql-server`

4. Login to MySQL server
`sudo mysql -u root`

5. Change authentication plugin to `mysql_native_password` (change the password to something strong)
`ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password by 'Newpassword@14';`

6. Create a new database user for wordpress (change the password to something strong)
`CREATE USER 'wp_user'@localhost IDENTIFIED BY 'Newpassword@14';`

7. Create a database for wordpress
`CREATE DATABASE wp;`

8. Grant all privileges on the database 'wp' to the newly created user
`GRANT ALL PRIVILEGES ON wp.* TO 'wp_user'@localhost;`

9. Download wordpress
`cd /tmp`
`wget https://wordpress.org/latest.tar.gz`

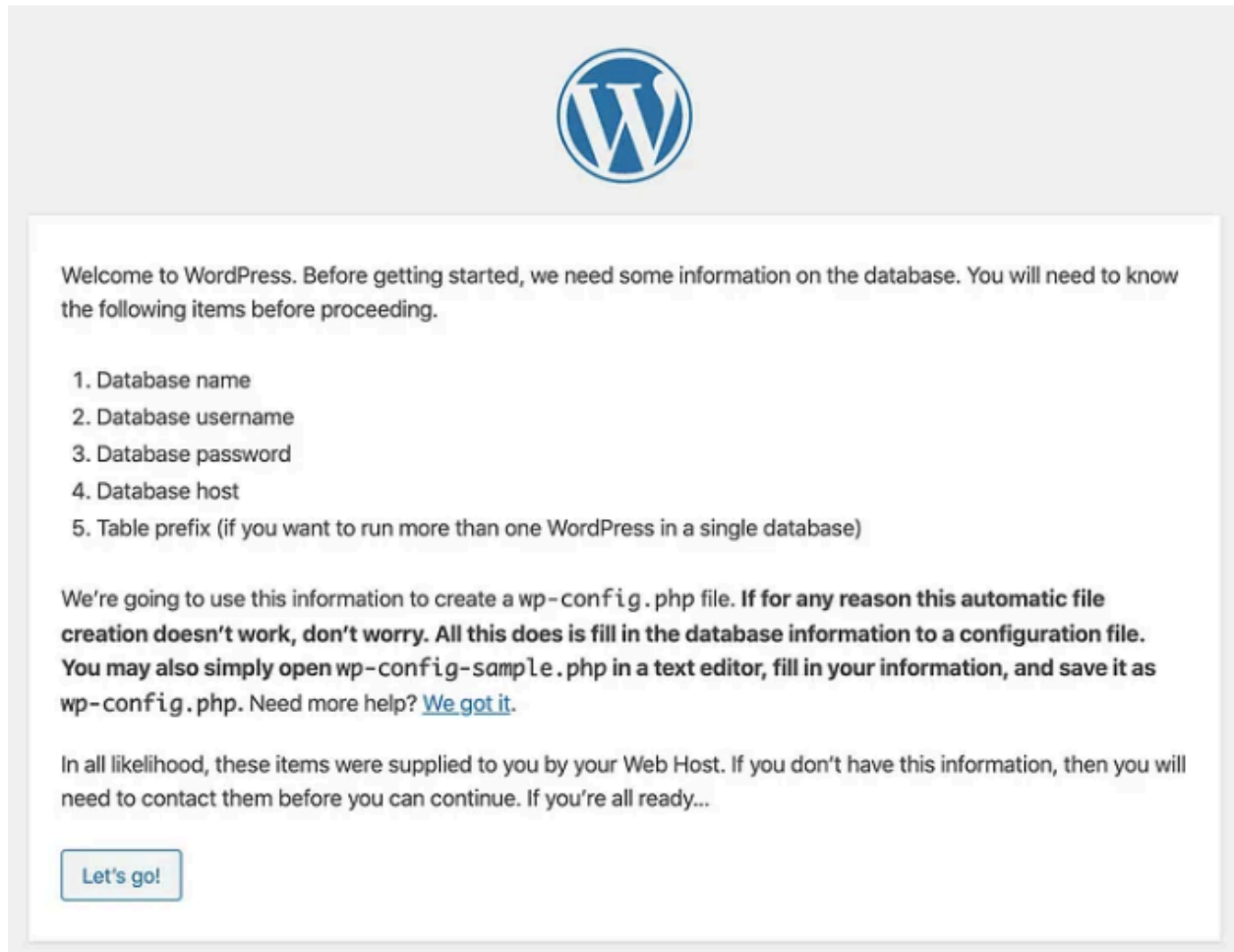
10. Unzip
`tar -xvf latest.tar.gz`

11. Move wordpress folder to apache document root
`sudo mv wordpress/ /var/www/html`

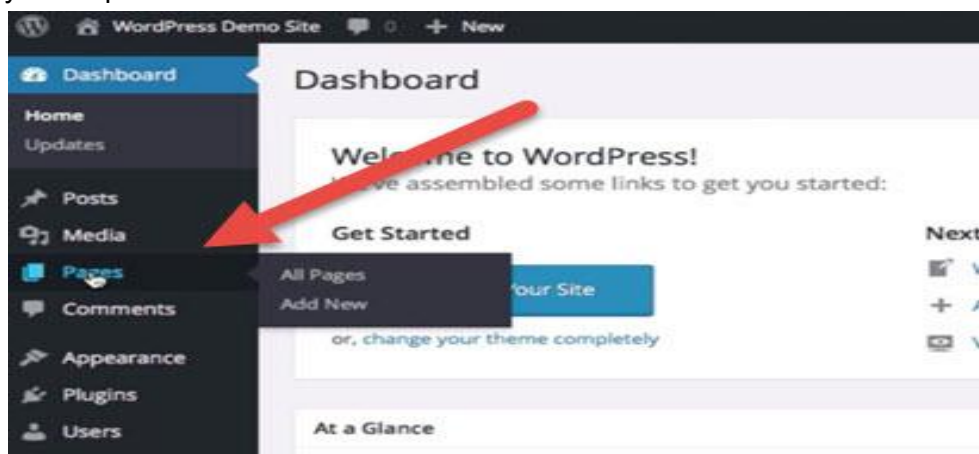
12. Now change directory to wordpress create a nano file `wp-config.php`
`cd wordpress/`

13. Create a nano file `wp-config.php` and paste the code in the nano file
`nano wp-config.php`

If you're now typing your IP address of the instance in your browser, you should see the WordPress installation guide.



Now click on "Let's go!". And now add your user name and password and you can create your own welcome page on wordpress. Now here you can create any web applications according to your requirements.



This is how your page will look like and by pressing on pages you can create your own web pages and can make your welcome page.

- **For microservices:- Create two instances using AML: Ubuntu one for Wordpress and one for MYSQL. Configure the necessary security groups and create a welcome page in wordpress.**

In these instances we will first create two ubuntu instances one for MYSQL and one for Wordpress. As i have already mentioned the whole process of launching the instances earlier. Now I will directly take you to the command line interface from where we will deploy Wordpress and MYSQL on particular instances.

We have to change the security rules while making instances.

For MYSQL instance edit the network settings. Just allow SSH(port 22) and MYSQL/Aurora(3306).

For Wordpress instance edit the network settings. Just allow SSH(port 22) and HTTP(80).

Now after these changes just launch your instance and connect those instances using SSH. After connecting those instances now we have to write the code for each instance.

- **For MYSQL instance:** 1. Install Apache server on Ubuntu

```
apt install apache2
```

- 2. Install php runtime and php mysql connector

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

- 3. Install MySQL server

```
apt install mysql-server mysql-client
```

- 4. Login to MySQL server

```
sudo mysql -u root
```

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

```
ALTER USER 'root'@'%' IDENTIFIED WITH mysql_native_password by 'Newpassword@123';
```

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

```
CREATE USER 'wp_user'@localhost IDENTIFIED BY 'Newpassword@123';
```

7. Create a database for wordpress

```
CREATE DATABASE wp;
```

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

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

9. Configure MySQL (if necessary):

You might need to configure MySQL to allow remote connections if you plan to connect to MySQL from a client outside of your EC2 instance. Edit the MySQL configuration file:

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

10. Find the line that says bind-address and change its value to the private IP address of your EC2 instance or 0.0.0.0 to allow connections from any IP address.

Save the file and exit.

Restart MySQL service to apply changes:

```
sudo systemctl restart mysql
```

11. To know the private IP of your MySQL instance just type

```
curl ifconfig.me
```

Now this IP will be used when we install wordpress.

You now have MySQL installed and running on your Ubuntu instance in AWS. Make sure to properly configure security groups to control access to your MySQL server.

- **For Wordpress instance:** 1. Install Apache server on Ubuntu

```
apt install apache2
```

2. Install php runtime and php mysql connector

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

3. Download and Configure WordPress (Download the latest version of Wordpress)

```
cd /tmp
```

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

4. Extract the downloaded archive:

```
tar xzvf latest.tar.gz
```

5. Move WordPress files to Apache's root directory:

```
sudo mv wordpress/* /var/www/html/
```

6. Set appropriate permissions:

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

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

7. Configure wordpress:

```
sudo mv /var/www/html/wp-config-sample.php /var/www/html/wp-config.php
```

8. Edit the configuration file:

```
sudo nano /var/www/html/wp-config.php
```

Update the database details (DB_NAME, DB_USER, DB_PASSWORD) with the details you set up earlier.

9. Restart apache

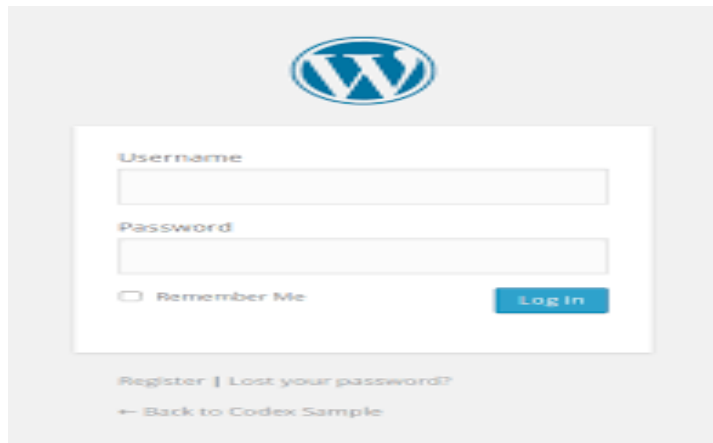
```
sudo systemctl restart apache2
```

Complete WordPress Installation:

Open your web browser and navigate to your EC2 instance's public IP address.

Follow the WordPress installation prompts, providing the requested information.

This is how your wordpress login page looks like

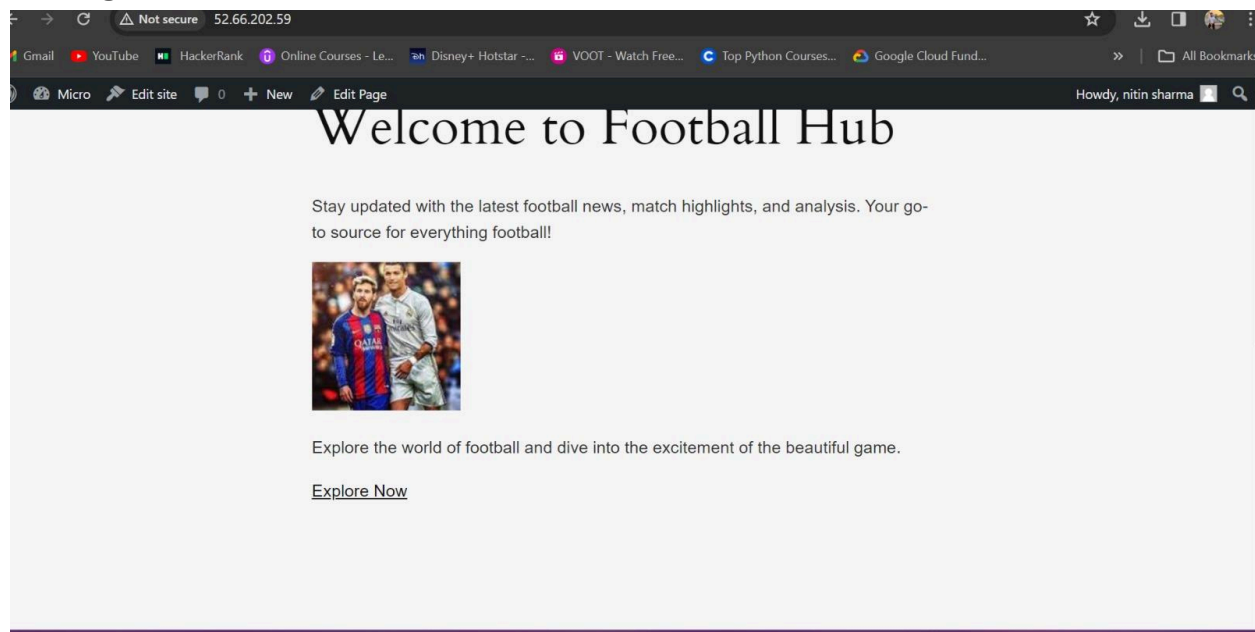


One thing you need to remember is the IP address we got after using command `curl ifconfig.me` in the sql server. Enter this IP in the Database Host.

Below you should enter your database connection details. If you're not sure about these, contact your host.

Database Name	<input type="text" value="demo"/>	The name of the database you want to run WP in.
User Name	<input type="text" value="joe"/>	Your MySQL username
Password	<input type="password" value="*****"/>	...and your MySQL password.
Database Host	<input type="text" value="localhost"/>	You should be able to get this info from your web host, if localhost doesn't work.
Table Prefix	<input type="text" value="wp_"/>	If you want to run multiple WordPress installations in a single database, change this.

Below image is the result of how your welcome page will look like after editing



Thankyou

