Deploying a WordPress Server on AWS (Ubuntu EC2)

ASWIN VTK

1. Introduction

WordPress is one of the most popular open-source Content Management Systems (CMS) used to create websites and blogs.
In this mini project, we deploy **WordPress on an AWS EC2 instance using Ubuntu**, following industry-standard practices.

This project demonstrates:

- AWS EC2 provisioning
- LAMP stack installation
- Database configuration
- Secure WordPress deployment

Reference guide used: DigitalOcean WordPress on Ubuntu tutorial
(Implementation adapted for AWS environment)

---

2. Project Architecture

Components Used

- **Amazon Web Services (AWS)**
- EC2 (Ubuntu Server 22.04)
- Apache Web Server
- MySQL Database Server
- PHP
- WordPress CMS
- Security Group (Firewall)

---

3. Prerequisites

Before starting, ensure you have:

- An AWS account
- Basic Linux commands knowledge
- SSH client (Terminal / Git Bash / PuTTY)
- Key Pair (.pem file)

---

4. Step 1: Launch an EC2 Instance

4.1 Create EC2 Instance

1. Login to AWS Console
2. Navigate to **EC2 → Launch Instance**
3. Configure:
    - **Name:** wordpress-server
    - **AMI:** Ubuntu Server 22.04 LTS
    - **Instance Type:** t2.micro (Free Tier)
    - **Key Pair:** Create or select existing
    - **Network:** Default VPC

4.2 Configure Security Group

Allow the following inbound rules:

Type	Port	Source
SSH	22	My IP
HTTP	80	Anywhere

5. Install WordPress on Ubuntu

Before we begin, let's update and upgrade the system. Login as the root user to your system and update the system to update the repositories.

```
apt update && apt upgrade
```

Next, we are going to install the LAMP stack for WordPress to function. LAMP is short for Linux Apache MySQL and PHP.

Step 1: Install Apache

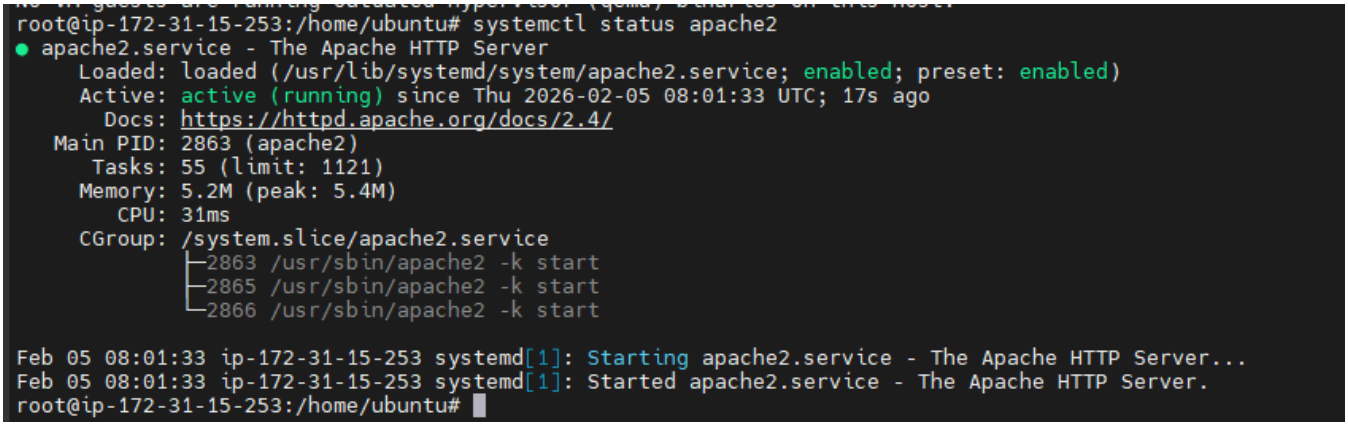
Let's jump right in and install Apache first. To do this, execute the following command.

```
apt install apache2
```

To confirm that Apache is installed on your system, execute the following command.

```
systemctl status apache2
```

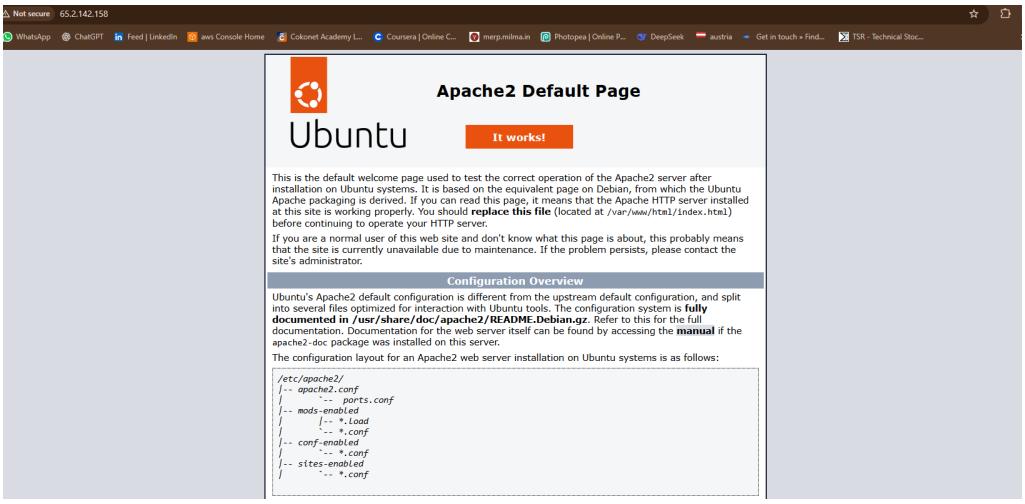
Output



To verify further, open your browser and go to your server's IP address.

https://ip-address

Output



Step 2: Install MySQL

Next, we are going to install the MariaDB database engine to hold our Wordpress files. MariaDB is an open-source fork of MySQL and most of the hosting companies use it instead of MySQL.

```
apt install mariadb-server mariadb-client
```

Let’s now secure our MariaDB database engine and disallow remote root login.

```
mysql_secure_installation
```

The first step will prompt you to change the root password to login to the database. You can opt to change it or skip if you are convinced that you have a strong password. To skip changing type n

Follow the steps and give Y/N

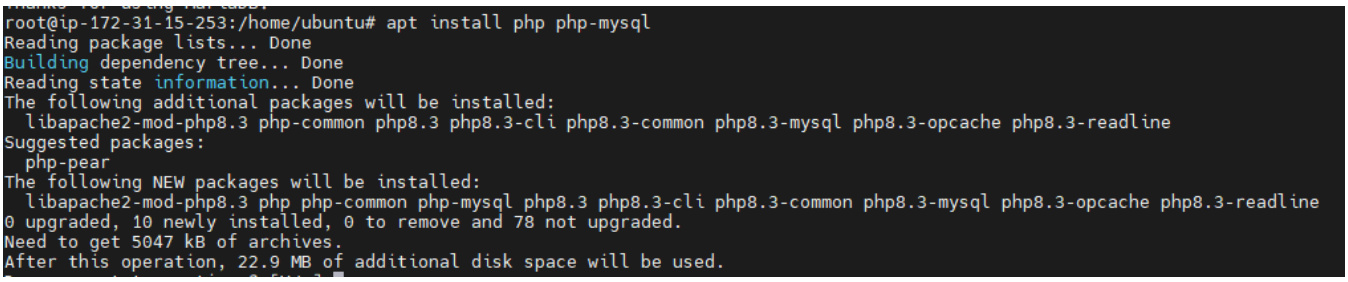
```
Enter current password for root (enter for none):
OK, successfully used password, moving on...

Setting the root password or using the unix_socket ensures that nobody
can log into the MariaDB root user without the proper authorisation.

You already have your root account protected, so you can safely answer 'n'

Switch to unix_socket authentication [Y/n] y
Enabled successfully!
Reloading privilege tables..
 ... Success!


You already have your root account protected, so you can safely answer 'n'

Change the root password? [Y/n] y
New password:
Re-enter new password:
Password updated successfully!
Reloading privilege tables..
 ... Success!


By default, a MariaDB installation has an anonymous user, allowing anyone
to log into MariaDB without having to have a user account created for
them.  This is intended only for testing, and to make the installation
go a bit smoother.  You should remove them before moving into a
production environment.

Remove anonymous users? [Y/n] y
 ... Success!

Normally, root should only be allowed to connect from 'localhost'.  This
ensures that someone cannot guess at the root password from the network.

Disallow root login remotely? [Y/n] y
 ... Success!

By default, MariaDB comes with a database named 'test' that anyone can
access.  This is also intended only for testing, and should be removed
before moving into a production environment.

Remove test database and access to it? [Y/n] y
 - Dropping test database...
 ... Success!
 - Removing privileges on test database...
 ... Success!

Reloading the privilege tables will ensure that all changes made so far
will take effect immediately.

Reload privilege tables now? [Y/n] y
 ... Success!

Cleaning up...
```

Step 3: Install PHP

Lastly, we will install PHP as the last component of the LAMP stack.

```
apt install php php-mysql
```

Output



To confirm that PHP is installed ,

created a info.php file at /var/www/html/ path

```
vim /var/www/html/info.php
```

Append the following lines:

```
<?php
phpinfo();
?>
```

Save and Exit. Open your browser and append /info.php to the server's URL.

https://ip-address/info.php

Output:

Step 4: Create WordPress Database

Now it’s time to log in to our MariaDB database as root and create a database for accommodating our WordPress data.

```
mysql -u root -p
```

Output

```
root@wordpress:~# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 2
Server version: 10.1.37-MariaDB-0+deb9u1 Debian 9.6

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]>
```

Create a database for our WordPress installation.

```
CREATE DATABASE wordpress_db;
```

Next, create a database user for our WordPress setup.

```
CREATE USER 'wp_user'@'localhost' IDENTIFIED BY 'password';
```

Grant privileges to the user Next, grant the user permissions to access the database

```
GRANT ALL ON wordpress_db.* TO 'wp_user'@'localhost' IDENTIFIED BY 'password';
```

Great, now you can exit the database.

```
FLUSH PRIVILEGES;
```

Output

```
MariaDB [(none)]> CREATE DATABASE wordpress_db;
Query OK, 1 row affected (0.001 sec)

MariaDB [(none)]> CREATE USER 'wp_user'@'localhost' IDENTIFIED BY 'password';
Query OK, 0 rows affected (0.001 sec)

MariaDB [(none)]> GRANT ALL ON wordpress_db.* TO 'wp_user'@'localhost' IDENTIFIED BY 'password';
Query OK, 0 rows affected (0.002 sec)

MariaDB [(none)]> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.000 sec)

MariaDB [(none)]>
MariaDB [(none)]> Exit;
Bye
root@ip-172-31-15-253:/home/ubuntu#
```

Exit;

Step 5: Install WordPress CMS

Go to your temp directory and download the latest WordPress File

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

Output

```
root@ip-172-31-15-253:/home/ubuntu# cd /tmp && wget https://wordpress.org/latest.tar.gz
--2026-02-05 08:10:42--  https://wordpress.org/latest.tar.gz
Resolving wordpress.org (wordpress.org)... 198.143.164.252, 2607:f978:5:8002::c68f:a4fc
Connecting to wordpress.org (wordpress.org)|198.143.164.252|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 27062929 (26M) [application/octet-stream]
Saving to: 'latest.tar.gz'

latest.tar.gz                                   100%[=============================================================================================

2026-02-05 08:10:48 (5.28 MB/s) - 'latest.tar.gz' saved [27062929/27062929]

root@ip-172-31-15-253:/tmp#
```

Next, Uncompress the tarball which will generate a folder called “wordpress”.

```
tar -xvf latest.tar.gz
```

Output

```
root@wordpress:~# tar -xvf latest.tar.gz
wordpress/
wordpress/xmlrpc.php
wordpress/wp-blog-header.php
wordpress/readme.html
wordpress/wp-signup.php
wordpress/index.php
wordpress/wp-cron.php
wordpress/wp-config-sample.php
wordpress/wp-login.php
wordpress/wp-settings.php
wordpress/license.txt
wordpress/wp-content/
wordpress/wp-content/themes/
wordpress/wp-content/themes/twentynineteen/
wordpress/wp-content/themes/twentynineteen/footer.php
wordpress/wp-content/themes/twentynineteen/template-parts/
wordpress/wp-content/themes/twentynineteen/template-parts/content/
wordpress/wp-content/themes/twentynineteen/template-parts/content/content-excerpt.php
```

copy the wordpress folder to /var/www/html/ path.

```
cp -R wordpress /var/www/html/
```

Run the command below to change ownership of ‘wordpress’ directory.

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

change File permissions of the WordPress folder.

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

Create ‘uploads’ directory.s

```
mkdir /var/www/html/wordpress/wp-content/uploads
```

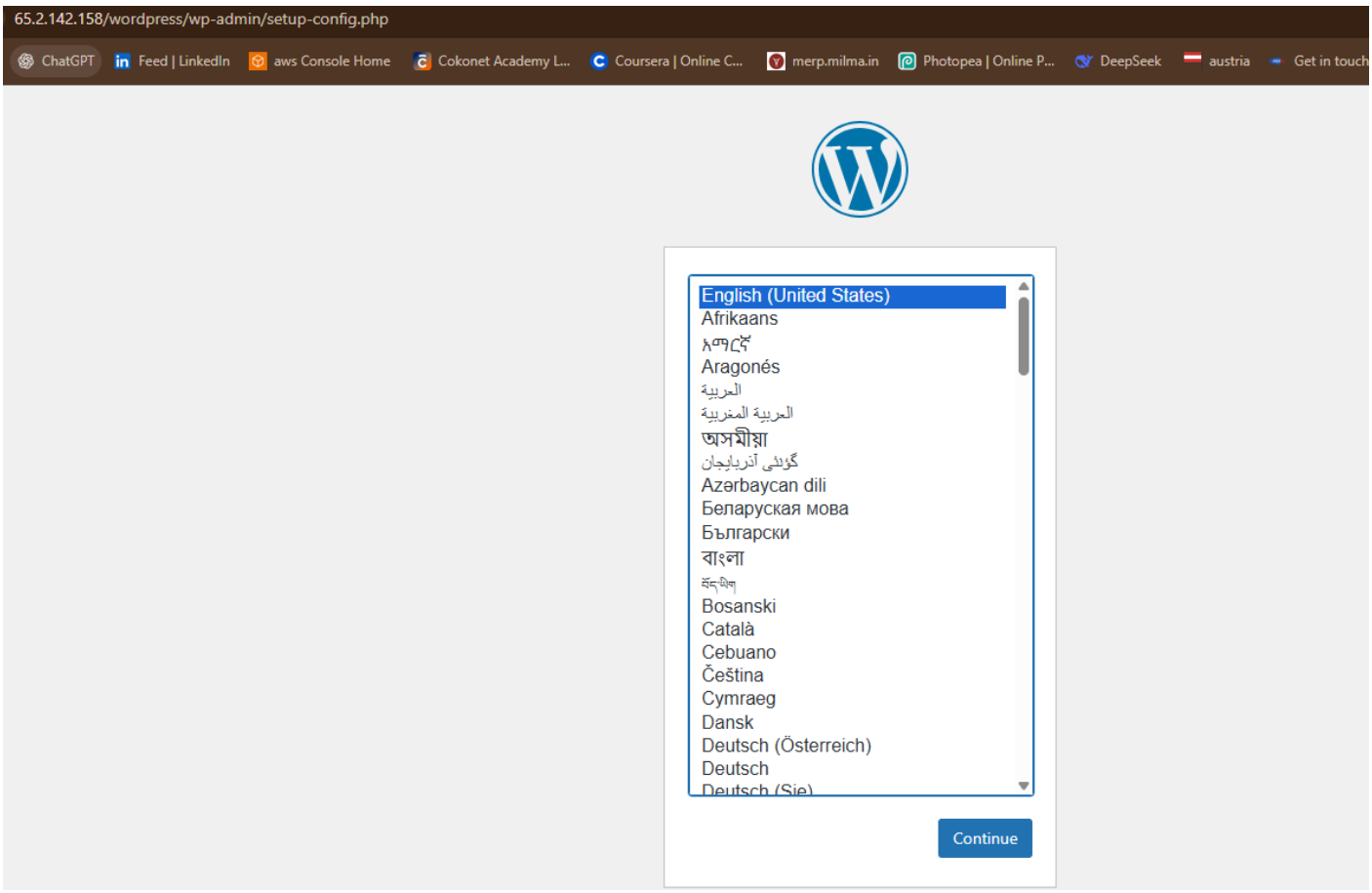
Finally, change permissions of ‘uploads’ directory.

```
chown -R www-data:www-data /var/www/html/wordpress/wp-content/uploads/
```

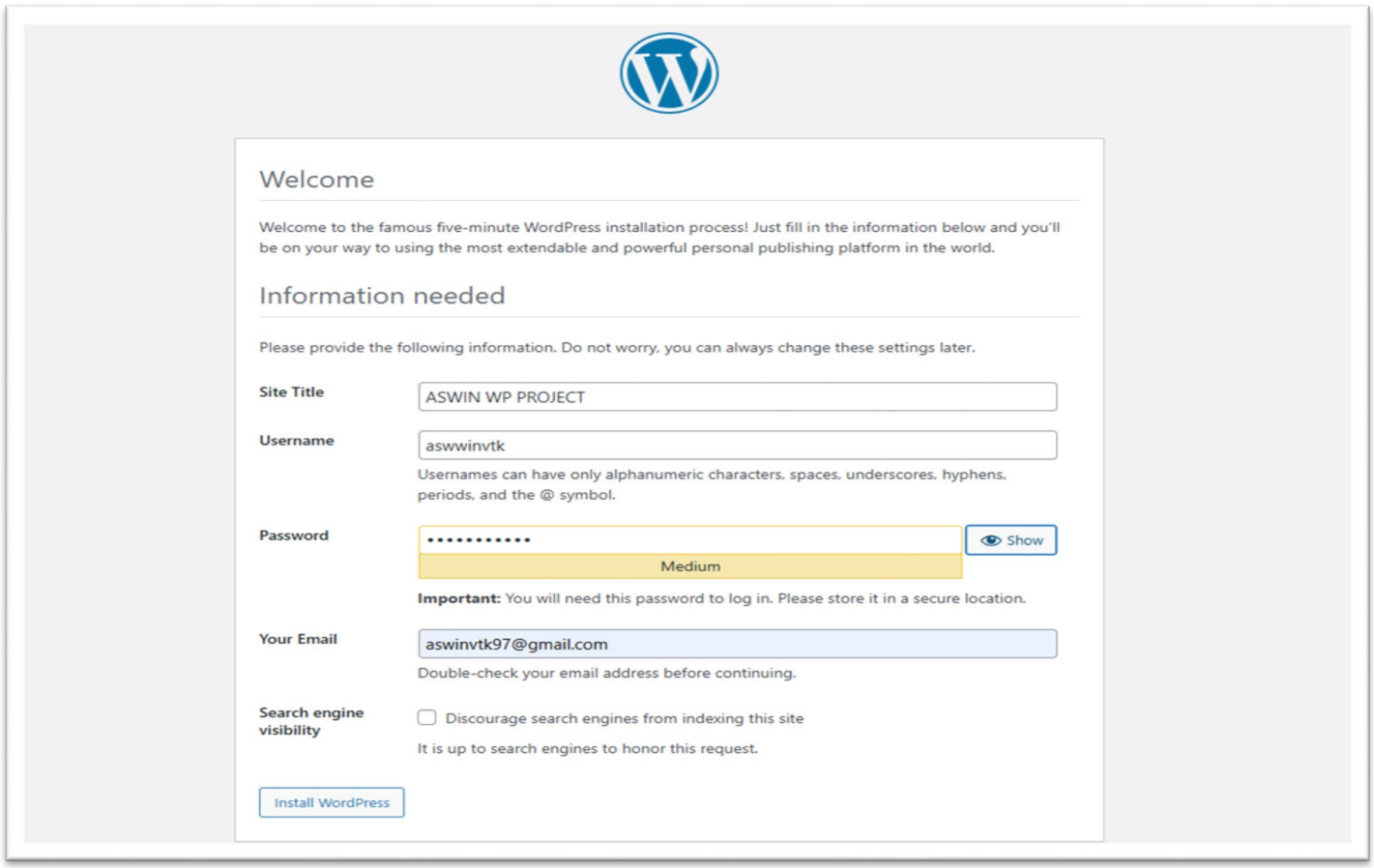
Open your browser and go to the server’s URL. In my case it’s

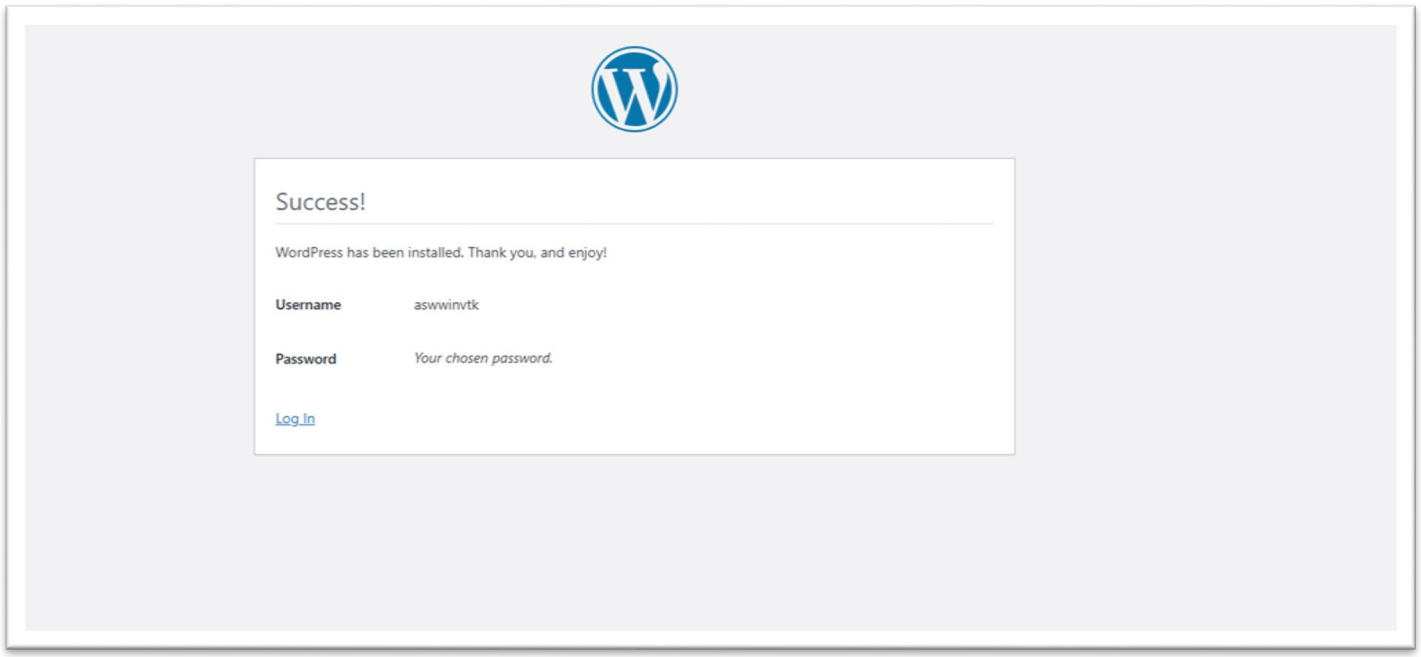
https://server-ip/wordpress

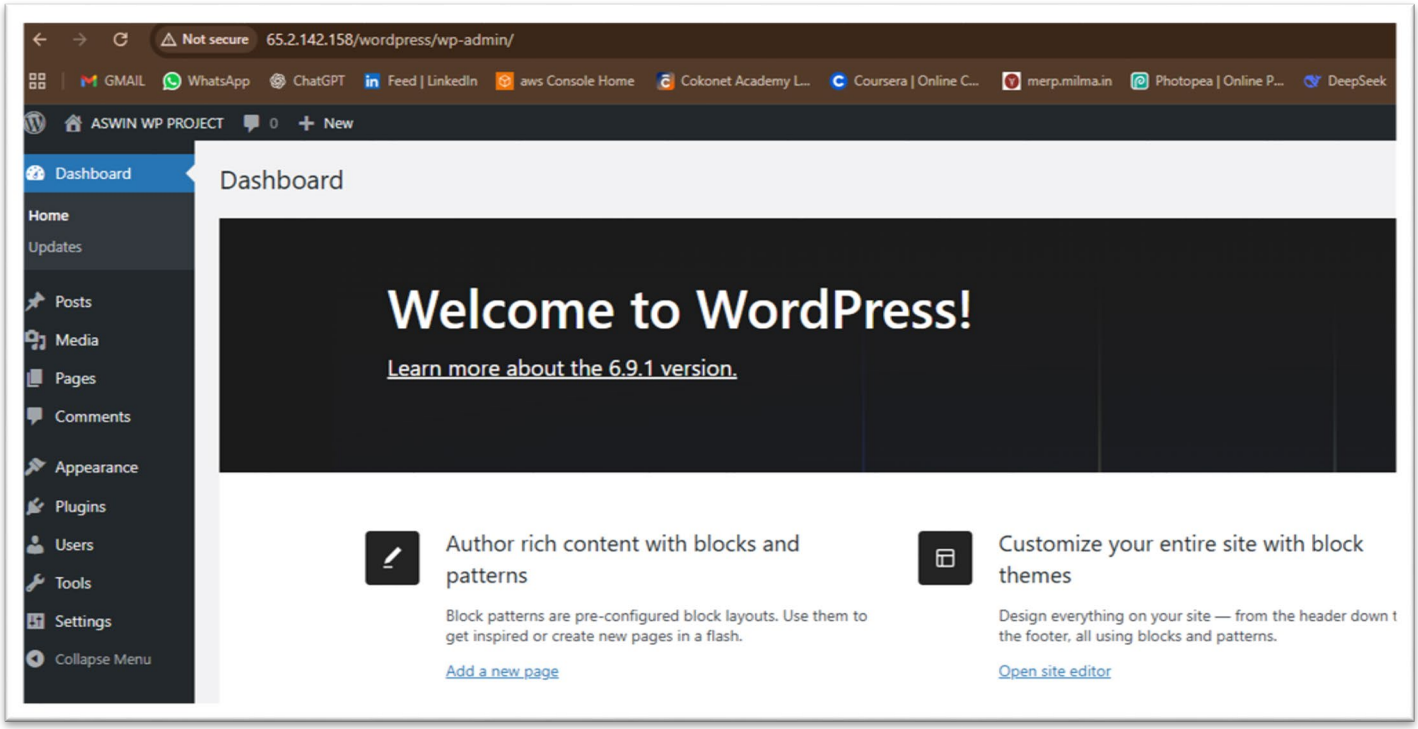
You’ll be presented with a WordPress wizard and a list of credentials required to successfully set it up.




Below you should enter your database connection details. If you're not sure about these, contact your host.
Database Name
wordpress_db
The name of the database you want to use with WordPress.
Username
wp_user
Your database username.
Password
password
Your database password.
Database Host
localhost
You should be able to get this info from your web host, if localhost doesn't work.
Table Prefix
wp_
If you want to run multiple WordPress installations in a single database, change this.
Submit


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
ASWIN WP PROJECT
Username
aswwinvtk
Usernames can have only alphanumeric characters, spaces, underscores, hyphens, periods, and the @ symbol.
Password
Show
Medium
Important: You will need this password to log in. Please store it in a secure location.
Your Email
aswinvtk97@gmail.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


Success!
WordPress has been installed. Thank you, and enjoy!
Username
aswwinvtk
Password
Your chosen password.
Log In


Not secure
65.2.142.158/wordpress/wp-admin/
GMAIL
WhatsApp
ChatGPT
Feed | LinkedIn
aws Console Home
Cokonet Academy L...
Coursera | Online C...
merp.milma.in
Photopea | Online P...
DeepSeek
ASWIN WP PROJECT
0
New
Dashboard
Home
Updates
Posts
Media
Pages
Comments
Appearance
Plugins
Users
Tools
Settings
Collapse Menu
Dashboard
Welcome to WordPress!
Learn more about the 6.9.1 version.
Author rich content with blocks and patterns
Block patterns are pre-configured block layouts. Use them to get inspired or create new pages in a flash.
Add a new page
Customize your entire site with block themes
Design everything on your site — from the header down t the footer, all using blocks and patterns.
Open site editor