Expert Cloud Consulting
Enhance Optimise & Scale
ASCP GPUonCLOUD Pvt Ltd

“Expert Cloud Consulting” -

SOP | Install And Configrate LAMP Stack On Ubantu

28.May.2025

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“Expert Cloud Consulting”
Install and Configrate LAMP Stack On Ubuntu

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2.0 General Information:

2.1 Document Purpose

To provide detailed and step by step guide and to install and configure on the lamp stack on the ubuntu 22.04 for web applications such as osticket, wordpress and owncloud

2.2 Document References

The following artifacts are referenced within this document. Please refer to the original documents for additional information.

Date	Document	Filename / Url
22.05.2025	Install LAMP Stack On Ubuntu 22.04 Server	https://www.digitalocean.com/community/tutorials/how-to-install-lamp-stack-on-ubuntu
26.05.2025	How to install and download wordpress on Ubuntu 22.04	https://www.digitalocean.com/community/tutorials/install-wordpress-on-ubuntu
26.05.2025	How to install and download osticket on Ubuntu 22.04	https://www.atlantic.net/dedicated-server-hosting/how-to-install-osticket-on-ubuntu-24-04/
27.05.2025	How to install and download owncloud on Ubuntu o22.04	https://www.digitalocean.com/community/tutorials/how-to-install-and-configure-owncloud-on-ubuntu-18-04

3.0 Document Overview:

Apache VirtualHost Setup for WordPress, OwnCloud, and osTicket

1. Installed LAMP stack on Ubuntu 22.04.
2. Downloaded and extracted WordPress, OwnCloud, and osTicket to /var/www/html/.
3. Created separate Apache config files: wordpress.conf, owncloud.conf, and osticket.conf.
4. Set DocumentRoot and <Directory> permissions in each file.
5. Added PHP-FPM handler for OwnCloud.
6. Disabled the default Apache config to avoid conflicts.
7. Enabled each site using a2ensite and reloaded Apache.
8. Verified each app via http://<IP>/wordpress, /owncloud, and /osticket.

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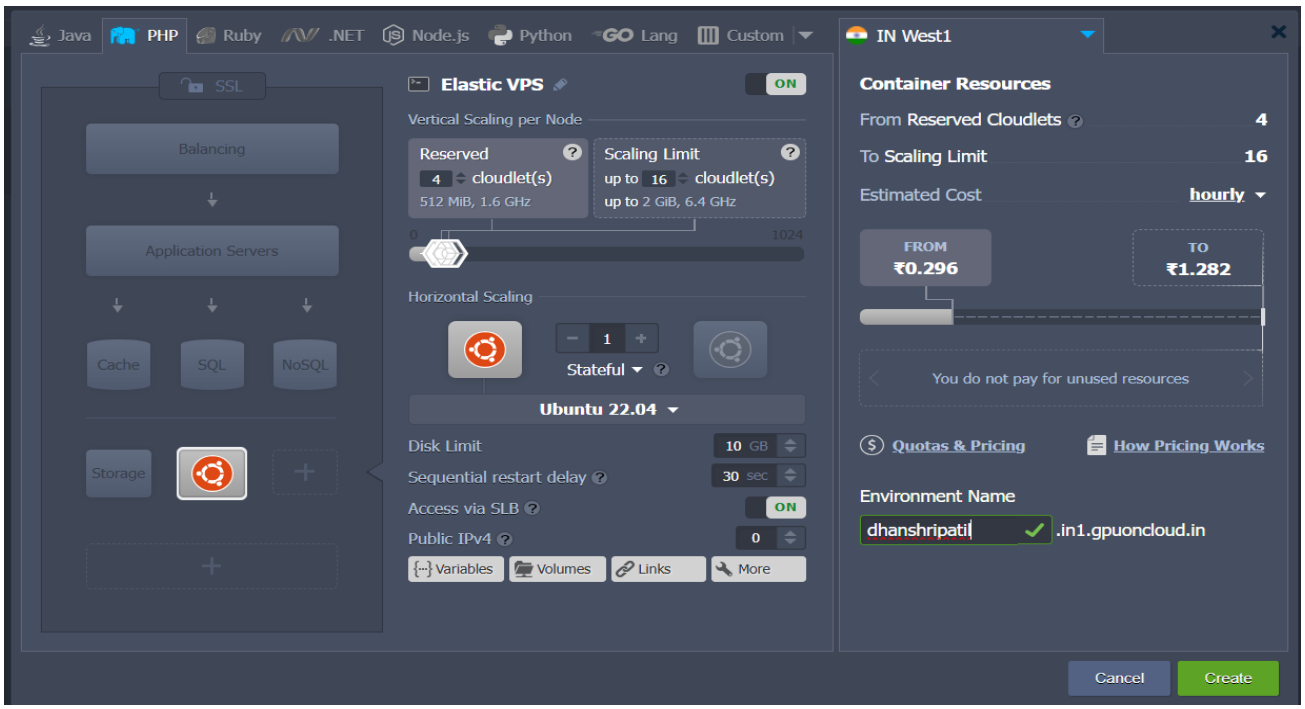
4.0 Steps / Procedure

4.1 : Setup the ubuntu server Envirnment

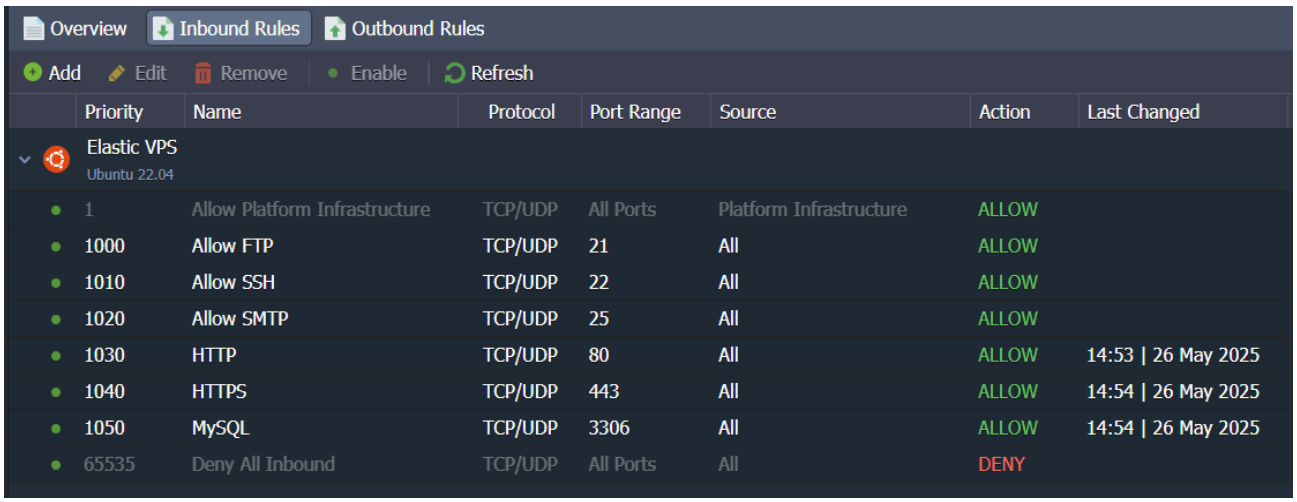
The following procedure has been done during the installation of ubuntu server:

Add Ubuntu 22.04 on Dashboard



4.2: Add a Firewall on GPUonCloud

Adding a firewall on GPUonCloud (or any cloud infrastructure like AWS, Azure, GCP, etc.) is critical for security and access control.



Priority	Name	Protocol	Port Range	Source	Action	Last Changed
Elastic VPS Ubuntu 22.04						
1	Allow Platform Infrastructure	TCP/UDP	All Ports	Platform Infrastructure	ALLOW	
1000	Allow FTP	TCP/UDP	21	All	ALLOW	
1010	Allow SSH	TCP/UDP	22	All	ALLOW	
1020	Allow SMTP	TCP/UDP	25	All	ALLOW	
1030	HTTP	TCP/UDP	80	All	ALLOW	14:53 | 26 May 2025
1040	HTTPS	TCP/UDP	443	All	ALLOW	14:54 | 26 May 2025
1050	MySQL	TCP/UDP	3306	All	ALLOW	14:54 | 26 May 2025
65535	Deny All Inbound	TCP/UDP	All Ports	All	DENY	

4.3: Installing LAMP, WordPress, osTicket, and OwnCloud on Ubuntu 22.04

1. Update System:
   - sudo apt update && sudo apt upgrade –y

```
root@node226139-dhanshri14:~# apt update
Ign:1 https://repo.virtuozzo.com/ctpreset/deb  InRelease
Hit:2 https://repo.virtuozzo.com/ctpreset/deb  Release
Hit:3 http://archive.ubuntu.com/ubuntu jammy InRelease
Get:4 http://security.ubuntu.com/ubuntu jammy-security InRelease [129 kB]
Ign:5 https://repo.virtuozzo.com/ctpreset/deb  Release.gpg
Get:6 http://archive.ubuntu.com/ubuntu jammy-updates InRelease [128 kB]
Hit:7 https://ppa.launchpadcontent.net/ondrej/php/ubuntu jammy InRelease
Hit:8 http://archive.ubuntu.com/ubuntu jammy-backports InRelease
Get:9 http://archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [4,564 kB]
Get:10 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [3,264 kB]
Fetched 8,085 kB in 3s (2,553 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
1 package can be upgraded. Run 'apt list --upgradable' to see it.
root@node226139-dhanshri14:~# systemctl start apache2
root@node226139-dhanshri14:~# systemctl status apache2
```

2. Install Apache2
   - sudo apt install apache2 –y

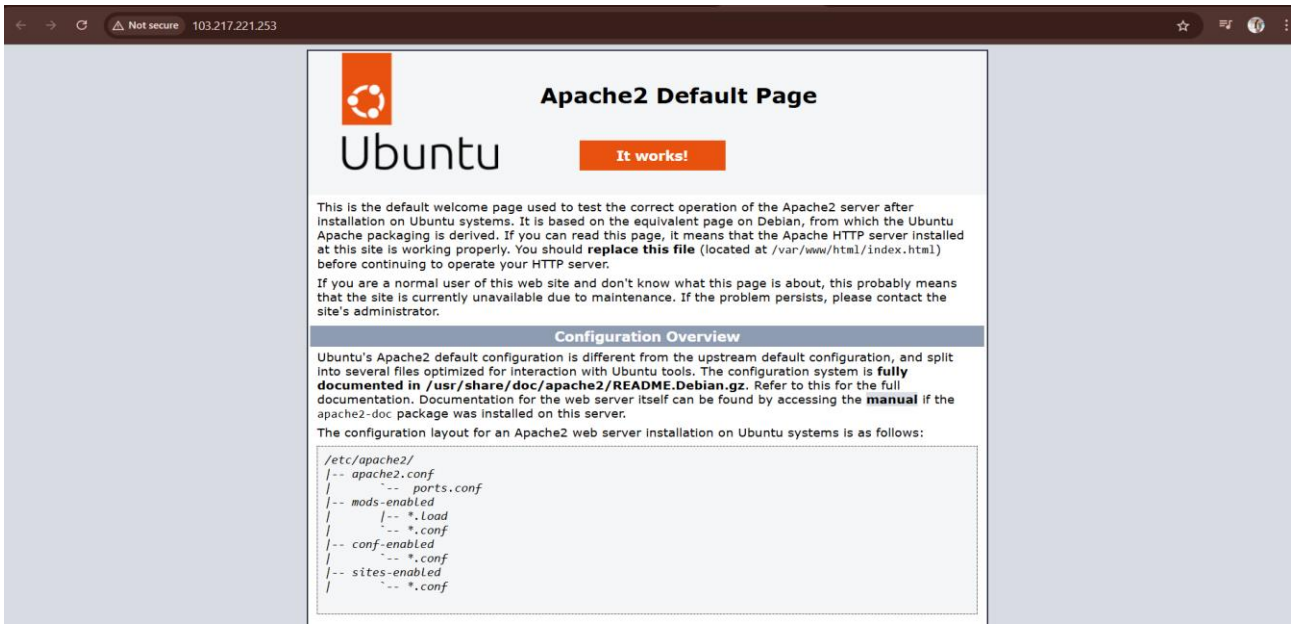
```
root@node226139-dhanshri14:~# apt install apache2
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
apache2 is already the newest version (2.4.52-1ubuntu4.14).
The following packages were automatically installed and are no longer required:
  php8.1-apcu php8.1-imap php8.1-intl
Use 'apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 1 not upgraded.
root@node226139-dhanshri14:~#
```

   - sudo systemctl enable apache2
   - sudo systemctl start apache2
   - sudo systemctl status apache2

```
root@node226139-dhanshri14:~# systemctl start apache2
root@node226139-dhanshri14:~# systemctl status apache2
● apache2.service - The Apache HTTP Server
     Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
     Active: active (running) since Wed 2025-05-28 04:25:19 UTC; 6h ago
       Docs: https://httpd.apache.org/docs/2.4/
    Process: 3960 ExecReload=/usr/sbin/apachectl graceful (code=exited, status=0/SUCCESS)
   Main PID: 478 (apache2)
      Tasks: 8 (limit: 19660)
     Memory: 89.9M
     CGroup: /system.slice/apache2.service
             ├─ 478 /usr/sbin/apache2 -k start
             ├─3964 /usr/sbin/apache2 -k start
             ├─3965 /usr/sbin/apache2 -k start
             ├─3966 /usr/sbin/apache2 -k start
             ├─3967 /usr/sbin/apache2 -k start
             ├─3968 /usr/sbin/apache2 -k start
             ├─3971 /usr/sbin/apache2 -k start
             └─4967 /usr/sbin/apache2 -k start

May 28 07:19:05 node226139-dhanshri14.in1.gpuoncloud.in systemd[1]: Reloading The Apache HTTP Server...
May 28 07:19:05 node226139-dhanshri14.in1.gpuoncloud.in systemd[1]: Reloaded The Apache HTTP Server.
May 28 07:23:41 node226139-dhanshri14.in1.gpuoncloud.in systemd[1]: Reloading The Apache HTTP Server...
May 28 07:23:41 node226139-dhanshri14.in1.gpuoncloud.in systemd[1]: Reloaded The Apache HTTP Server.
May 28 07:50:49 node226139-dhanshri14.in1.gpuoncloud.in systemd[1]: Reloading The Apache HTTP Server...
May 28 07:50:49 node226139-dhanshri14.in1.gpuoncloud.in systemd[1]: Reloaded The Apache HTTP Server.
May 28 07:52:07 node226139-dhanshri14.in1.gpuoncloud.in systemd[1]: Reloading The Apache HTTP Server...
May 28 07:52:07 node226139-dhanshri14.in1.gpuoncloud.in systemd[1]: Reloaded The Apache HTTP Server.
May 28 07:52:16 node226139-dhanshri14.in1.gpuoncloud.in systemd[1]: Reloading The Apache HTTP Server...
May 28 07:52:16 node226139-dhanshri14.in1.gpuoncloud.in systemd[1]: Reloaded The Apache HTTP Server.
root@node226139-dhanshri14:~#
```

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

http://103.217.221.253



3.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

```
root@node226139-dhanshri14:~# apt install mariadb-server mariadb-client
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
mariadb-client is already the newest version (1:10.6.22-0ubuntu0.22.04.1).
mariadb-server is already the newest version (1:10.6.22-0ubuntu0.22.04.1).
The following packages were automatically installed and are no longer required:
  php8.1-apcu php8.1-imap php8.1-intl
Use 'apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 1 not upgraded.
root@node226139-dhanshri14:~#
```

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

- mysql secure-installation

```
OK, successfully used password, moving on...

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

You already have a root password set, so you can safely answer 'n'.

Change the root password? [Y/n]
```

Prompted to remove anonymous users

```
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
```

Disallow remote root login to prevent hackers from accessing your database.

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

Reload the database to effect the changes.

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

Reload privilege tables now? [Y/n] y
```

3. Install PHP

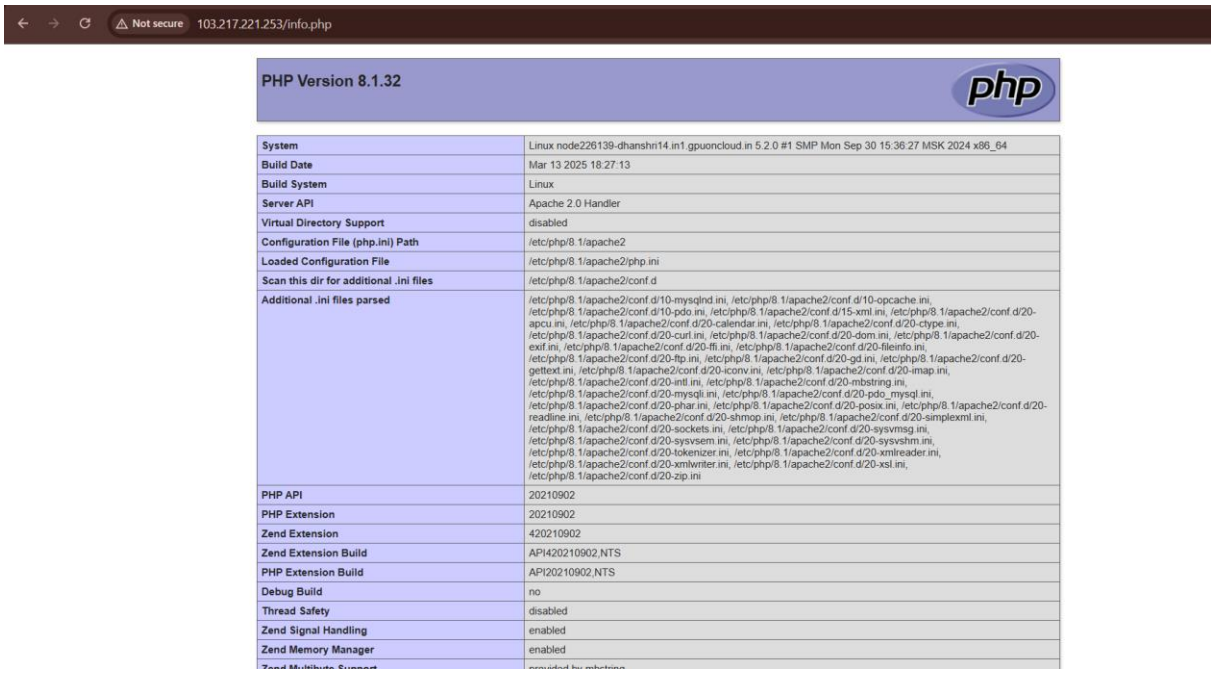
- apt install php php-mysql

```
root@node226139-dhanshri14:~# apt install php php-mysql
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
php is already the newest version (2:8.4+96+ubuntu22.04.1+deb.sury.org+1).
The following packages were automatically installed and are no longer required:
  php8.1-apcu php8.1-imap php8.1-intl
Use 'apt autoremove' to remove them.
The following NEW packages will be installed:
  php-mysql php8.4-mysql
0 upgraded, 2 newly installed, 0 to remove and 1 not upgraded.
Need to get 141 kB of archives.
After this operation, 480 kB of additional disk space will be used.
Get:1 https://ppa.launchpadcontent.net/ondrej/php/ubuntu jammy/main amd64 php8.4-mysql amd64 8.4.7-1+ubuntu22.04.1+deb.sury.org+1 [133 kB]
Get:2 https://ppa.launchpadcontent.net/ondrej/php/ubuntu jammy/main amd64 php-mysql all 2:8.4+96+ubuntu22.04.1+deb.sury.org+1 [7,502 B]
Fetched 141 kB in 2s (74.8 kB/s)
Selecting previously unselected package php8.4-mysql.
(Reading database ... 40619 files and directories currently installed.)
Preparing to unpack .../php8.4-mysql_8.4.7-1+ubuntu22.04.1+deb.sury.org+1_amd64.deb ...
Unpacking php8.4-mysql (8.4.7-1+ubuntu22.04.1+deb.sury.org+1) ...
Selecting previously unselected package php-mysql.
Preparing to unpack .../php-mysql_2%3a8.4+96+ubuntu22.04.1+deb.sury.org+1_all.deb ...
Unpacking php-mysql (2:8.4+96+ubuntu22.04.1+deb.sury.org+1) ...
Setting up php8.4-mysql (8.4.7-1+ubuntu22.04.1+deb.sury.org+1) ...

Creating config file /etc/php/8.4/mods-available/mysqlnd.ini with new version

Creating config file /etc/php/8.4/mods-available/mysqli.ini with new version

Creating config file /etc/php/8.4/mods-available/pdo_mysql.ini with new version
Setting up php-mysql (2:8.4+96+ubuntu22.04.1+deb.sury.org+1) ...
Processing triggers for libapache2-mod-php8.4 (8.4.7-1+ubuntu22.04.1+deb.sury.org+1) ...
invoke-rc.d: policy-rc.d denied execution of restart.
Processing triggers for php8.4-cli (8.4.7-1+ubuntu22.04.1+deb.sury.org+1) ...
root@node226139-dhanshri14:~#
```

sudo nano /var/www/html/info.php

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

http://103.217.221.253/info.php

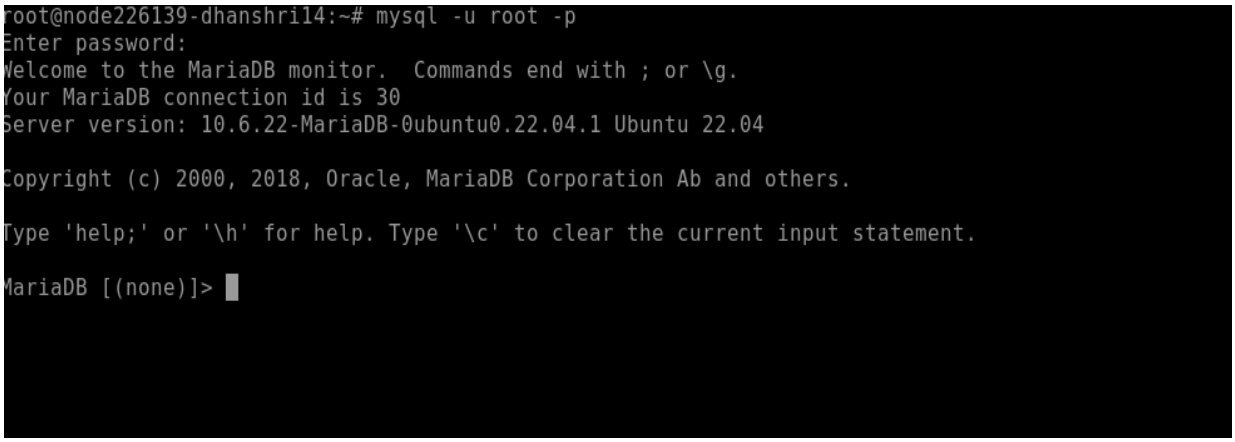


System	Linux node226139-dhanshri14.in1.gpuoncloud.in 5.2.0 #1 SMP Mon Sep 30 15:36:27 MSK 2024 x86_64
Build Date	Mar 13 2025 18:27:13
Build System	Linux
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc/php/8.1/apache2
Loaded Configuration File	/etc/php/8.1/apache2/php.ini
Scan this dir for additional .ini files	/etc/php/8.1/apache2/conf.d
Additional .ini files parsed	/etc/php/8.1/apache2/conf.d/10-mysqlnd.ini, /etc/php/8.1/apache2/conf.d/10-opcache.ini, /etc/php/8.1/apache2/conf.d/10-pdo.ini, /etc/php/8.1/apache2/conf.d/15-xml.ini, /etc/php/8.1/apache2/conf.d/20-apcu.ini, /etc/php/8.1/apache2/conf.d/20-calendar.ini, /etc/php/8.1/apache2/conf.d/20-ctype.ini, /etc/php/8.1/apache2/conf.d/20-curl.ini, /etc/php/8.1/apache2/conf.d/20-dom.ini, /etc/php/8.1/apache2/conf.d/20-exif.ini, /etc/php/8.1/apache2/conf.d/20-ffi.ini, /etc/php/8.1/apache2/conf.d/20-fileinfo.ini, /etc/php/8.1/apache2/conf.d/20-ftp.ini, /etc/php/8.1/apache2/conf.d/20-gd.ini, /etc/php/8.1/apache2/conf.d/20-gettext.ini, /etc/php/8.1/apache2/conf.d/20-iconv.ini, /etc/php/8.1/apache2/conf.d/20-imap.ini, /etc/php/8.1/apache2/conf.d/20-intl.ini, /etc/php/8.1/apache2/conf.d/20-mbstring.ini, /etc/php/8.1/apache2/conf.d/20-mysqli.ini, /etc/php/8.1/apache2/conf.d/20-pdo_mysql.ini, /etc/php/8.1/apache2/conf.d/20-phar.ini, /etc/php/8.1/apache2/conf.d/20-posix.ini, /etc/php/8.1/apache2/conf.d/20-readline.ini, /etc/php/8.1/apache2/conf.d/20-shmop.ini, /etc/php/8.1/apache2/conf.d/20-simplexml.ini, /etc/php/8.1/apache2/conf.d/20-sockets.ini, /etc/php/8.1/apache2/conf.d/20-sysvmsg.ini, /etc/php/8.1/apache2/conf.d/20-sysvsem.ini, /etc/php/8.1/apache2/conf.d/20-sysvshm.ini, /etc/php/8.1/apache2/conf.d/20-tokenizer.ini, /etc/php/8.1/apache2/conf.d/20-xmlreader.ini, /etc/php/8.1/apache2/conf.d/20-xmlwriter.ini, /etc/php/8.1/apache2/conf.d/20-xsl.ini, /etc/php/8.1/apache2/conf.d/20-zip.ini
PHP API	20210902
PHP Extension	20210902
Zend Extension	420210902
Zend Extension Build	API420210902,NTS
PHP Extension Build	API20210902,NTS
Debug Build	no
Thread Safety	disabled
Zend Signal Handling	enabled
Zend Memory Manager	enabled

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



Create a database for our WordPress installation.
CREATE DATABASE wordpress_database;

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;
Exit;

OUTPUT :

```
MariaDB [(none)]> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| osticket_db        |
| owncloud_db        |
| performance_schema |
| sys                |
| wordpress_database |
+--------------------+
7 rows in set (0.000 sec)
```

5. Install Wordpress CMS

Go to your temp directory and download the latest WordPress File

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

```
root@node226139-dhanshri14:~# cd /tmp && wget https://wordpress.org/latest.tar.gz
--2025-05-29 04:42:30--  https://wordpress.org/latest.tar.gz
Resolving wordpress.org (wordpress.org)... 198.143.164.252
Connecting to wordpress.org (wordpress.org)|198.143.164.252|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 26926501 (26M) [application/octet-stream]
Saving to: 'latest.tar.gz'

latest.tar.gz                       100%[===================================================================================================>]  25.68M  7.93MB/s    in 3.2s

2025-05-29 04:42:34 (7.93 MB/s) - 'latest.tar.gz' saved [26926501/26926501]

root@node226139-dhanshri14:/tmp#
```

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

- tar -xvf latest.tar.gz

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.

- 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/

Create Separate Apache Config Files

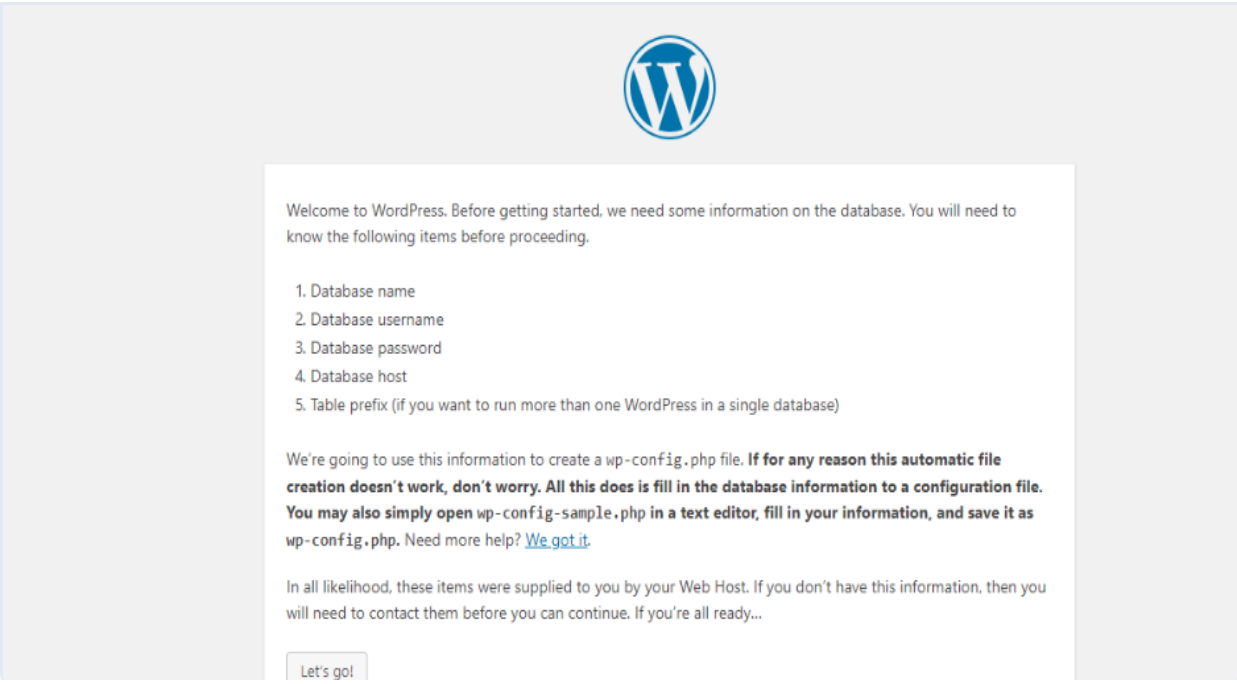
- sudo nano /etc/apache2/sites-available/wordpress.conf

```
<VirtualHost *:80>
  ServerAdmin admin@103.217.221.253
  DocumentRoot /var/www/html/wordpress

  <Directory /var/www/html/wordpress>
     Options Indexes FollowSymLinks
     AllowOverride All
     Require all granted
  </Directory>

  ErrorLog ${APACHE_LOG_DIR}/wordpress_error.log
  CustomLog ${APACHE_LOG_DIR}/wordpress_access.log combined
</VirtualHost>
```

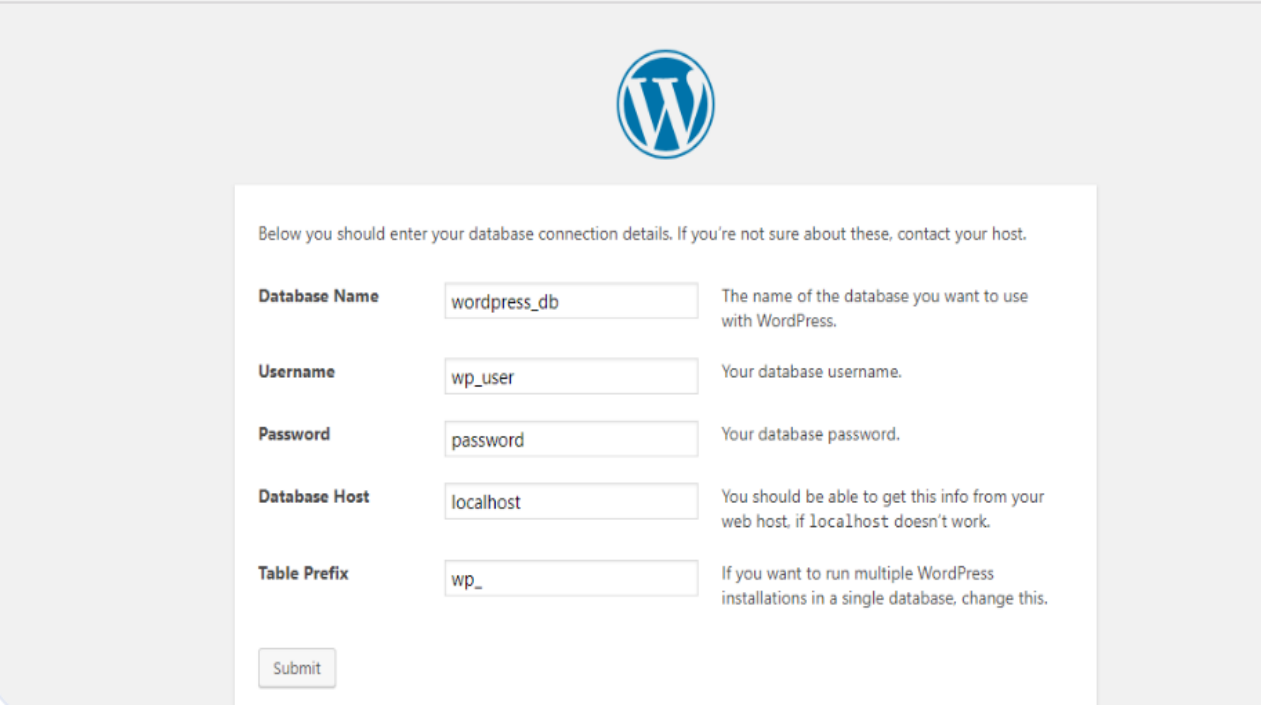
Open your browser and go to the server’s URL. In my case it’s

http://103.217.221.253/wordpress

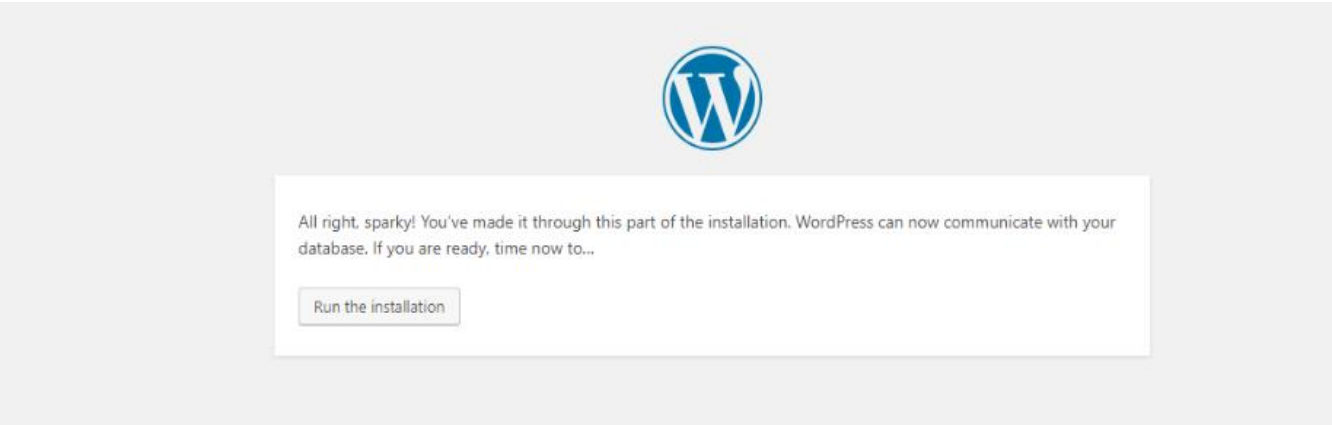
You'll be presented with a WordPress wizard and a list of credentials required to successfully set it up.



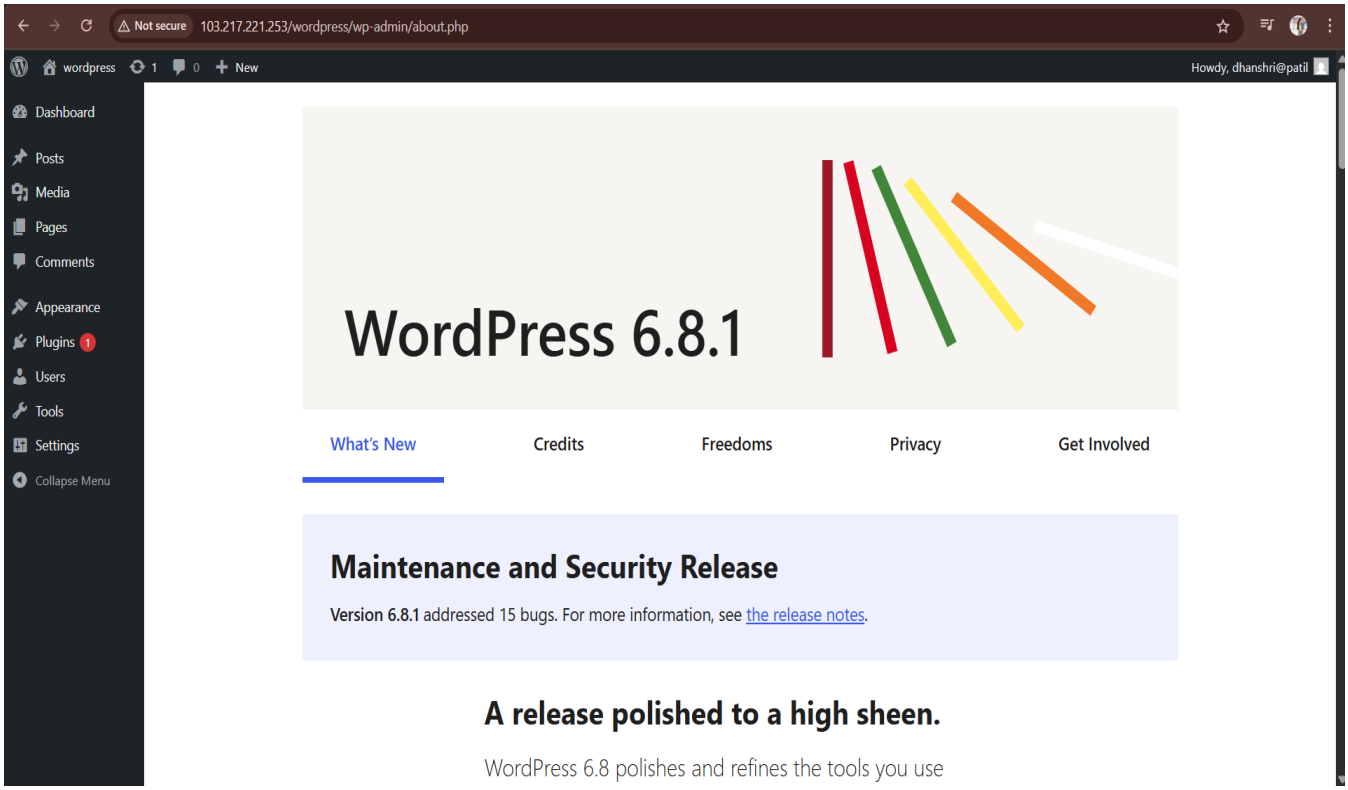
Fill out the form as shown with the credentials specified when creating the WordPress database in the MariaDB database. Leave out the database host and table prefix and Hit 'Submit' button.



If all the details are correct, you will be given the green light to proceed. Run the installation.



Provide your login credentials and hit 'Login'.



5. Create Database On OsTicket

-- osTicket

Create a database for our osticket installation.
CREATE DATABASE osticket_db;

Next, create a database user for our osticket setup.
CREATE USER 'osticket_user'@'localhost' IDENTIFIED BY 'osticket_password';

Grant privileges to the user Next, grant the user permissions to access the database
GRANT ALL PRIVILEGES ON osticket_db.* TO 'osticket_user'@'localhost';

Great, now you can exit the database.
FLUSH PRIVILEGES;
EXIT;

OUTPUT:

```
ERROR 1064 (42000): You have an error in your SQL syntax; chec
MariaDB [(none)]> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| osticket_db        |
| owncloud_db        |
| performance_schema |
| sys                |
| wordpress_database |
+--------------------+
7 rows in set (0.001 sec)

MariaDB [(none)]>
```

Download and Install osTicket:

Change the directory to Apache web root and download the latest osTicket version inside that directory.
-cd /var/www/html
-sudo wget https://github.com/osTicket/osTicket/releases/download/v1.18/osTicket-v1.18.zip

Next, unzip the downloaded file.
-sudo unzip osTicket-v1.18.zip -d osticket

Then, set the necessary permissions and ownership to the osTicket directory.
-sudo chown -R www-data:www-data osticket
-sudo chmod -R 755 osticket

Apache Configuration (VirtualHost)

Create config:

- sudo nano /etc/apache2/sites-available/osticket.conf

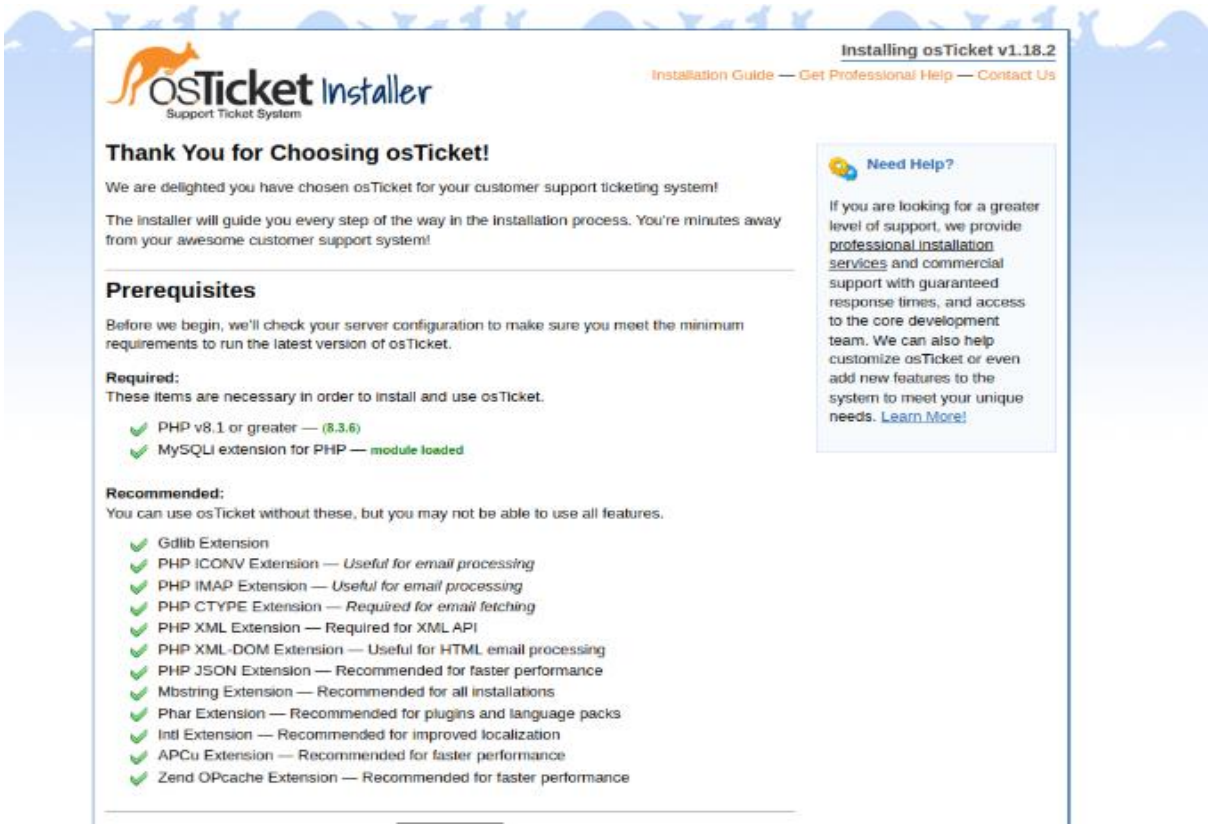
```
<VirtualHost *:80>
   ServerAdmin admin@103.217.221.253
   DocumentRoot /var/www/html/osticket

   <Directory /var/www/html/osticket>
      Options Indexes FollowSymLinks
      AllowOverride All
      Require all granted
   </Directory>

   ErrorLog ${APACHE_LOG_DIR}/osticket_error.log
   CustomLog ${APACHE_LOG_DIR}/osticket_access.log combined
</VirtualHost>
```

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

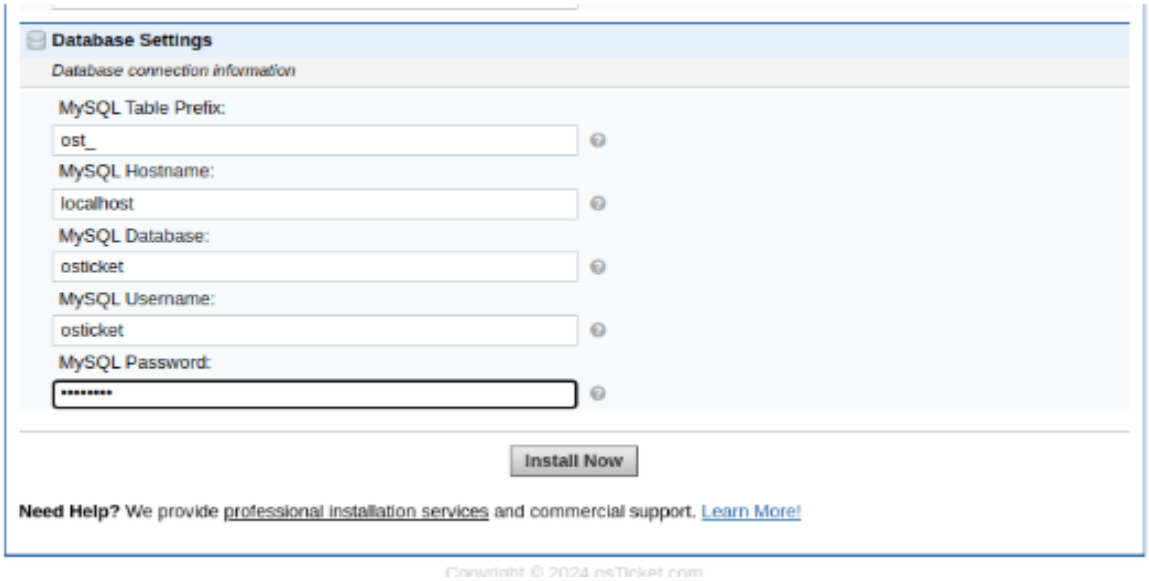
http://103.217.221.253/osticket

Access osTicket Web UI

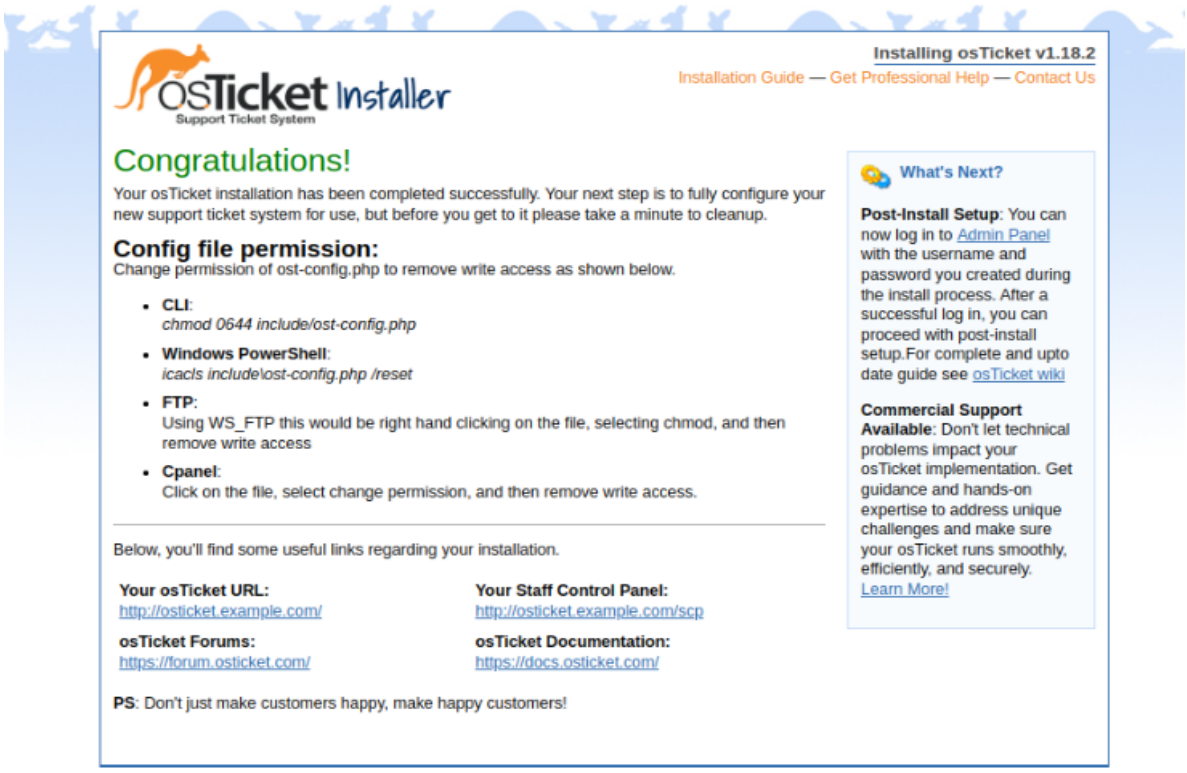
Now, open your web browser and access the osTicket using the URL http://osticket.example.com. You will see the osTicket prerequisites page.

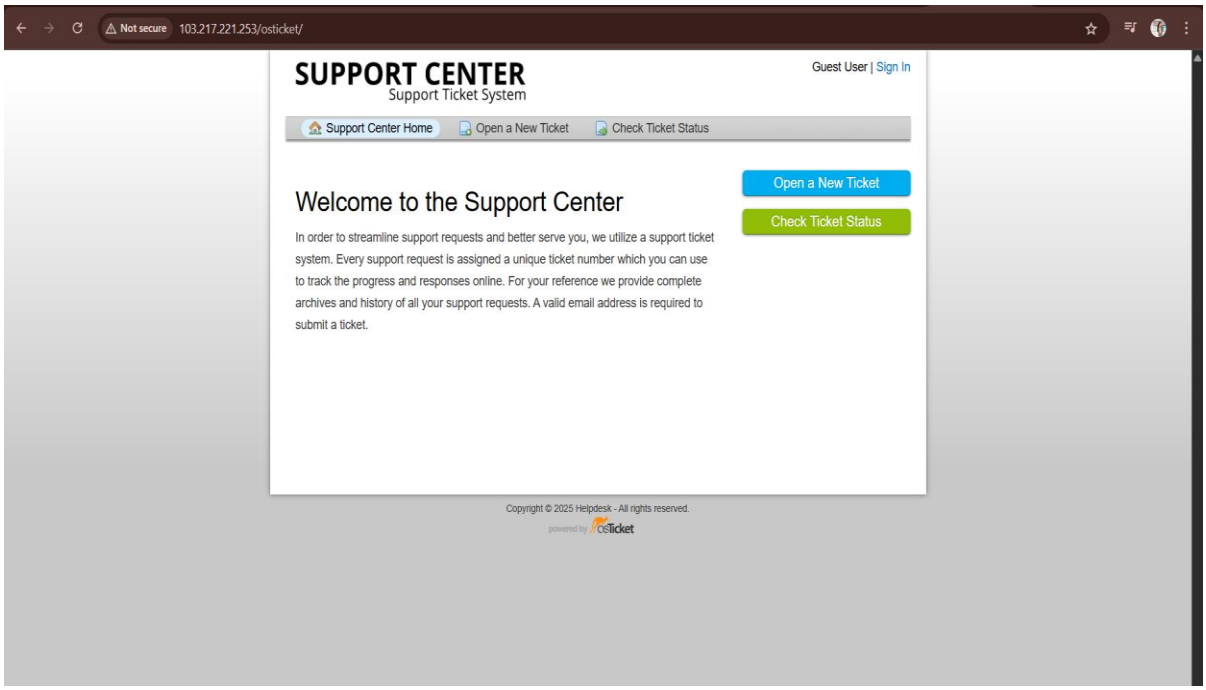


Click on Continue**.** You will see the osTicket configuration page.



Provide your helpdesk name, URL, admin username, password, email, and database credentials, then click on Install Now. Once the osTicket is installed, you will see the following page.





Create Database on OwnCloud

-- OwnCloud

Create a database for our owncloud installation.
CREATE DATABASE owncloud_db;

Next, create a database user for our owncloud setup
CREATE USER 'owncloud_user'@'localhost' IDENTIFIED BY 'owncloud_password';

Grant privileges to the user Next, grant the user permissions to access the database
GRANT ALL PRIVILEGES ON owncloud_db.* TO 'owncloud_user'@'localhost';

Great, now you can exit the database.
FLUSH PRIVILEGES;
EXIT;

OUTPUT:

```
ERROR 1064 (42000): You have an error in your SQL syntax; chec
MariaDB [(none)]> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| osticket_db        |
| owncloud_db        |
| performance_schema |
| sys                |
| wordpress_database |
+--------------------+
7 rows in set (0.001 sec)

MariaDB [(none)]>
```

Download and Install OwnCloud:

This is where Apache serves web files. You're moving here to install OwnCloud in this location

-cd /var/www/html

Brings the compressed OwnCloud software to your server.

-sudo wget https://download.owncloud.org/community/owncloud-latest.tar.bz2

Apache runs as `www-data`. This gives it permission to read/write the OwnCloud files for proper operation.

-sudo tar -xvjf owncloud-latest.tar.bz2

Ensures proper access permissions so Apache can serve the application without security issues.

-sudo chown -R www-data:www-data owncloud
-sudo chmod -R 755 owncloud

Apache Configuration (VirtualHost)

- sudo nano /etc/apache2/sites-available/owncloud.conf

```
<VirtualHost *:80>
   ServerAdmin admin@103.217.221.253
   DocumentRoot /var/www/html/owncloud

   <Directory /var/www/html/owncloud>
      Options Indexes FollowSymLinks
      AllowOverride All
      Require all granted

      <FilesMatch \.php$>
         SetHandler "proxy:unix:/run/php/php7.4-fpm.sock|fcgi://localhost/"
      </FilesMatch>
   </Directory>

   ErrorLog ${APACHE_LOG_DIR}/owncloud_error.log
   CustomLog ${APACHE_LOG_DIR}/owncloud_access.log combined
</VirtualHost>
```

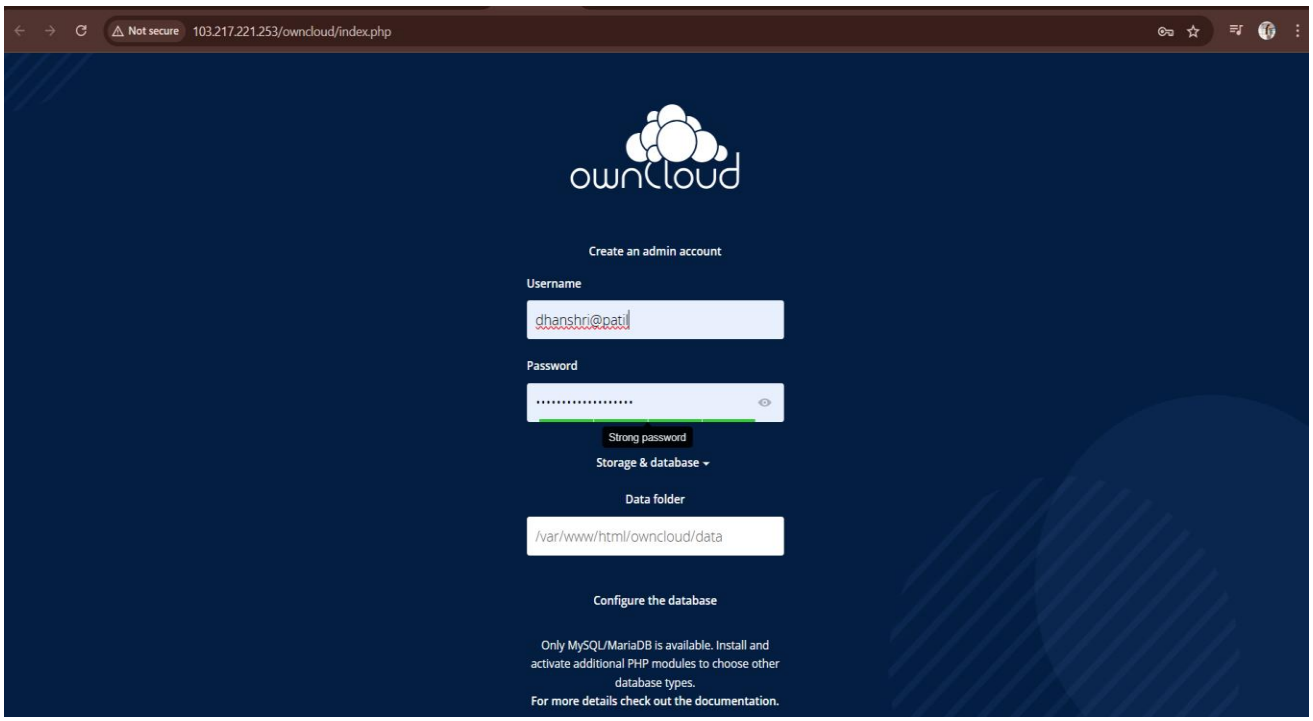
Open your browser and go to the server's URL. In my case it's

http://103.217.221.253/owncloud

Access osTicket Web UI :

You should see the ownCloud web configuration page in your browser.

Create an admin account by choosing a username and a password. For security purposes it is not recommended to use something like “admin” for the username:



Enable All Configs :

-sudo a2ensite wordpress.conf
-sudo a2ensite owncloud.conf
-sudo a2ensite osticket.conf

Reload Apache :

- sudo systemctl reload apache2

Apache VirtualHost Setup (Short Overview)

1. **Created separate config files** for each web app:
   - wordpress.conf
   - owncloud.conf
   - osticket.conf
2. **Defined VirtualHost settings** in each file:

- Set DocumentRoot to point to the correct folder (/var/www/html/...)
- Allowed access and overrides (Require all granted, AllowOverride All)
- For OwnCloud, added PHP handler with FastCGI.

3. **Enabled the new sites** using a2ensite.
4. **Reloaded Apache** to apply changes.