# "Expert Cloud Consulting"

SOP | LAMP Stack Installation on Ubuntu 22.04

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LAMP Stack Installation on Ubuntu 22.04

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# 2.0 General Information:

# 2.1 Document Purpose

This document provides a clear, step-by-step guide for installing and configuring the LAMP stack on Ubuntu 22.04, enabling the deployment of applications like WordPress, osTicket, and ownCloud. It ensures a consistent setup process across environments.

# 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/commu nity/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/commu nity/tutorials/install-wordpress-on- ubuntu
27.05.2025	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/
28.05.2025	How to install and download owncloud on Ubuntu o22.04	https://www.digitalocean.com/commu nity/tutorials/how-to-install-and- configure-owncloud-on-ubuntu-18-04

#### Document Overview:

This document outlines the installation of the LAMP stack on Ubuntu 22.04 and the configuration of WordPress, OwnCloud, and osTicket. Each application is deployed under a dedicated Apache VirtualHost for organized access. PHP-FPM is enabled for OwnCloud, and the default Apache configuration is disabled to avoid conflicts.

- Installed the LAMP stack on Ubuntu 22.04.
- Downloaded WordPress, OwnCloud, and osTicket into /var/www/html.
- Created separate Apache config files: wordpress.conf, owncloud.conf, and osticket.conf.
- Set appropriate DocumentRoot and <Directory> permissions in each config file.
- Enabled PHP-FPM handling for OwnCloud.
- Disabled the default Apache site to prevent conflicts.
- Enabled all new sites with a2ensite and reloaded Apache.
- Verified the applications via:
  - http://<your-ip>/wordpress
  - http://<your-ip>/owncloud
  - http://<your-ip>/osticket

## 3.0 Steps / Procedure

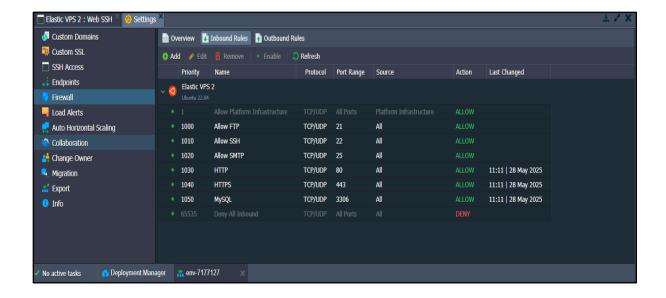
# 3.1: Setup the Ubuntu Server on GPUonCLOUD

The following steps were performed to set up the Ubuntu 22.04 server environment on **GPUonCLOUD**:



# 3.3: Configure Firewall Rules

Set up firewall rules on GPUonCLOUD to allow HTTP (80), HTTPS (443), and SSH (22) traffic, ensuring secure and accessible web and server management.



# 3.4: How To Install Linux, Apache, MySQL, PHP (LAMP) Stack on Ubuntu

# sudo apt update & sudo apt upgrade

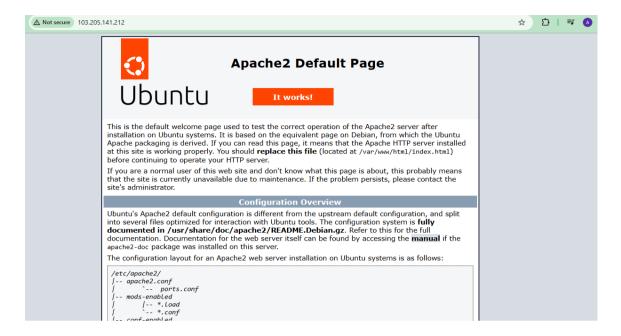
```
Eastic VPS 2: Web SSH 
Duplicate Session

Setting up snmp (5.9.1+dfsg-lubuntu2.8) ...
Setting up pinutils (2.38-4ubuntu2.8) ...
Setting up gnupg (2.2.27-3ubuntu2.3) ...
Setting up libpan-systemd:amd64 (249.11-0ubuntu3.15) ...
Setting up packagekit (1.2.5-2ubuntu3) ...
Invoke-rc.d: policy-rc.d denied execution of force-reload.
Setting up python3-pkg-resources (59.6.0-1.2ubuntu8.22.04.2) ...
Setting up python3-pat (2.4.0ubuntu4) ...
Processing triggers for dbus (1.12.20-2ubuntu4.1) ...
Processing triggers for mailcap (3.70+nmulubuntu1) ...
Processing triggers for clab-bin (2.35-0ubuntu4.3) ...
Processing triggers for ca-certificates (20240203-22.04.1) ...
Updating certificates in /etc/sst/certs...
0 added, 0 removed; done.
Running hooks in /etc/ca-certificates/update.d...
done.
root@node226422-akshata19:~#
```

# 3.5: To install Apache2 on Ubuntu 22.04

sudo apt install apache2 sudo systemctl status apache2 sudo systemctl start apache2 sudo systemctl enable apache2

## http://103.205.141.212/



#### 4.1: Install MYSQL

### apt install mariadb-server mariadb-client

```
root@node226422-akshata19:~# apt install mariadb-server mariadb-client
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
nariadb-client is already the newest version (1:10.6.22-0ubuntu0.22.04.1).
nariadb-server is already the newest version (1:10.6.22-0ubuntu0.22.04.1).
9 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
root@node226422-akshata19:~#
```

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

### mysql\_secure\_installation

When prompted to change the root password during MySQL/MariaDB setup, type n and press Enter to skip if you're confident your current password is strong

```
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]
```

For safety's sake, you will be prompted to remove anonymous users. Type Y.

```
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
```

Next, disallow remote root login to prevent hackers from accessing your database. However, for testing purposes, you may want to allow log in remotely if you are configuring a virtual server

```
Normally, root should only be allowed to connect from 'localhost'.
ensures that someone cannot guess at the root password from the network.
Disallow root login remotely? [Y/n]
```

Next, remove the test database.

```
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]
```

Finally, 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
```

#### 4.2: Install PHP

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

# apt install php php-mysql

```
@node226422-akśhata19:~# apt install php php-mysql
ing package lists... Done
ding dependency tree... Done
ing state information... Done
following additional packages will be installed:
bapache2-mod-php8.1 php-common php8.1 php8.1-cli php8.1-common php8.1-mysql php8.1-opcache php8.1-readline
ested packages:
n.pear
   -pear ollowing NEW packages will be installed: apache2-mod-php8.1-cli php8.1-common php8.1-mysql php8.1-opcache php8.1-readline raded, 10 newly installed, 0 to remove and 0 not upgraded. to get 5,264 kB of archives. this operation, 21.8 MB of additional disk space will be used. u want to continue? [Y/n] ■
```



 $\Box$ 

To confirm that PHP is installed, created a info.php file at /var/www/html/ path

vim /var/www/html/info.php

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

Append the following lines

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

http://103.205.141.212/info.php

△ Not secure 103.205.141.212/info.php PHP Version 7.4.33 php System Linux node226354-env-7177127.in1.gpuoncloud.in 5.2.0 #1 SMP Mon Sep 30 15:36:27 MSK 2024 x86\_64 **Build Date** May 9 2025 06:44:39 Server API FPM/FastCGI Virtual Directory Support disabled Configuration File (php.ini) Path /etc/php/7.4/fpm Loaded Configuration File /etc/php/7.4/fpm/php.ini Scan this dir for additional .ini files /etc/php/7.4/fpm/conf.d /etc/php/7. 4/fpm/conf.d/10-mysqlnd.ini, /etc/php/7. 4/fpm/conf.d/10-opcache.ini, /etc/php/7. 4/fpm/conf.d/10-pdo.ini, /etc/php/7. 4/fpm/conf.d/10-mysqlnd.ini, /etc/php/7. 4/fpm/conf.d/20-bcmath.ini, /etc/php/7. 4/fpm/conf.d/20-calendar.ini, /etc/php/7. 4/fpm/conf.d/20-cyrl.ini, /etc/php/7. 4/fpm/conf.d/20-cyrl.ini, /etc/php/7. 4/fpm/conf.d/20-dom.ini, /etc/php/7. 4/fpm/conf.d/20-eixi.ini, /etc/php/7. 4/fpm/conf.d/20-eixi.ini, /etc/php/7. 4/fpm/conf.d/20-eixi.ini, /etc/php/7. 4/fpm/conf.d/20-eixi.ini, /etc/php/7. 4/fpm/conf.d/20-eixi.ini, /etc/php/7. 4/fpm/conf.d/20-eixi.ini, /etc/php/7. 4/fpm/conf.d/20-ionv.ini, /etc/php/7. 4/fpm/conf.d/20-ionv.ini, /etc/php/7. 4/fpm/conf.d/20-ionv.ini, /etc/php/7. 4/fpm/conf.d/20-ionv.ini, /etc/php/7. 4/fpm/conf.d/20-posi.ini, /etc/php/7. 4/fpm/conf.d/20-posi.ini, /etc/php/7. 4/fpm/conf.d/20-posi.ini, /etc/php/7. 4/fpm/conf.d/20-posi.ini, /etc/php/7. 4/fpm/conf.d/20-posi.ini, /etc/php/7. 4/fpm/conf.d/20-sysvems.ini, /etc/php/7. 4/ Additional .ini files parsed

20190902

20190902

320190902

no

disabled

API320190902,NTS

API20190902,NTS



PHP API

PHP Extension

Zend Extension

Debug Build

Thread Safety

Zend Extension Build

PHP Extension Build

Zend Signal Handling

#### 5.1: 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.

```
root@node226354-env-7177127:/var/www/html/wordpress# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MariaDB connection id is 141
Server version: 10.6.22-MariaDB-OubuntuO.22.04.1 Ubuntu 22.04
Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
```

Create a database for our WordPress installation

CREATE DATABASE wordpress\_db;

```
MariaDB [(none)]> CREATE DATABASE wordpress_db;
Query OK, 1 row affected (0.00 sec)
```

Next, create a database user for our WordPress setup

CREATE USER 'wp\_user'@'localhost' IDENTIFIED BY 'Password';

```
MariaDB [(none)]> CREATE USER 'wp_user'@'localhost' IDENTIFIED BY 'password';
Query OK, 0 rows affected (0.00 sec)
```

### **Output**

```
MariaDB [(none)]> GRANT ALL ON wordpress_db.* TO 'wp_user'@'localhost' IDENTIFIED BY 'password'; Query OK, O rows affected (0.00 sec)
```

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';



```
FLUSH PRIVILEGES;
Exit;
```

## Show DataBase;

```
our MariabB connection id is 133
cerver version: 10.6.22-MariabB-Oubuntu0.22.04.1 Ubuntu 22.04
copyright (c) 2000, 2018, Oracle, MariabB Corporation Ab and others.

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

(ariabB [(none)]> SHOW DATABASES;

Database |

information_schema |
 mysql |
 osticket_db |
 performance_schema |
 sys |
 wordpress_db |

rows in set (0.000 sec)

(ariabB [(none)]> |
```

### 5.2: Install WordPress CMS

Go to your temp directory and download the latest WordPress File

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

## **Output**

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.

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/

Sample Apache Virtual Host Config for WordPress

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

<VirtualHost \*:80>

ServerAdmin webmaster@gpuoncloud.com

ServerName 103.205.141.212/

DocumentRoot /var/www/html/wordpress

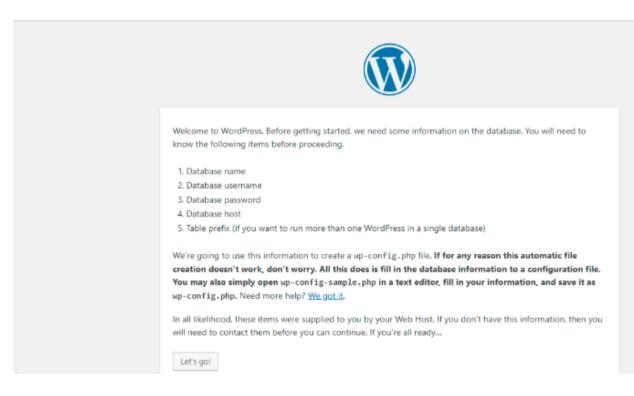


<Directory /var/www/html/wordpress>
 Options Indexes FollowSymLinks
 AllowOverride All
 Require all granted
</Directory>

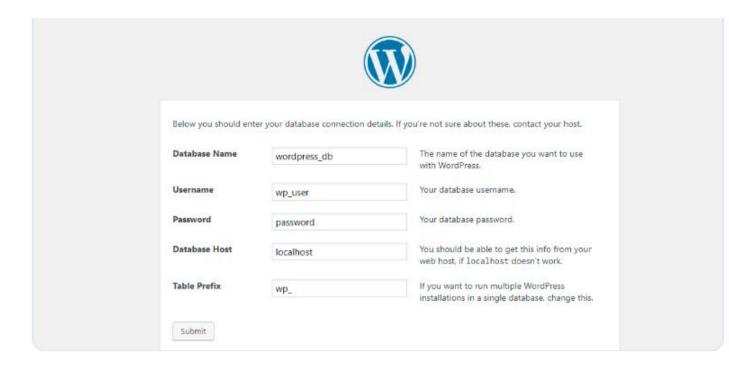
ErrorLog \${APACHE\_LOG\_DIR}/wordpress\_error.log
CustomLog \${APACHE\_LOG\_DIR}/wordpress\_access.log combined
</VirtualHost>

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

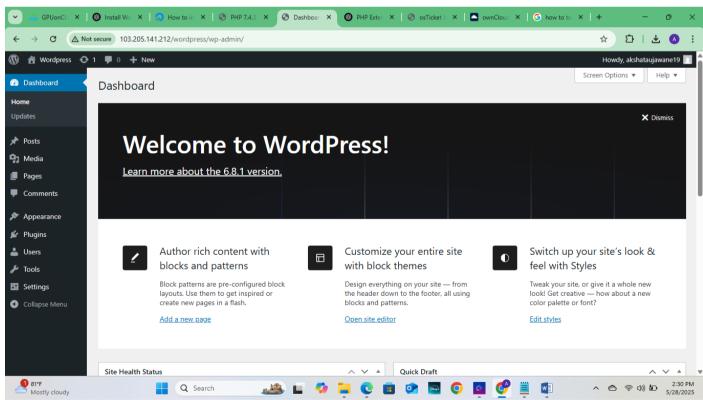
http://103.205.141.212/wordpress/



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.



Provide your login credentials and hit 'Login'.



Success! Your WordPress dashboard is now live. You're all set to start building your first blog or website. Explore themes, plugins, and settings to make it your own. Congrats on getting this far!

### 5.2: Install osTicket

# sudo apt update

start and enable the Apache service.

systemctl start apache2 systemctl enable apache2

Install and Configure MariaDB Database

First, install the MariaDB database server using the following command:

apt install mariadb-server -y

Next, connect to the MariaDB shell MySQL

After connecting to the MariaDB, create a database and user for osTicket.

CREATE DATABASE osticket;

GRANT ALL PRIVILEGES ON osticket.\* TO osticket@localhost IDENTIFIED BY "admin";

Next, flush the privileges and exit from the MariaDB.

FLUSH PRIVILEGES;

EXIT;

#### SHOW DATABASE;

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

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

HariaDB [(none)]> SHOW DATABASES;

Database

information_schema |
mysql
osticket_db
operformance_schema
sys
wordpress_db

Frows in set (0.000 sec)

HariaDB [(none)]>
```



#### 5:3 Install osTicket

First, change the directory to Apache web root and download the latest osTicket version inside that directory.

#### cd /var/www/html

curl -s https://api.github.com/repos/osTicket/osTicket/releases/latest | grep browser download url | cut -d '"' -f 4 | wget -i -

Next, unzip the downloaded file. unzip osTicket\*.zip -d osTicket

Next, copy the osTicket sample configuration file.

Ср

/var/www/html/osTicket/upload/include/ost-sampleconfig.php /var/www/html/osTicket/upload/include/ost-config.php

Then, set the necessary permissions and ownership to the osTicket directory. chown -R www-data:www-data/var/www/html/osTicket/chmod -R 775 /var/www/html/osTicket/

Configure Apache for osTicket

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

<VirtualHost \*:80>

ServerAdmin admin@yourdomain.com DocumentRoot /var/www/html/osticket ServerName 103.205.141.38/osticket

<Directory /var/www/html/osticket/>
Options +FollowSymlinks
AllowOverride All
Require all granted
</Directory>

ErrorLog \${APACHE\_LOG\_DIR}/osticket\_error.log
CustomLog \${APACHE\_LOG\_DIR}/osticket\_access.log combined
</VirtualHost>



### 5.4: Enable the site and restart Apache

# sudo a2ensite osticket.conf sudo systemctl reload apache2

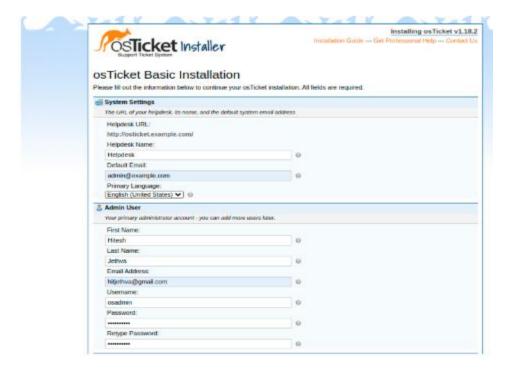
Finally, restart the Apache service to apply the changes

### Access osTicket Web UI

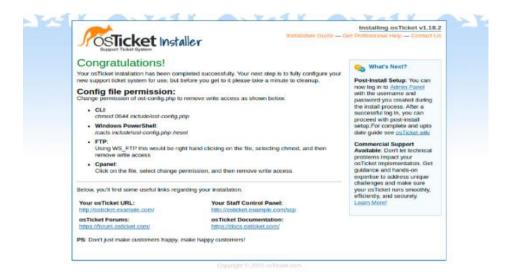
Now, open your web browser and access the osTicket using the URL



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.



6:1: Install ownCloud:

Create a database for our owncloud installation

CREATE DATABASE owncloud:

Next, create a database user for our owncloud setup.

GRANT ALL PRIVILEGES ON owncloud.\* TO owncloud@localhost IDENTIFIED BY "admin":

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;

#### 6.2: Download and Install OwnCloud:

Download the latest version of ownCloud from the official website by executing the following command on your server

Navigate to Apache's web root cd /var/www/html

Download OwnCloud

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

Extract the downloaded file sudo tar -xvjf owncloud-latest.tar.bz2

Set correct permissions sudo chown -R www-data:www-data owncloud

sudo chmod -R 755 owncloud

Create a new Apache config file for OwnCloud

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

Paste the following configuration inside the file:

<VirtualHost \*:80>
 ServerAdmin admin@example.com
 DocumentRoot /var/www/html/owncloud
 ServerName your-domain.com

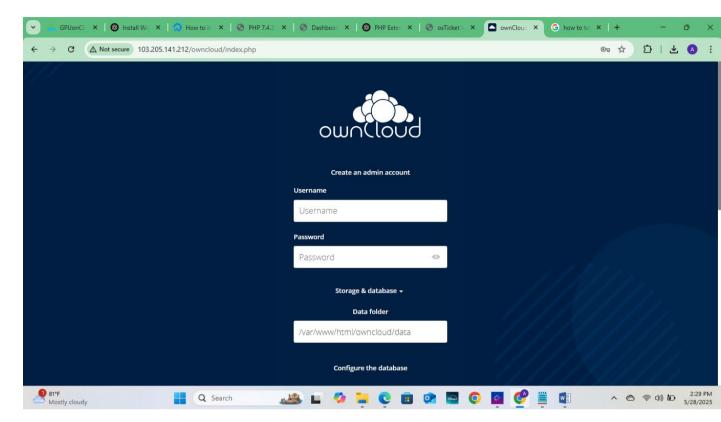
<Directory /var/www/html/owncloud>
 Options +FollowSymlinks
 AllowOverride All
 Require all granted
</Directory>

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://103.205.141.212/owncloud/index.php



Set your ownCloud admin username, password, data folder, database name, database username, and password, and click on the Finish setup button. You should see the ownCloud login page

Enable the site and restart Apache sudo a2ensite owncloud.conf sudo systemctl reload apache2