Web Server deployment

sudo apt update -y

sudo apt install nginx php-fpm

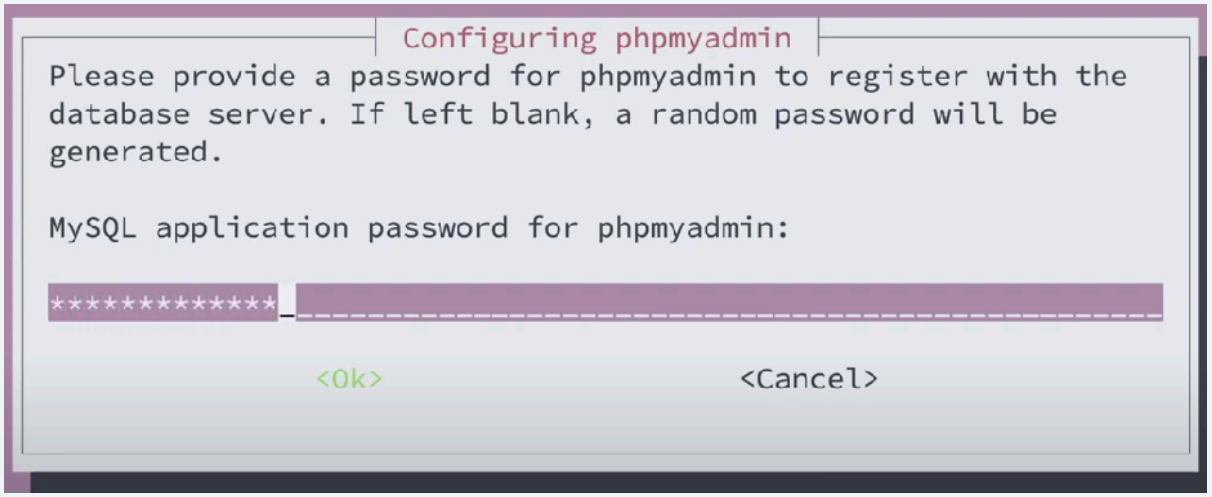
sudo apt install mysql-server -y

sudo mysql -u root

mysql> ALTER USER ‘root@localhost’ identified by ‘mypassword321’;

quit;

sudo apt install phpmyadmin -y (tick for nginx else skip)



Type the mysql root password.

Apache/Nginx, MySQL, PHP deployment and configuration on Ubuntu

Prerequisites

- An Ubuntu server (20.04 or later recommended).
- A user with sudo privileges.

Step-by-Step Guide for Installation

1. Update Your Ubuntu Server

```
sudo apt update
sudo apt upgrade
```

Step 2: Install Apache Server

```
sudo apt install apache2
```

Step 3: Install MySQL

```
sudo apt install mysql-server
sudo mysql_secure_installation
```

Step 4: Install PHP and other library

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

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Step 5: Configure Apache

Create a Virtual Host file:

```
sudo vi /etc/apache2/sites-available/techaxis.conf
```

Add the following configuration:

```
<VirtualHost *:80>
    ServerAdmin webmaster@yourdomain.com
    ServerName yourdomain.com
    ServerAlias www.yourdomain.com
```

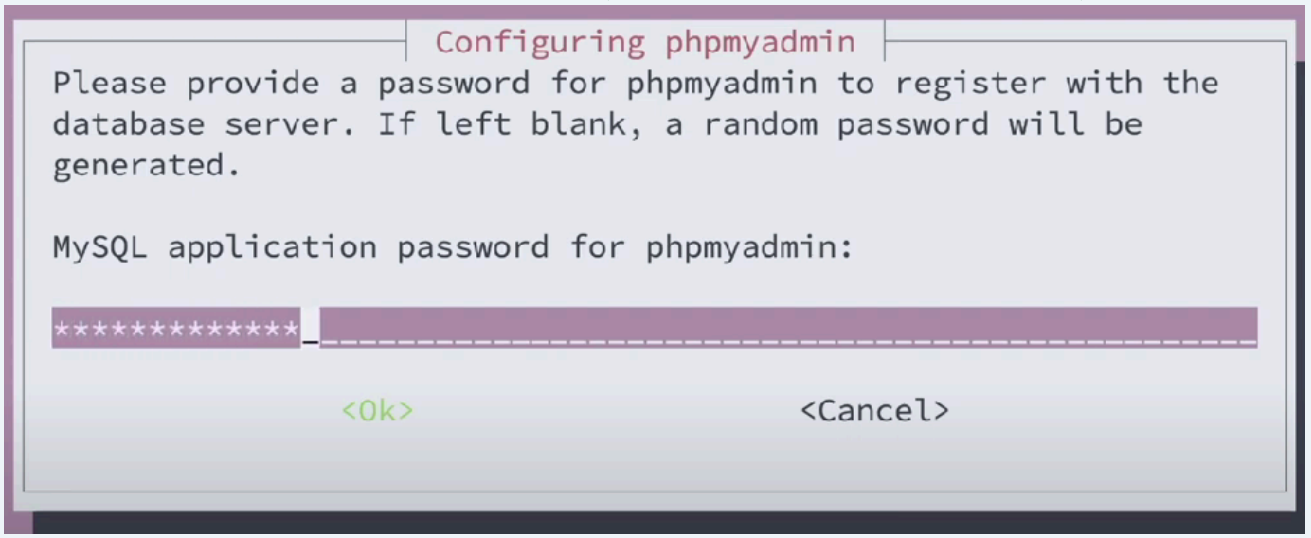
```
    DocumentRoot /var/www/yourdomain
    <Directory /var/www/yourdomain>
        Options Indexes FollowSymLinks
        AllowOverride All
        Require all granted
    </Directory>
    ErrorLog ${APACHE_LOG_DIR}/error.log
    CustomLog ${APACHE_LOG_DIR}/access.log combined
</VirtualHost>
```

Enable the new site and the rewrite module:

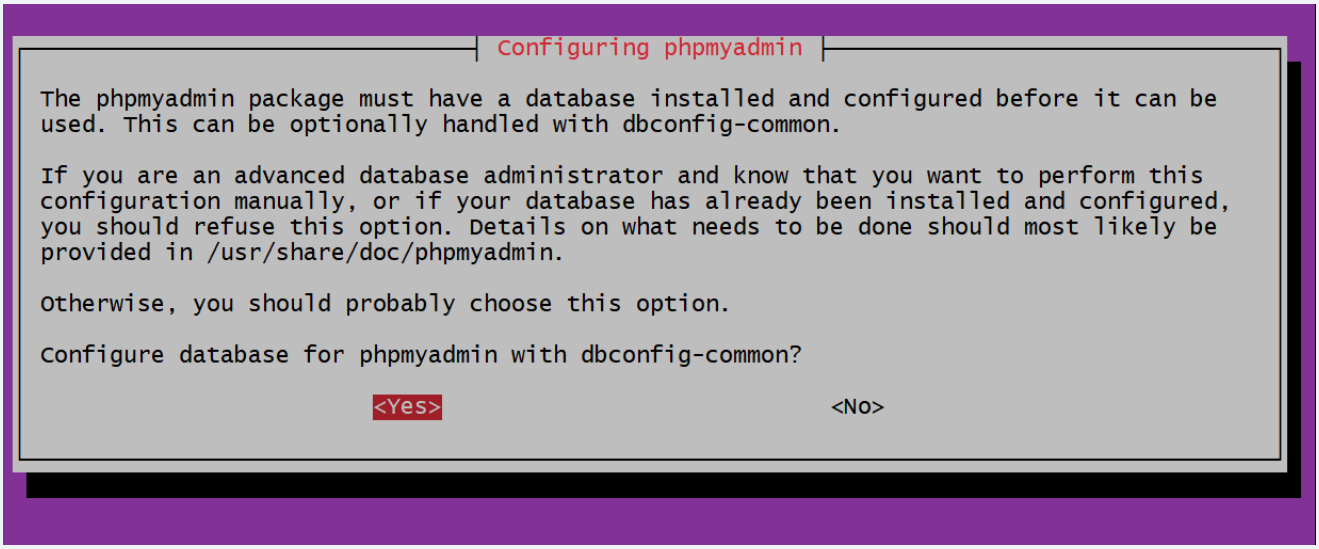
```
sudo a2ensite yourdomain.conf
sudo a2enmod rewrite

sudo systemctl restart apache2
```

Install phpmyadmin:

```
sudo apt install phpmyadmin
sudo apt install phpmyadmin -y (tick for nginx else skip)
```




```
Leave no and proceed in installation
```



Step 6: Configure MySQL Database for Your Application

Log in to MySQL:

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

Create a new database and user:

```
CREATE DATABASE mydatabase;
CREATE USER techuser@'localhost' IDENTIFIED BY 'techpassword';
GRANT ALL PRIVILEGES ON mydatabase.* TO 'techuser'@'localhost';
FLUSH PRIVILEGES;
EXIT;

JUST VERIFY:   SELECT user FROM mysql.user;
```

localhost/phpmyadmin ======> will not work by default

TO ENABLE PHPMYADMIN:

```
In /etc/apache2/apache2.conf     ( add the below line )
Include /etc/phpmyadmin/apache.conf
sudo phpenmod mbstring

sudo systemctl restart apache2

=====================================================================

GRANT ALL PRIVILEGES ON *.* TO 'phpmyadmin'@'localhost';

FLUSH PRIVILEGES;

=====================================================================



# sudo apachectl -S

# sudo a2dissite 000-default.conf

# sudo systemctl restart apache2

# sudo a2ensite mydemo.conf

# sudo systemctl restart apache2
```

LEMP Stack (Nginx)

Step 1: Install Nginx

```
sudo apt install nginx
```

Step 2: Install MySQL

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

sudo mysql_secure_installation
```

Step 3: Install PHP

```
sudo apt install php-fpm php-mysql unzip curl -y
```

Step 4: Configure Nginx

Create a server block file as mentioned below:

```
sudo vi /etc/nginx/sites-available/wordpress
```

Add the following configuration:

```
server {

    listen 80;
    server_name yourdomain.com www.yourdomain.com;
    root /var/www/yourdomain;

    index index.php index.html index.htm;

    location / {
        try_files $uri $uri/ /index.php?$args;
    }

    location ~ \.php$ {
        include snippets/fastcgi-php.conf;
        fastcgi_pass unix:/var/run/php/php7.4-fpm.sock;
    }

    location ~ /\.ht {
        deny all;
    }
}
```

Enable the new site and test the configuration:

```
sudo ln -s /etc/nginx/sites-available/yourdomain
/etc/nginx/sites-enabled/
sudo nginx -t
sudo systemctl restart nginx
```

Step 6: Configure MySQL Database for Your Application

Log in to MySQL:

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

Create a new database and user:

```
CREATE DATABASE mydatabase;
CREATE USER techuser@'localhost' IDENTIFIED BY 'techpassword';
GRANT ALL PRIVILEGES ON mydatabase.* TO 'techuser'@'localhost';
FLUSH PRIVILEGES;
EXIT;
```

Step 7: Configure PHP

```
sudo vi /etc/php/7.4/apache2/php.ini # For Apache
sudo vi /etc/php/7.4/fpm/php.ini     # For Nginx
```

Ensure the following settings are configured (values can be adjusted to your needs):
ini

```
file_uploads = On
allow_url_fopen = On
memory_limit = 256M
upload_max_filesize = 100M
max_execution_time = 300
```

Restart the web server to apply the changes:

```
sudo systemctl restart apache2 # For Apache
sudo systemctl restart php7.4-fpm # For Nginx
```

Step 8: Secure Your Server allowing it to ufw

Configure the firewall to allow traffic on necessary ports:

```
sudo ufw allow OpenSSH
sudo ufw allow 'Apache Full' # For Apache
sudo ufw allow 'Nginx Full' # For Nginx
sudo ufw enable
Sudo ufw reload
```

Install and configure SSL/TLS using Let's Encrypt:

```
sudo apt install certbot python3-certbot-apache # For Apache
sudo apt install certbot python3-certbot-nginx # For Nginx
sudo certbot --apache # For Apache
sudo certbot --nginx # For Nginx
```

Follow the prompts to obtain and install the SSL certificate.
Lets create a phpinfo.php within the /var/www/html/phpinfo.php
With the content as phpinfo.php
<?php phpinfo() ?>

WORDPRESS

Install Apache2
Install mysql-server
Install php

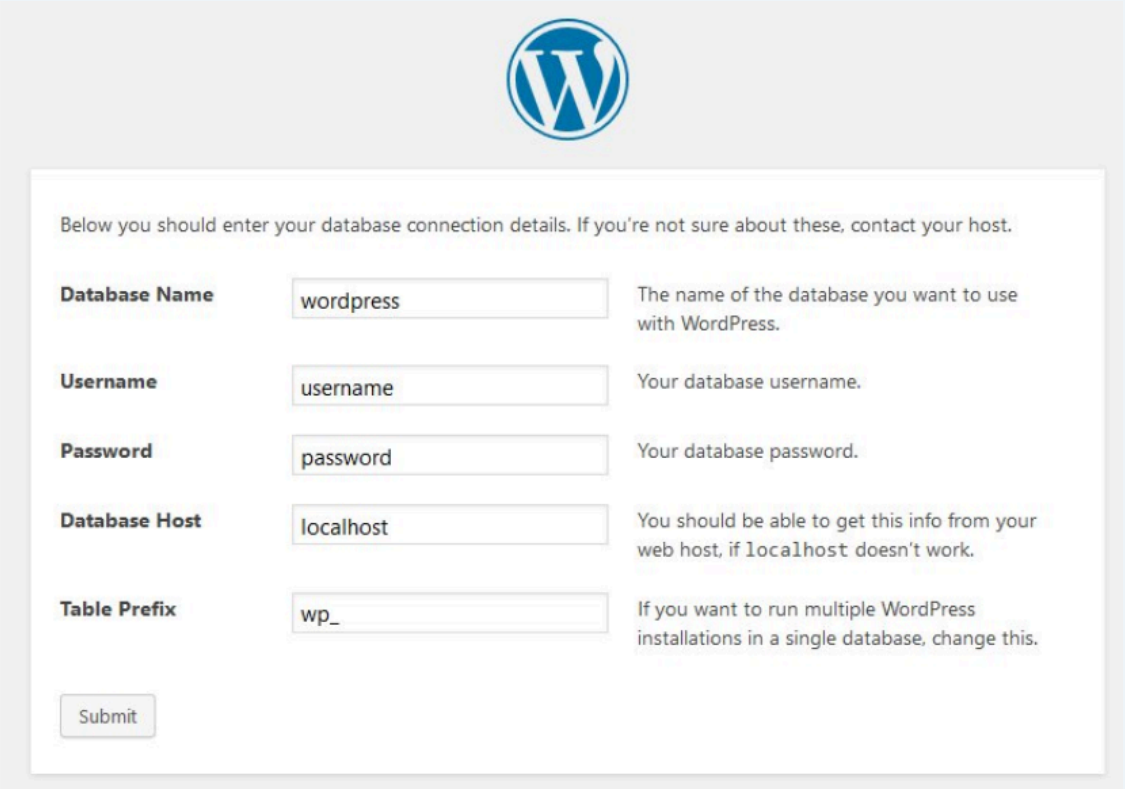
##

ALTER USER ‘root’@localhost IDENTIFIED WITH mysql_native_password BY ‘myrootpw@123’;
CREATE USER 'wp_user'@'localhost' IDENTIFIED BY 'Mywppassword@123';
CREATE DATABASE wp;
GRANT ALL PRIVILEGES ON wp.* TO 'wp_user'@'localhost';
FLUSH PRIVILEGES;

DOWNLOAD WORDPRESS LATEST VERSION:

wget https://wordpress.org/latest.tar.gz
tar -xvf latest.tar.gz
sudo mv wordpress/ /var/www/html/

IN BROWSER:
Go To: localhost/wordpress



IF ERROR THEN:

CREATE A wp-config.php to write those content displayed.

since we have ip/wordpress in the browser.
If we need to change wordpress to be opened via. direct IP then,
Modify the 000-default.conf as Document Root to /var/www/html/wordpress

IF YOU HAVE A DOMAIN then, point the A record of DNS to the public IP of wordpress.
Finally we need to add below lines to 000-default.conf.
ServerName yourdomain.com
ServerAlias www.yourdomain.com

IN GENERAL SETTINGS OF WORDPRESS
URL : http://yourdomain.com
Site URL : http://yourdomain.com

FOR HTTPS

sudo apt-get update
sudo apt install certbot python3-certbot-apache

Request and install ssl on your site with certbot
sudo certbot --apache