

Universal LAMP Server Setup on Ubuntu with PHP 8.2

1. **Update System**

```
```bash
sudo apt update && sudo apt upgrade -y
```
```

2. **Install Apache**

```
```bash
sudo apt install apache2 -y
sudo systemctl enable apache2
sudo systemctl start apache2
```
```

3. **Install MySQL and Create Admin User**

```
```bash
sudo apt install mysql-server -y
sudo mysql_secure_installation
sudo mysql -e "CREATE USER 'admin'@'localhost' IDENTIFIED BY 'admin@123';"
sudo mysql -e "GRANT ALL PRIVILEGES ON *.* TO 'admin'@'localhost' WITH GRANT OPTION;"
sudo mysql -e "FLUSH PRIVILEGES;"
```
```

4. **Install PHP 8.2**

```
```bash
sudo add-apt-repository ppa:ondrej/php -y
sudo apt update
sudo apt install php8.2 libapache2-mod-php8.2 php8.2-mysql -y
sudo systemctl restart apache2
```
```

5. **Install phpMyAdmin**

```
```bash
sudo apt install phpmyadmin -y
sudo ln -s /usr/share/phpmyadmin /var/www/html/phpmyadmin
sudo systemctl restart apache2
```
```

6. **Set Correct Permissions**

```
```bash
sudo chown -R www-data:www-data /var/www/html
sudo chmod -R 755 /var/www/html
```
```

...

7. ****Configure Apache for Universal DocumentRoot****

```
```bash
```

```
sudo nano /etc/apache2/sites-available/000-default.conf
```

...

Modify the file:

```
```apache
```

```
<VirtualHost *:80>
```

```
    ServerAdmin webmaster@localhost
```

```
    DocumentRoot /var/www/html
```

```
    <Directory /var/www/html>
```

```
        AllowOverride All
```

```
        Require all granted
```

```
    </Directory>
```

```
    ErrorLog ${APACHE_LOG_DIR}/error.log
```

```
    CustomLog ${APACHE_LOG_DIR}/access.log combined
```

```
</VirtualHost>
```

...

8. ****Enable mod_rewrite & Restart Apache****

```
```bash
```

```
sudo a2enmod rewrite
```

```
sudo systemctl restart apache2
```

...

## 9. **\*\*Enable Proxy Modules for Proxy Redirection\*\***

```
```bash
```

```
sudo a2enmod proxy
```

```
sudo a2enmod proxy_http
```

```
sudo systemctl restart apache2
```

...

10. ****Set up Custom VirtualHost for Reverse Proxy****

```
```bash
```

```
sudo nano /etc/apache2/sites-available/myapp.conf
```

...

Add the following:

```
```apache
```

```
<VirtualHost *:80>
```

```
    ServerName myapp.local
```

```
    ProxyPreserveHost On
```

```
    ProxyPass / http://localhost:3000/
```

```
    ProxyPassReverse / http://localhost:3000/
```

```
    ErrorLog ${APACHE_LOG_DIR}/myapp_error.log
```

```
CustomLog ${APACHE_LOG_DIR}/myapp_access.log combined
</VirtualHost>
...

```

Enable the VirtualHost and restart:

```
``bash
sudo a2ensite myapp.conf
sudo systemctl restart apache2
...

```

11. **Setup VirtualHost for CMS**

```
``bash
sudo nano /etc/apache2/sites-available/mycms.conf
...

``apache
<VirtualHost *:80>
    ServerName mycms.local
    DocumentRoot /var/www/mycms
    <Directory /var/www/mycms>
        AllowOverride All
        Require all granted
    </Directory>
    ErrorLog ${APACHE_LOG_DIR}/mycms_error.log
    CustomLog ${APACHE_LOG_DIR}/mycms_access.log combined
</VirtualHost>
...

``bash
sudo a2ensite mycms.conf
sudo systemctl restart apache2
...

```

12. **Update Hosts File for Local Testing**

```
``bash
sudo nano /etc/hosts
...

Add:
...

127.0.0.1 myapp.local
127.0.0.1 mycms.local
...

```

13. **Verify Installation**

- Open `http://your-server-ip/` for Apache
- Create test PHP file:

```
``bash
echo "<?php phpinfo(); ?>" | sudo tee /var/www/html/info.php

```

...

- Visit `http://your-server-ip/info.php` to check PHP
- Access phpMyAdmin: `http://your-server-ip/phpmyadmin/`

Your LAMP setup with Proxy Redirection and Custom VirtualHosts is now ready!