

CONTENT MANAGEMENT SYSTEM  
(Joomla! 3.8)

INSTALLATION MANUAL

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**UBUNTU SERVER**

Once logged in to the ubuntu server, update the repository and install apache2.

```
gren@G1CMS:~$ sudo apt-get update
[sudo] password for gren:
Hit:1 http://security.ubuntu.com/ubuntu xenial-security InRelease
Hit:2 http://ph.archive.ubuntu.com/ubuntu xenial InRelease
Get:3 http://ph.archive.ubuntu.com/ubuntu xenial-updates InRelease [102 kB]
Get:4 http://ph.archive.ubuntu.com/ubuntu xenial-backports InRelease [102 kB]
Fetched 204 kB in 9s (22.0 kB/s)
Reading package lists... Done
gren@G1CMS:~$
```

Figure 1. Update the server’s repository.

```
gren@G1CMS:~$ sudo apt-get install apache2
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libapr1 libaprutil1 libaprutil1-dbd-sqlite3
  libaprutil1-ldap liblua5.1-0 ssl-cert
Suggested packages:
  www-browser apache2-doc apache2-suexec-pristine | apache2-suexec-custom openssl-blacklist
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libapr1 libaprutil1 libaprutil1-dbd-sqlite3
  libaprutil1-ldap liblua5.1-0 ssl-cert
0 upgraded, 10 newly installed, 0 to remove and 134 not upgraded.
Need to get 1,557 kB of archives.
After this operation, 6,432 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
```

Figure 2. Installing Apache2.

**Installing JOOMLA! on Ubuntu Server 16.04**

**MySQL installation**

- 1. Install MySQL and integrate it to PHP. PHP is a scripting language used to produce dynamic web pages. The php scripts are embedded into HTML page and the script is written inside the <?php...?> tag. When the HTML page is sent to PHP Engine, the tags inside the php script will be translated into HTML before it can be rendered by browser.

```
gren@G1CMS:~$ sudo apt-get install mysql-server php7.0-mysql
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libaio1 libcgi-fast-perl libcgi-pm-perl libencode-locale-perl libevent-core-2.0-5 libfcgi-perl
  libhtml-parser-perl libhtml-tagset-perl libhtml-template-perl libhttp-date-perl
  libhttp-message-perl libio-html-perl liblwp-mediatypes-perl libtimedate-perl liburi-perl
  mysql-client-5.7 mysql-client-core-5.7 mysql-common mysql-server-5.7 mysql-server-core-5.7
  php-common php7.0-common
Suggested packages:
  libdata-dump-perl libipc-sharedcache-perl libwww-perl mailx tinycal
The following NEW packages will be installed:
  libaio1 libcgi-fast-perl libcgi-pm-perl libencode-locale-perl libevent-core-2.0-5 libfcgi-perl
  libhtml-parser-perl libhtml-tagset-perl libhtml-template-perl libhttp-date-perl
  libhttp-message-perl libio-html-perl liblwp-mediatypes-perl libtimedate-perl liburi-perl
  mysql-client-5.7 mysql-client-core-5.7 mysql-common mysql-server mysql-server-5.7
  mysql-server-core-5.7 php-common php7.0-mysql
0 upgraded, 24 newly installed, 0 to remove and 134 not upgraded.
Need to get 20.3 MB of archives.
After this operation, 168 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
```

Fig 3. MySQL database will be used by the PHP file to retrieve the data it needs.

2. Click Y afterwards. Enter a strong password for MySQL.

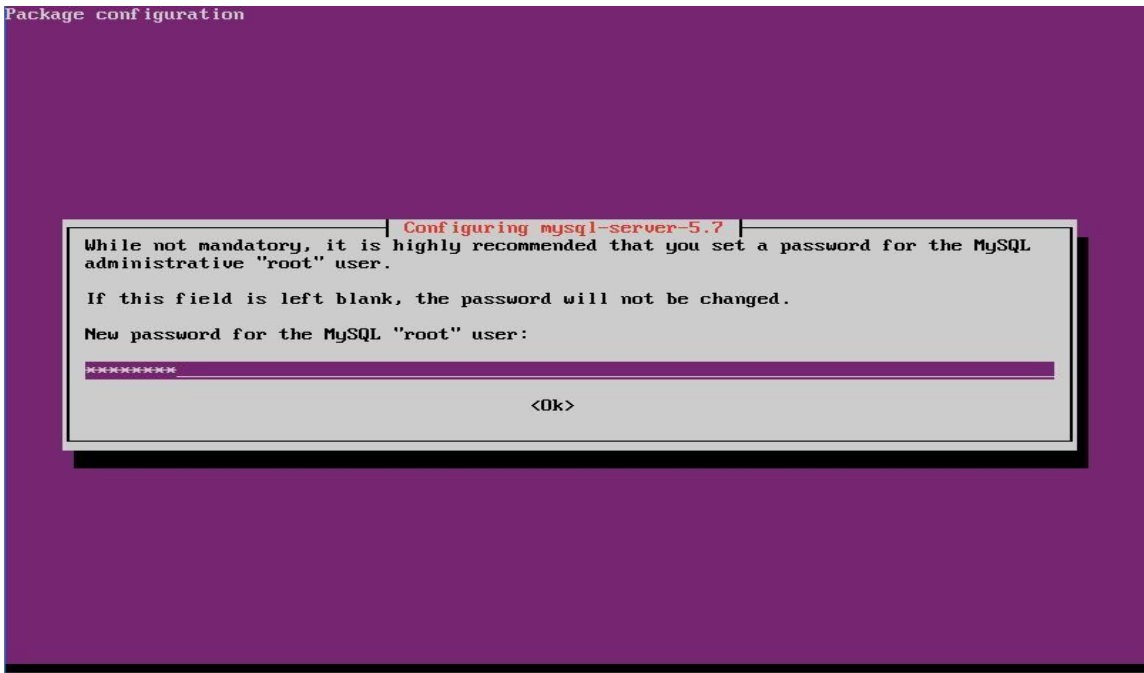


Fig 4.

3. Re enter password.

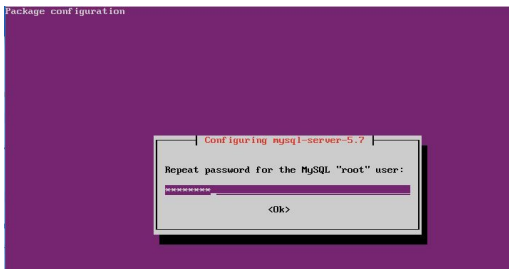


Fig 5. MySQL

4. Execute this command to complete the installation of MySQL. The password you are going to enter is the password for MySQL.

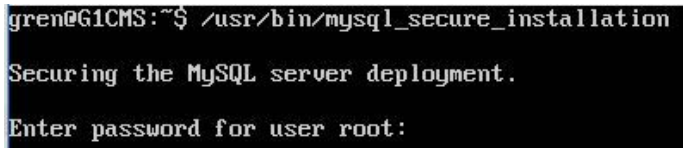


Fig 6. MySQL

5. Type Y if yes, N otherwise.

```
secure enough. Would you like to setup VALIDATE PASSWORD plugin?

Press y|Y for Yes, any other key for No: N
Using existing password for root.
Change the password for root ? ((Press y|Y for Yes, any other key for No) : N

... skipping.
By default, a MySQL installation has an anonymous user,
allowing anyone to log into MySQL 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? (Press y|Y for Yes, any other key for No) : 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? (Press y|Y for Yes, any other key for No) : Y
Success.

By default, MySQL 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? (Press y|Y for Yes, any other key for No) : Y_
```

Fig 7. MySQL configuration

```
Remove test database and access to it? (Press y|Y for Yes, any other key for No) : 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? (Press y|Y for Yes, any other key for No) : Y
Success.

All done!
gren@G1CMS:~$ _
```

Fig 8. MySQL configuration

**PHP Installation**

- 1. Install PHP and its modules. Type the following command to install PHP. Type Y, press enter.

```
gren@G1CMS:~$ sudo apt-get install php7.0 libapache2-mod-php7.0 php7.0-mcrypt php7.0-xml php7.0-curl
php7.0-json php7.0-cgi
[sudo] password for gren:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libcurl3 libmcrypt4 libxslt1.1 php7.0-cli php7.0-opcache php7.0-readline
Suggested packages:
  php-pear libmcrypt-dev mcrypt
The following NEW packages will be installed:
  libapache2-mod-php7.0 libcurl3 libmcrypt4 libxslt1.1 php7.0 php7.0-cgi php7.0-cli php7.0-curl
  php7.0-json php7.0-mcrypt php7.0-opcache php7.0-readline php7.0-xml
0 upgraded, 13 newly installed, 0 to remove and 134 not upgraded.
Need to get 4,410 kB of archives.
After this operation, 19.6 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
```

Fig 9.

(Confirm successful LAMP installation)

- 1. Remove the index.html file  
sudo rm /var/www/html/index.html
- 2. Create a new php file.  
sudo touch /var/www/html/index.php
- 3. Edit the php file using this command,  
sudo nano /var/www/html/index.php
- 4. Place this code inside the php file.



Fig 12. PHP can be installed into different system with different setup. **phpinfo();** is a function used inside the php script to check the configuration for PHP. When the php file is rendered from the browser, it will show you the whole configuration details, the PHP version and its modules installed on your browser.

- 5. Open your browser and enter your IP Address/domain name. You should be able to access the default page of PHP containing information regarding the PHP version and module installed on your server.

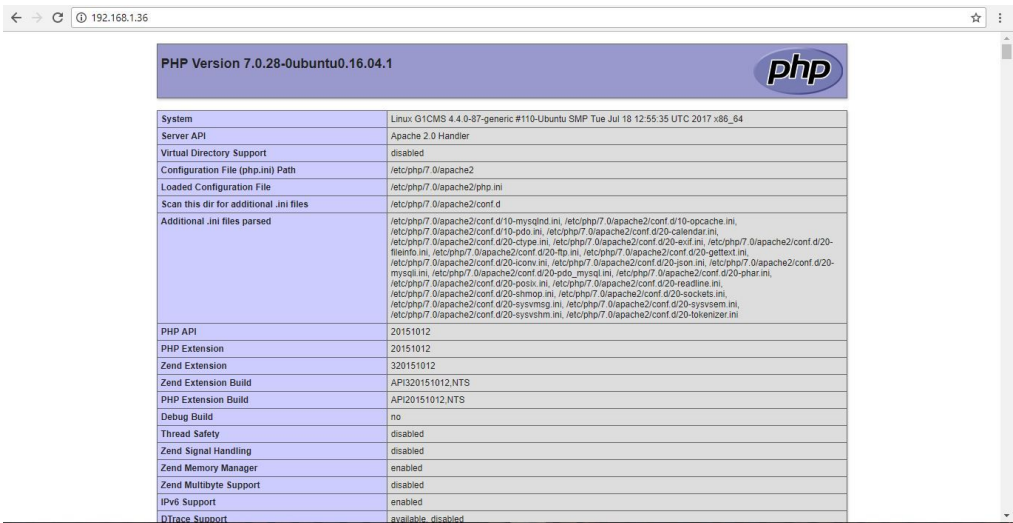


Fig 13. Once the php file, containing the code with phpinfo() function, is rendered by your browser it will show you the detailed

- 6. Now, remove the php file.  
sudo rm /var/www/html/index.php

## Install JOOMLA! Files

1. Go to Apache web server root, inside this directory download Joomla!.

```
gren@G1CMS:~$ cd /var/www/html
gren@G1CMS:/var/www/html$ sudo wget https://downloads.joomla.org/cms/joomla3/3-7-5/Joomla_3-7.5-Stable-Full_Package.zip
--2018-03-24 19:34:44-- https://downloads.joomla.org/cms/joomla3/3-7-5/Joomla_3-7.5-Stable-Full_Package.zip
Resolving downloads.joomla.org (downloads.joomla.org)... 72.29.124.146
Connecting to downloads.joomla.org (downloads.joomla.org)|72.29.124.146|:443... connected.
HTTP request sent, awaiting response... 303 See Other
Location: https://s3-us-west-2.amazonaws.com/joomla-official-downloads/joomladownloads/joomla3/Joomla_3.7.5-Stable-Full_Package.zip?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAI26S3Q3YQH657ZRA%2F20180324%2Fus-west-2%2Fs3%2Faws4_request&X-Amz-Date=20180324T113445Z&X-Amz-Expires=60&X-Amz-SignedHeaders=host&X-Amz-Signature=33b1d28fe6ab7d53c5ac5bdd718ff0e23fdefeea04961fa7f6e3ff49002b6e34 [following]
--2018-03-24 19:34:46-- https://s3-us-west-2.amazonaws.com/joomla-official-downloads/joomladownloads/joomla3/Joomla_3.7.5-Stable-Full_Package.zip?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAI26S3Q3YQH657ZRA%2F20180324%2Fus-west-2%2Fs3%2Faws4_request&X-Amz-Date=20180324T113445Z&X-Amz-Expires=60&X-Amz-SignedHeaders=host&X-Amz-Signature=33b1d28fe6ab7d53c5ac5bdd718ff0e23fdefeea04961fa7f6e3ff49002b6e34
Resolving s3-us-west-2.amazonaws.com (s3-us-west-2.amazonaws.com)... 52.218.200.96
Connecting to s3-us-west-2.amazonaws.com (s3-us-west-2.amazonaws.com)|52.218.200.96|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 13050565 (12M) [application/x-www-form-urlencoded]
Saving to: 'Joomla_3-7.5-Stable-Full_Package.zip'

Joomla_3-7.5-Stable-Full 100%[=====>] 12.45M 76.8KB/s in 93s

2018-03-24 19:36:23 (136 KB/s) - 'Joomla_3-7.5-Stable-Full_Package.zip' saved [13050565/13050565]

gren@G1CMS:/var/www/html$
```

Fig 15.

2. The downloaded joomla file is currently zipped, install first 'unzip' so later on we can unzip the joomla! file.

```
gren@G1CMS:/var/www/html$ sudo apt-get install unzip
Reading package lists... Done
Building dependency tree
Reading state information... Done
Suggested packages:
  zip
The following NEW packages will be installed:
  unzip
0 upgraded, 1 newly installed, 0 to remove and 134 not upgraded.
Need to get 158 kB of archives.
After this operation, 530 kB of additional disk space will be used.
Get:1 http://ph.archive.ubuntu.com/ubuntu xenial/main amd64 unzip amd64 6.0-20ubuntu1 [158 kB]
Fetched 158 kB in 1s (158 kB/s)
Selecting previously unselected package unzip.
(Reading database ... 61175 files and directories currently installed.)
Preparing to unpack .../unzip_6.0-20ubuntu1_amd64.deb ...
Unpacking unzip (6.0-20ubuntu1) ...
Processing triggers for mime-support (3.59ubuntu1) ...
Processing triggers for man-db (2.7.5-1) ...
Setting up unzip (6.0-20ubuntu1) ...
gren@G1CMS:/var/www/html$
```

Fig. 16

3. Unzip the downloaded joomla file.

```
gren@G1CMS:/var/www/html$ sudo unzip Joomla_3-7.5-Stable-Full_Package.zip_
```

Fig 17.

4. Activate htaccess.

```
gren@G1CMS:/var/www/html$ sudo mv htaccess.txt .htaccess_
```



5. Set permissions to the following file

```
gren@G1CMS:/var/www/html$ sudo chown -R www-data.www-data /var/www/html
gren@G1CMS:/var/www/html$ sudo chown -R 755 /var/www/html
```

Fig 19.

```
gren@G1CMS:/var/www/html$ sudo mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 7
Server version: 5.7.21-0ubuntu0.16.04.1 (Ubuntu)

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affiliates. Other names may be trademarks of their respective
owners.

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

mysql> _
```

Fig 20.

(Create a MySQL database for JOOMLA!)

1. Type the following command to open MySQL console. Enter your password in MySQL.
2. Once logged in to MySQL, create a new database for joomla. Enter this command.  
**mysql>CREATE DATABASE joomla;**
3. Create a new user with password provided. When finished creating a new user, type  
FLUSH PRIVILEGES. Exit MySQL console.

```
mysql> grant all privileges on joomla.* to 'gabriela'@'localhost' identified by 'group1cmskayanatint
o'
-> _
```

Fig 21.

```
mysql> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.00 sec)

mysql> exit
Bye
gren@G1CMS:~$
```

Fig 22.

4. Restart apache web server.

```
gren@G1CMS:~$ systemctl restart apache2
==== AUTHENTICATING FOR org.freedesktop.systemd1.manage-units ====
Authentication is required to restart 'apache2.service'.
Authenticating as: gren,,, (gren)
Password:
==== AUTHENTICATION COMPLETE ====
gren@G1CMS:~$
```

Fig 23.

-----

This time, when you enter your ip address the Joomla! website will be accessed. To complete the installation you need to fill out the required information for each configuration.

**Joomla! Installation**

This is the main configuration for Joomla! During the installation it is required to fill out all the configuration for Joomla!. First is the main configuration, enter the desired name for your website, its description and the account details such as email, username and password of the Super User.

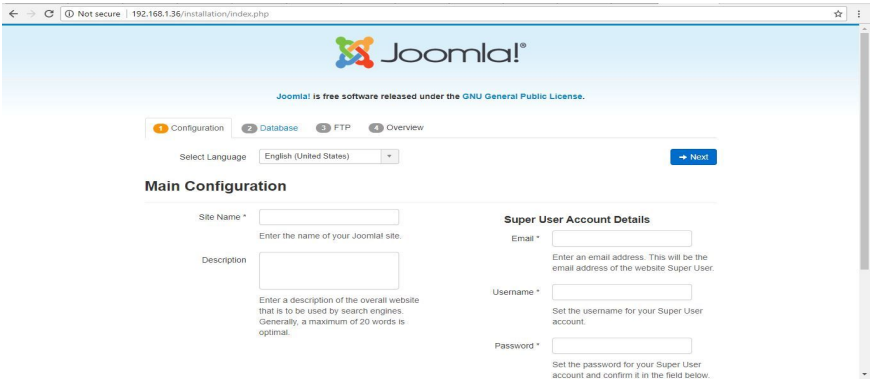


Fig 24. Joomla! Installation

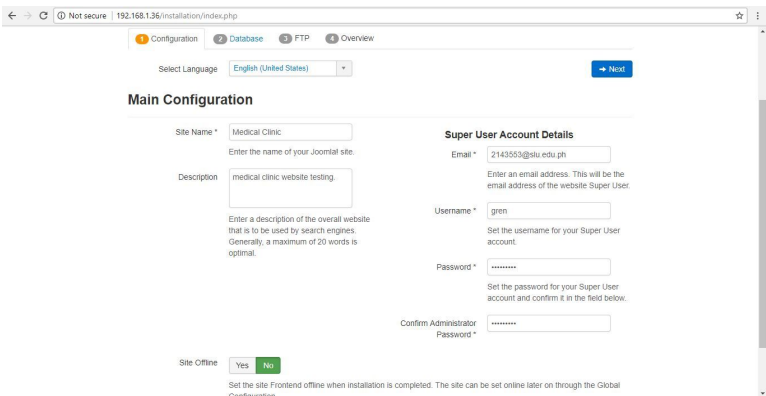


Fig 25. Main Configuration

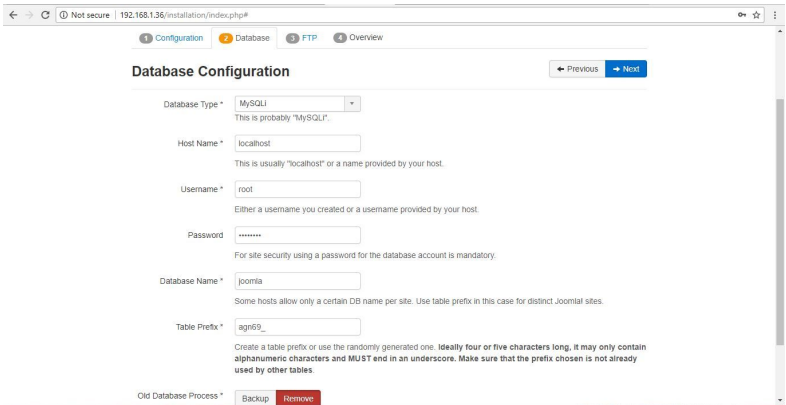


Fig 26. Database Configuration



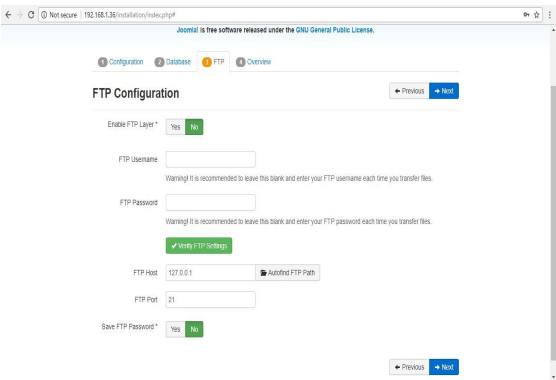


Fig 27. FTP Configuration

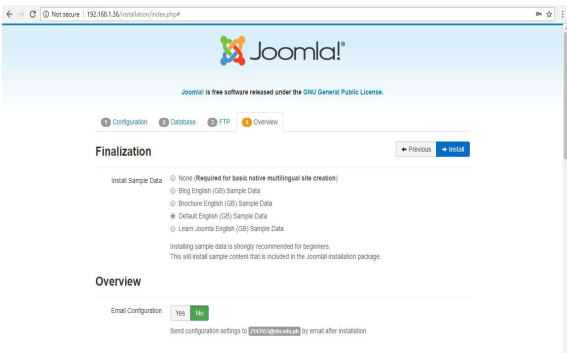


Fig 28. Overview of all the configurations made for the Main, Database, and FTP.

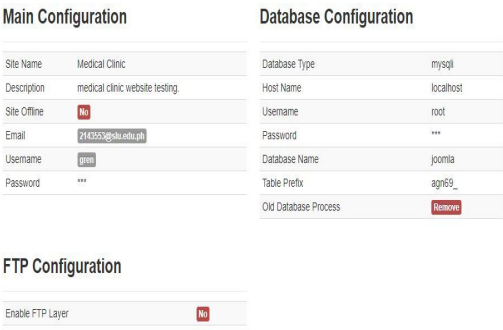


Fig 29. Configuration overview

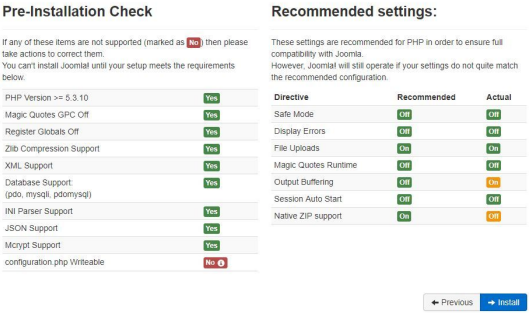


Fig 30. Configuration Overview

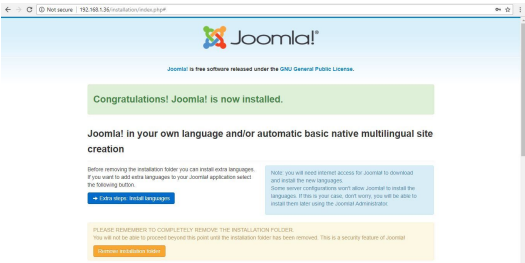


Fig 31. Joomla! Is successfully installed.

Go back to ubuntu server and configure the PHP.

**PHP configuration:**

```
GNU nano 2.5.3      File: /etc/php/7.0/cli/php.ini      Modified
; http://php.net/expose-php
expose_php = On

;::::::::::::::::::
; Resource Limits ;
;::::::::::::::::::

; Maximum execution time of each script, in seconds
; http://php.net/max-execution-time
; Note: This directive is hardcoded to 0 for the CLI SAPI
max_execution_time = 3000

; Maximum amount of time each script may spend parsing request data. It's a good
; idea to limit this time on productions servers in order to eliminate unexpectedly
; long running scripts.
; Note: This directive is hardcoded to -1 for the CLI SAPI
; Default Value: -1 (Unlimited)
; Development Value: 60 (60 seconds)
; Production Value: 60 (60 seconds)
; http://php.net/max-input-time
max_input_time = 60

; Maximum input variable nesting level
; http://php.net/max-input-nesting-level
;max_input_nesting_level = 64

; How many GET/POST/COOKIE input variables may be accepted
; max_input_vars = 1000

; Maximum amount of memory a script may consume (128MB)
; http://php.net/memory-limit
memory_limit = 128MB

^G Get Help  ^O Write Out  ^W Where Is   ^K Cut Text   ^J Justify    ^C Cur Pos    ^Y Prev Page
^X Exit      ^R Read File  ^_ Replace    ^U Uncut Text ^T To Spell   ^_ Go To Line  ^V Next Page
```

Fig 33. change max\_execution\_time to 3000 and memory\_limit to 128M

```
gren@G1CMS:~$ systemctl restart apache2
==== AUTHENTICATING FOR org.freedesktop.systemd1.manage-units ====
Authentication is required to restart 'apache2.service'.
Authenticating as: gren,,, (gren)
Password:
==== AUTHENTICATION COMPLETE ====
gren@G1CMS:~$
```

Fig 34. Restart the server

### Online Resources

<https://www.vultr.com/docs/installing-joomla-on-ubuntu-16-04>