Moodle On Ubuntu 20.04

Configuring moodle with php 8.0,nginx and mariadb-server

Update Ubuntu 20.04

Start with updating the system to install the latest available updates and refresh the APT package index cache.

$sudo apt update

Install Nginx and PHP

install the Nginx web server

$sudo apt install nginx

Setup PHP 8.x on Ubuntu 20.04

The version of PHP available through the default repository of Ubuntu is 7.4, we are installing PHP 8.0, the latest version of the PHP, we need to add an extra repository.

$sudo apt install software-properties-common

$sudo add-apt-repository ppa:ondrej/php

Install PHP 8.0 and extensions:

$sudo apt install php8.0
php8.0-{fpm,common,mbstring,xmlrpc,soap,gd,xml,intl,mysql,cli,mcrypt,ldap,zip,curl}

To check the version:

$php -v

Now, edit the php.ini file to change some values.

$sudo vim /etc/php/8.0/fpm/php.ini

Note: If you are using the default version of PHP or any other then change **8.0** with that in the above command.

Find the following lines and change their values

memory_limit = **256M**
upload_max_filesize = **64M**
max_execution_time = **360**
//also don't forget to remove the semicolon (;) given in front of max_input_vars.
max_input_vars = **5000**

Replace America/Chicago with your Time zone, if you don't know about it and how to use it, then you can find the **value here.**Now, restart eh PHP-FPM process to reflect the changes you have made to your php.ini file:

$sudo service php8.0-fpm restart

Create Moodle Database (MariaDB)

We can install MySQL, however, here we are using MariaDB (fork) which is one of the best open-source database servers. It is available to install using the default system repository of Ubuntu 20.04. Hence, just run the given command:

$sudo apt install software-properties-common -y

$curl -LsS -O https://downloads.mariadb.com/MariaDB/mariadb_repo_setup

$sudo bash mariadb_repo_setup --mariadb-server-version=10.6

$sudo apt install mariadb-server

$sudo apt update

$sudo apt install mariadb-server

Secure your Database server by setting up the root DB user password and removing anonymous rights.

$sudo mysql_secure_installation

Create a Database and user for Moodle

Once the installation is completed, let's create a dedicated database for Moodle to use and save the data.

Login to DB server CLI:

#Use the password you have set for it in the previous step.

$sudo mysql -u root -p

Create Database:

Sql > CREATE DATABASE dbname;

#Replace **dbname** name with whatever you want to use:

Sql > CREATE USER 'db_user'@'localhost' IDENTIFIED BY 'db_password';

#Repalce **db_user** and **db_password** that you want to use.

Sql > GRANT ALL ON dbname.* TO 'db_user'@'localhost' IDENTIFIED BY 'db_password' WITH GRANT OPTION;

Sql > FLUSH PRIVILEGES;

Sql > EXIT;

Install Moodle on Ubuntu 20.04

Moodle is not a package that we can install using the APT package manager, instead, we have to download it manually.

$ cd ~/Downloads

Download

$ wget https://download.moodle.org/download.php/stable400/moodle-4.0.4.tgz

Extract the downloaded file:

$ tar -zxvf moodle-*tgz

OR

Download Moodle

Change into the /opt directory, clone the Moodle Git repository and change into the resulting moodle subdirectory.

#cd /opt
#sudo git clone git://git.moodle.org/moodle.git
#cd moodle

Determine the latest stable Moodle release from Moodle's official list of releases. At the time of writing, the latest stable release is 3.10.

identify the branch associated with the latest stable release. For release 3.10, this is MOODLE_310_STABLE.

#sudo git branch -a

Track and then check out the branch you identified.

#sudo git branch --track MOODLE_310_STABLE origin/MOODLE_310_STABLE
#sudo git checkout MOODLE_310_STABLE

Move the extracted folder to the web root directory:

$ sudo mv moodle /var/www/html/

Create a data directory to store Moodle-uploaded files and folders.

$ sudo mkdir /var/www/html/moodledata

Directory must not be accessible publicly, hence, change its permission as well.

$ sudo chown www-data /var/www/html/moodledata

We also need to set the permission for the moved Moodle files, so that the web server can access it.

$ sudo chown -R www-data:www-data /var/www/html/moodle/

$ sudo chmod -R 755 /var/www/html/moodle/

Create an Nginx server block for Moodle

$ sudo nano /etc/nginx/sites-available/moodle.conf

Paste the following lines:

Note: Replace yourdomain.com with the domain you want to use to access Moodle. Also, don't forget to change the PHP version in the below lines if you are using other than php8.0.

```
server {
    listen 80;
    listen [::]:80;
    root /var/www/html/moodle;
    index  index.php index.html index.htm;
    server_name  yourdomain.com www.yourdomain.com;
    location / {
    try_files $uri $uri/ =404;
```

```
    }
    location ~ [^/]\.php(/|$) {
        include snippets/fastcgi-php.conf;
        fastcgi_pass unix:/var/run/php/php8.0-fpm.sock;
        fastcgi_param SCRIPT_FILENAME $document_root$fastcgi_script_name;
        include fastcgi_params;
    }
}
```

Enable the Created Moodle server configuration block for Nginx:

$ sudo ln -s /etc/nginx/sites-available/moodle.conf /etc/nginx/sites-enabled/

Check the Configuration for errors:

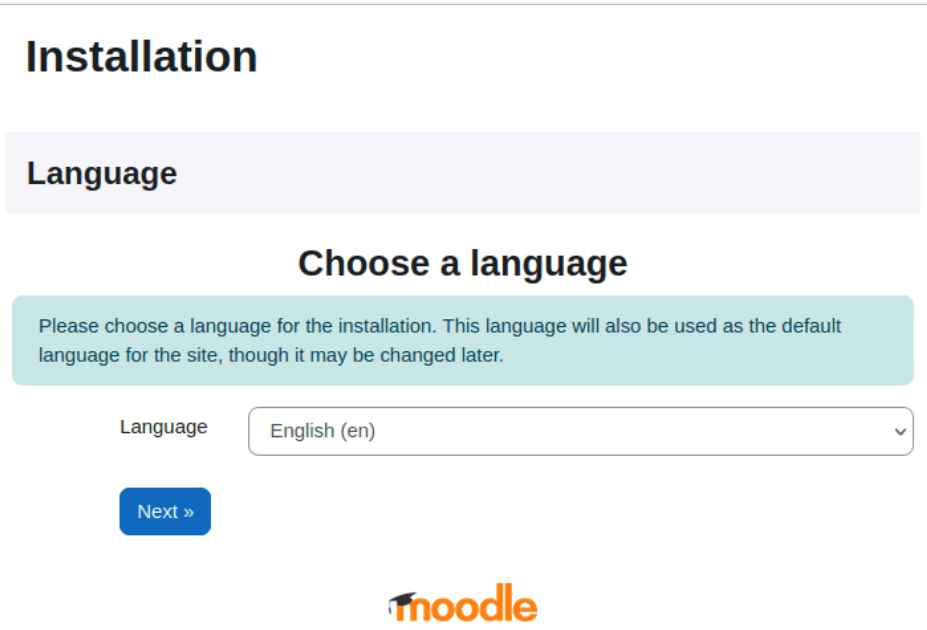
$ sudo nginx -t

Restart the Nginx server:

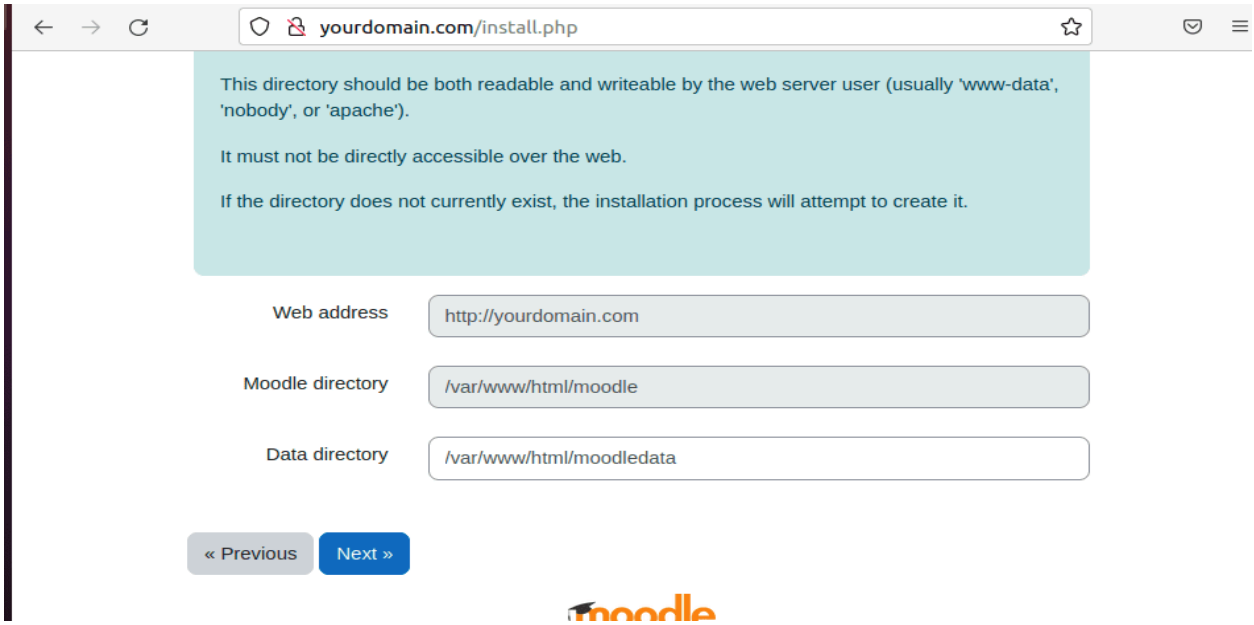
$ sudo systemctl restart nginx

Setting up Moodle on Ubuntu 20.04

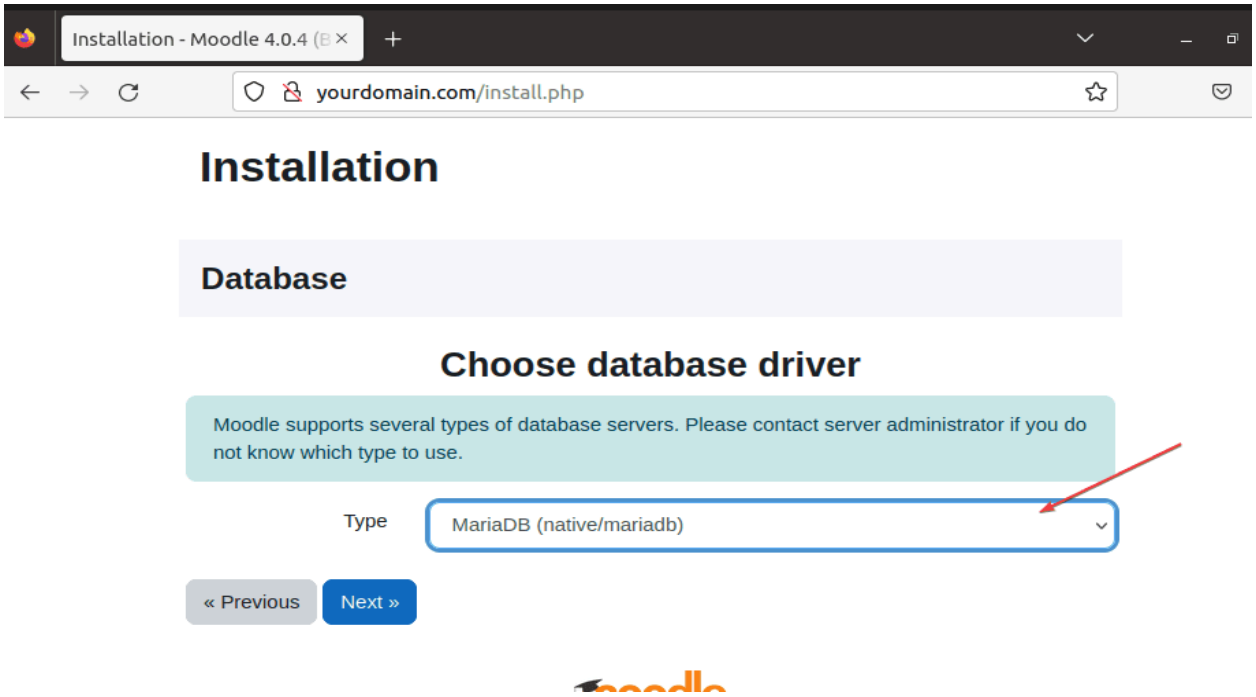
For example – **http://your-domain.com or http://your-ip.com**



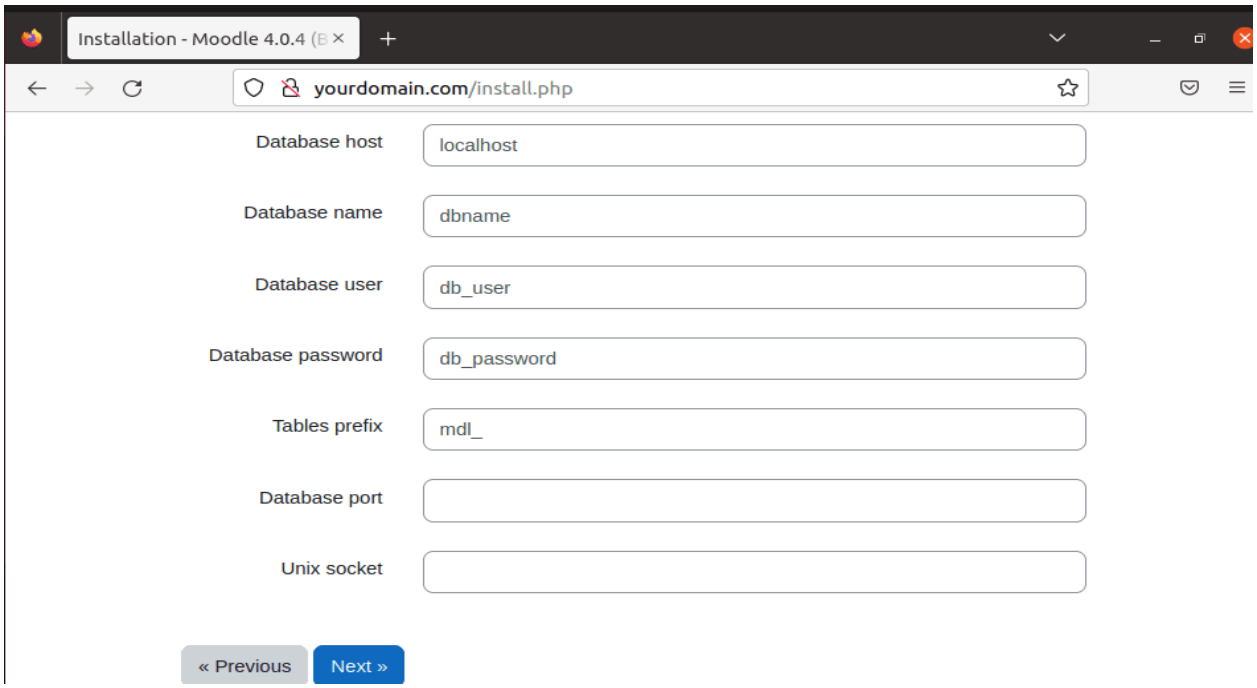
Click on the **Next** button.



Choose the Database driver.



In this step, the setup will ask for the details of the Database such as the Database name, user, and password. Provide them and after that click on **Next**.

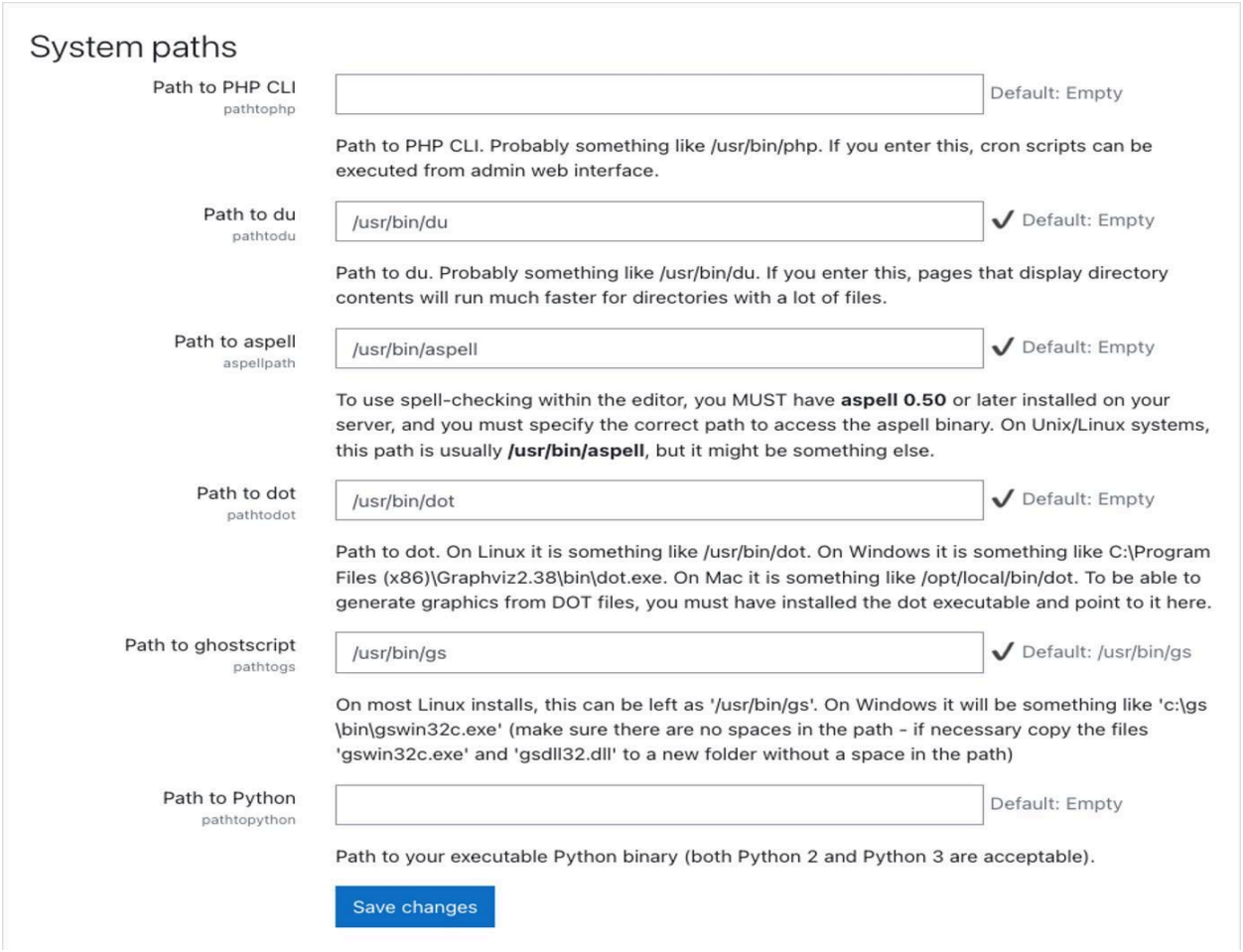


Configure the Moodle's System Paths

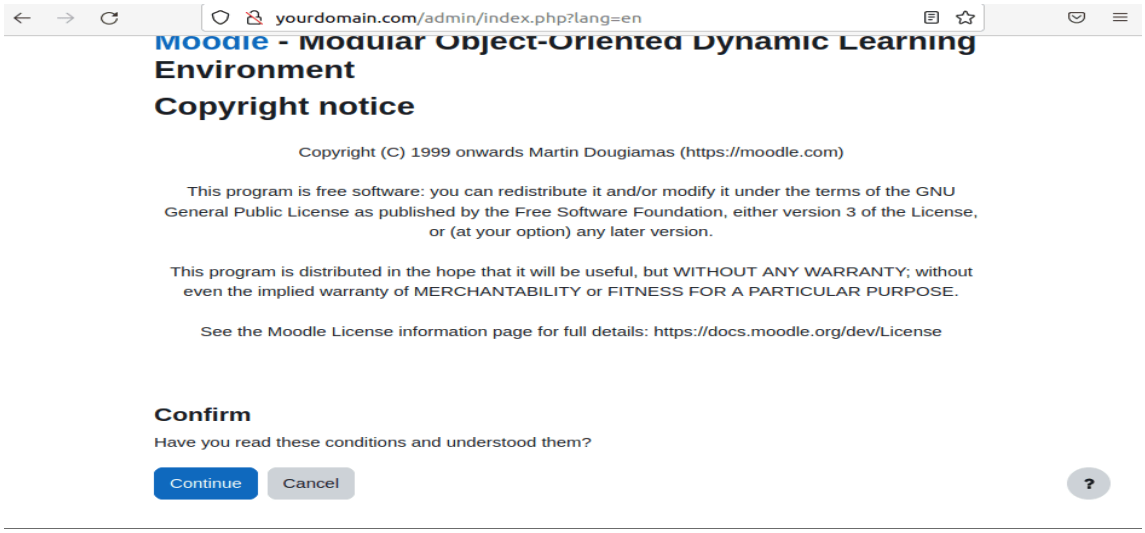
- Configuring the system paths for Moodle, while optional, enhances your Moodle site's performance.
  - Navigate again to your Moodle website (example.com/moodle) and select **Site Administration** from the left menu.
  - Click the **Server** tab and select **System paths**.

On the form presented, complete the fields as follows:

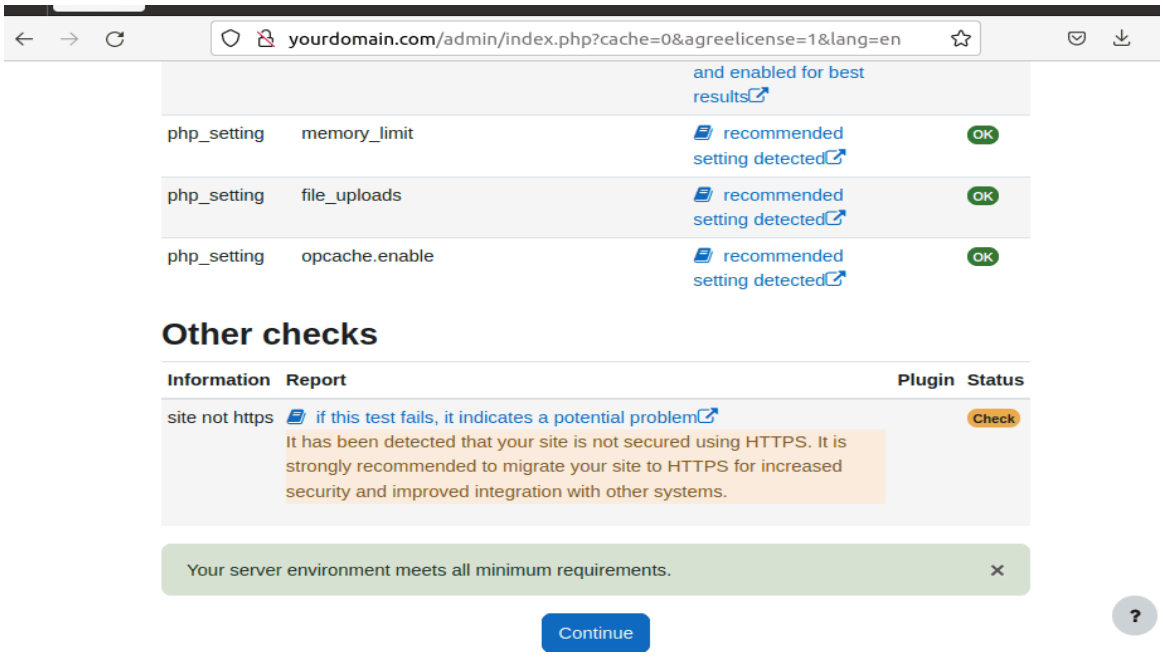
- **Path to du**, enter /usr/bin/du.
- **Path to aspell**, enter /usr/bin/aspell.
- **Path to dot**, enter /usr/bin/dot.



Click on the “**Continue**” button.

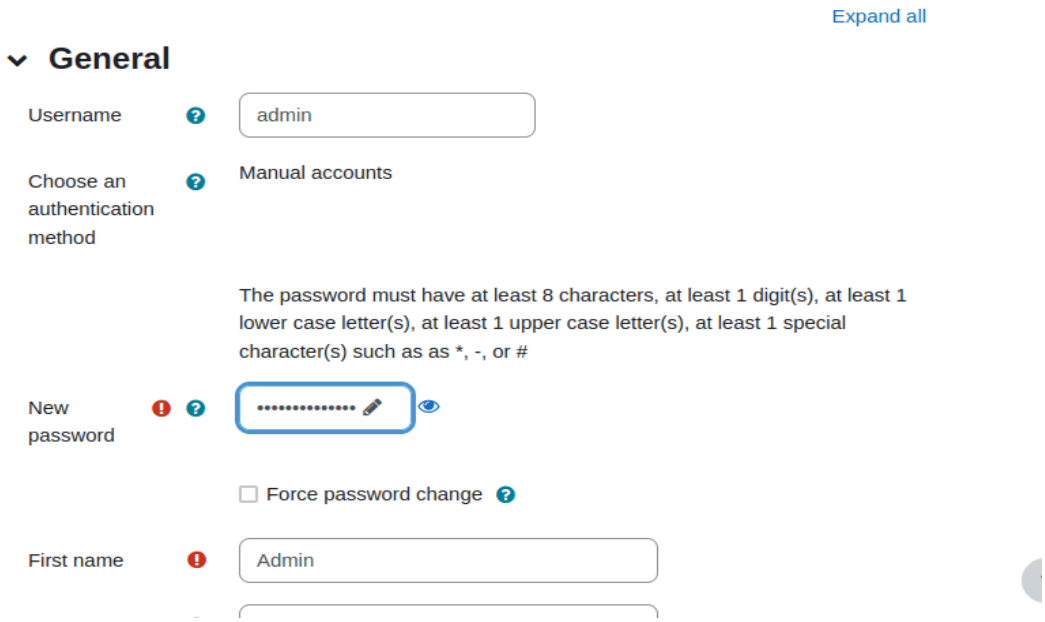


The installation wizard of Moodle will check all the requirements on Ubuntu 20.04.



Click on the **Continue** button.

Create an Admin account.



Set Up an SSL Certificate

- ❖ Although not required, it is recommended that you secure your Moodle site using an SSL certificate. This guide uses Certbot to create a free certificate from Let's Encrypt.

Remove any existing Certbot installation.
$ sudo apt remove certbot

Install Certbot.
$ sudo snap install --classic certbot

- ★ Link the certbot command from the snap install directory to your path, so you'll be able to run it by just typing certbot

$ sudo ln -s /snap/bin/certbot /usr/bin/certbot

Download a certificate for your site.
$ sudo certbot --nginx -d yourdomain.com -d www.yourdomain.com

- ➢ Certbot prompts you to enter your site's domain name. Do so to complete the installation of the SSL certificate.
- ➢ Certbot includes a cron job that automatically renews your certificate before it expires. You can test the automatic renewal with the following command

$ sudo certbot renew --dry-run

- ❖ Using your preferred text editor, open the Moodle configuration file, /var/www/html/moodle/config.php. Change the $CFG->wwwroot value to use https instead of http. Replace example.com in the following example with your site's domain name.

$CFG->wwwroot = 'https://yourdomain.com/moodle';

Restart nginx server
$ systemctl restart nginx
**********DONE**********