**Step by Step Installation Guide of Moodle for Windows Operating System**

These are instructions for installing on Windows OS desktop (they may also be useful for a server install with some thought to security) using individual components rather than a one click installer. This is intended only as a testing/evaluation install via 'localhost'. Proper server configuration and security is not considered.

NOTE: This assumes that you are comfortable with administering a Windows system and can use the command line. I never use Windows and I managed, but this may not be the quickest or most efficient way to do things. Make sure your Windows installation is in good shape, you clear out all the junk and stuff making it run slower (because installing all this server software certainly isn't going to make it run faster!) and that you have installed any outstanding updates.

ANOTHER NOTE: Watch out for the irritating "Do you want this program to get control of your computer" window that comes up at various stages. Sometimes it did not appear, but you do see a shield dimly flashing in the task bar. Click and say yes.

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Step 1: Install MySQL

* Install the MySQL database server on your PC. We will do this using the 'MSI' one-click installer for Windows. Go to <https://dev.mysql.com/downloads/installer/> and download the 'mysql-installer-community-5.7.30.0.msi'.
* Run the installation. Click...
* Install MySQL products
* Accept the license
* Allow the version check (optional)
* At 'Choose a Setup Type' accept the "Developer Default" and click Next
* Several downloads of required software may be identified. Click Execute and follow onscreen instructions to install them.
* At 'Installation progress' screen, hit Execute - the MySQL software will be installed
* At 'Configuration overview' hit Next to go to the basic configuration screen.
* Accept all the defaults on the 'MySQL Server Configuration' and hit Next.
* On the password screen, supply a password for the 'root' (main administrator) user. Make sure it's one you won't forget. You can also create a 'User' account just for Moodle with more restricted access if you like. This would be good practice on a public server but just using the 'root' user will suffice for testing.
* On the Service details page, accept the defaults and hit Next and then Next a couple more times for the configuration progress.
* Click Finish. Job done.
* MySQL Workbench will open. Under Server Administration (right hand column, double click 'Local MySQL56' (or whatever you called it). A box should pop up asking for the root password. Enter the password you supplied
* The server management screen should appear. You don't have to worry too much about this. It just shows the install is working.

After download completion check for the following –

Configure full UTF-8 support

It is recommended that you have full UTF-8 support configured in MySQL. If this is not done some character sets, notably emojis, cannot be used. It is possible to do this after your site is installed but it is much easier before installation.

First check if this is already configured by running the following statement, e.g. at the mysql> prompt or in phpMyAdmin or MySQL Workbench

SHOW GLOBAL VARIABLES WHERE variable\_name IN ('innodb\_file\_format', 'innodb\_large\_prefix', 'innodb\_file\_per\_table');

|  |  |
| --- | --- |
| **Variable\_name** | **Value** |
| innodb\_file\_format | Barracuda |
| innodb\_file\_per\_table | ON |
| innodb\_large\_prefix | ON |

If the three settings, you see match the above list then no further configuration changes are needed

If your settings do not match this list, then you will have to edit your MySQL configuration file. On Linux this may be the file /etc/my.cnf or /etc/mysql/my.cnf, on Microsoft Windows it may be my.ini.

* Note: You should back up your configuration file before changing it.
* Note: You should back up your databases before making this change.
* Note: Other systems using databases on this server may be impacted by this change.

Add the following settings to the configuration file:

[client]

default-character-set = utf8mb4

[mysqld]

innodb\_file\_format = Barracuda

innodb\_file\_per\_table = 1

innodb\_large\_prefix = 1

character-set-server = utf8mb4

collation-server = utf8mb4\_unicode\_ci

skip-character-set-client-handshake

[mysql]

default-character-set = utf8mb4

Restart MySQL to apply these settings.

If for some reason you cannot change to the recommended settings as described here you can continue to install Moodle, however you must select utf8 and utf8\_unicode\_ci for the default character set and collation respectively.

If you have successfully configured the recommended full UTF-8 support as described above run:

mysql> CREATE DATABASE moodle DEFAULT CHARACTER SET utf8mb4 COLLATE utf8mb4\_unicode\_ci;

If you do not have the recommended full UTF-8 support run:

mysql> CREATE DATABASE moodle DEFAULT CHARACTER SET utf8 COLLATE utf8\_unicode\_ci;

Add a user/password with the minimum needed permissions:

mysql> GRANT SELECT,INSERT,UPDATE,DELETE,CREATE,CREATE TEMPORARY TABLES,DROP,INDEX,ALTER ON moodle.\* TO moodleuser@localhost IDENTIFIED BY 'yourpassword’;

Step 2: Install Apache

Install the Apache web server on your PC. Go to <https://www.apachelounge.com/download/>. Scroll down the page until you find the download for the 'Apache 2.4 win32 binaries' and download. You need to be careful that the module dll in PHP matches the version of Apache you install. Apache will not load otherwise.

Unzip the file into C:\. You should end up with a directory 'Apache24' (or whatever the latest version is).

Find Start > All programs > Accessories > Command Prompt...... BUT, right click, and select 'Run as administrator'.

Enter the following commands

cd \Apache24\bin

httpd -k install

httpd -k start

...you may well get a warning about the server name. Do not worry about it. Do not close this window, you will need it again in a minute.

To test it worked type 'http://localhost' into your browser. You should get a screen up to the effect that Apache is installed and working.

Step 3: Install PHP

Now install the PHP scripting language on your PC. Go to <https://windows.php.net/downloads/releases/archives/> and download ‘php-7.0.0-Win32-VC14-x64.zip’ file or x86.zip depending the Operating System you have.

Open the zip file and extract to C:\PHP\

In a console window, type php -v to see if it worked. (You may need to set up your PATH. Also, if you get weird error messages, or no error messages at all, read the bit on the left of http://windows.php.net/ where it talks about installing "C++ Redistributable for Visual Studio")

Step 4: Configure Apache and PHP

You now need to edit Apache's httpd.conf file. In the file explorer navigate to C:\Apache24\conf\httpd.conf. Open it in Notepad . At the end of this file (or wherever you like if you want to be more organised) add the following lines:

LoadModule php5\_module "C:/PHP/php5apache2\_4.dll"

AddHandler application/x-httpd-php .php

PHPIniDir C:/PHP

The version of the module file matters (2\_4 in this case). It MUST match the Apache version installed.

php5\_module "C:/PHP/php5apache2\_4.dll" – here write the PHP version that you installed.

In the same file. Search for the line starting DirectoryIndex. Change it as follows

DirectoryIndex index.php index.html

Now, navigate to C:\PHP (or the folder name that you have given) , and copy php.ini-development to php.ini. Edit this file, find the following lines, and modify them as follows (all should exist already):

memory\_limit = 256M

post\_max\_size = 128M

upload\_max\_filesize = 128M

You need to specify the extensions required for Moodle. Find the 'Dynamic Extensions' section and change the following lines (uncomment and add the correct path):

extension=c:/php/ext/php\_curl.dll

extension=c:/php/ext/php\_gd2.dll

extension=c:/php/ext/php\_intl.dll

extension=c:/php/ext/php\_mbstring.dll

extension=c:/php/ext/php\_mysqli.dll

extension=c:/php/ext/php\_openssl.dll

extension=c:/php/ext/php\_soap.dll

extension=c:/php/ext/php\_xmlrpc.dll

extension=c:/php/ext/php\_fileinfo.dll

Also, search –

[opcache]

; Determines if Zend OPCache is enabled

;opcache.enable = 0

Change it to –

opcache.enable = 1

(these are a minimum. You may need others - e.g. LDAP - for specific functions) ...and save.

Back in the 'cmd' window for Apache, you need to restart it to load your changes...

httpd -k restart

Step 5: Test your install

Navigate to C:\Apache24\htdocs and create a file called 'test.php'. I had to change a file explorer setting to create .php files - Organise > Folder and search options > View and then untick 'Hide extensions for known file types'.

In this file enter the single line...

<?php phpinfo();

And then, in your browser, navigate to http://localhost/test.php. You should see a screen with masses of information and the PHP logo at the top. Check a few lines down for 'Loaded Configuration File' and make sure it says c:\php\php.ini.

That is PHP and Apache all working :)

Step 6: Install Git

We will use the Git version control system for loading and updating the Moodle software. If you really don't want to do this, you can just download the latest Moodle zip file and unzip it in c:\Apache24\htdocs but Git makes updates MUCH easier. We need to install Git first...

Go to http://msysgit.github.com. Navigate to 'Downloads' and download/run the latest installer.

Accept defaults until you get to 'Adjusting your PATH environment'. Select 'Run Git from the Windows Command Prompt' at this point.

Accept remaining defaults and install

If you right click on folders in the file explorer you should now see additional Git commands.

Step 7: Install Moodle

In the file explorer navigate to C:\Apache24\htdocs.

Inside the folder, right click and select Git GUI

Select 'Clone existing repository'

Use the following settings for the clone...

Source location: https://github.com/moodle/moodle.git

Target directory: C:/Apache24/htdocs/moodle

(You can also try git://git.moodle.org/moodle.git. Depending on your firewall situation one may work and the other not. The code is the same.)

Click 'Clone'. Depending on your network speed, this may well take a while as the whole Moodle history is being downloaded.

You should now have a 'moodle' directory inside 'htdocs. Right click and select 'Git GUI' again - a more complex screen should now appear

Click on the 'Branch' command and then 'Checkout...'.

Select the version of Moodle you want from the list, probably origin/MOODLE\_24\_STABLE. Make sure 'Tracking branch' is selected and click Checkout.

If this does not work, open Git Bash and navigate to the ‘C:/Apache24/htdocs/’ directory and write –

$ git clone -b MOODLE\_{{Version3}}\_STABLE git://git.moodle.org/moodle.git

Create a data directory for Moodle. It can be anywhere you like but I used C:\moodledata. Just create an empty folder

Go to http://localhost/moodle. The language select page should come up and you are away. The installation is not covered in detail here but...

Data directory is C:\moodledata (or whatever you created)

Database user is 'root' (unless you created a more restricted user)

Database password is whatever you set installing MySQL

That should be it! Time for a cup of tea.