INSTALLING MOODLE 2.5 ON A MICROSOFT PLATFORM

Install Moodle 2.5 on Server 2012 R2 with SQL 2012

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Contents

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Introduction

This article will show you how to deploy Moodle 2.5 on Microsoft Server 2012 R2. At the time of writing this, The Microsoft web platform would not allow the download and install of Moodle. The development and configuration of Moodle is out of scope of this document.

Configuring basic Server settings

Install Windows Server 2012 R2, give the server an IP address and change the name of the machine to Moodle. The Server can be domain joined or standalone.

Before we start the IIS installation we will need to configure the Internet Explorer Enhanced Security Configuration (IE ESC) to be set to off. This needs to be configured so we can access Internet Explorer with being hassled by security alerts.

Configure a Computer Name and change the Primary DNS Suffix to ".domain.com"
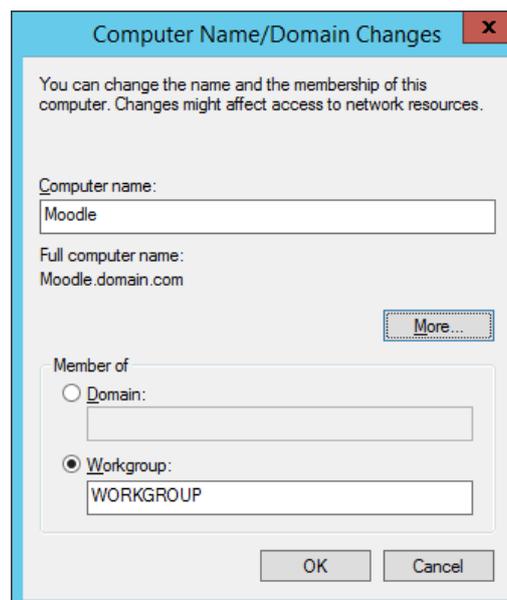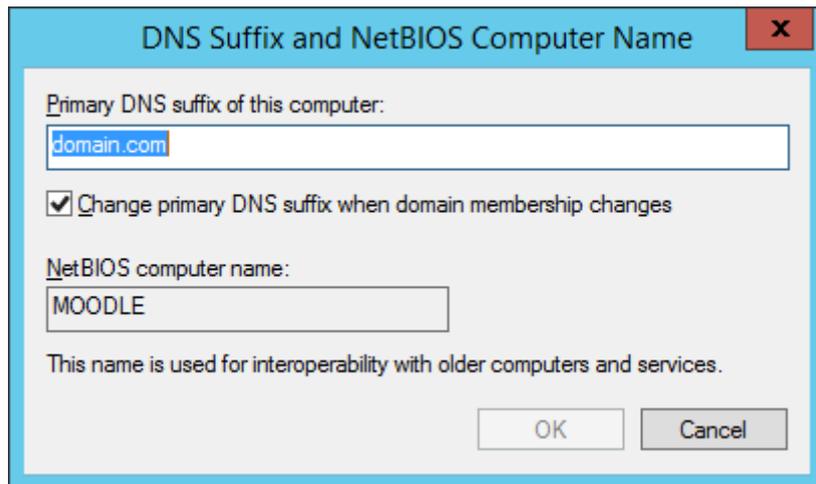
Configure the Firewall using PowerShell:

Open PowerShell with administrator privileges.

```
Set-ExecutionPolicy
-ExecutionPolicyRemoteSigned
#Enabling SQL Server Ports
New-NetFirewallRule -DisplayName "SQL Server" -Direction Inbound -Protocol TCP -
LocalPort 1433 -Action allow
New-NetFirewallRule -DisplayName "SQL Admin Connection" -Direction Inbound -
Protocol TCP -LocalPort 1434 -Action allow
New-NetFirewallRule -DisplayName "SQL Service Broker" -Direction Inbound -Protocol
TCP -LocalPort 4022 -Action allow
New-NetFirewallRule -DisplayName "SQL Debugger/RPC" -Direction Inbound -Protocol
TCP -LocalPort 135 -Action allow
#Enabling SQL Analysis Ports
New-NetFirewallRule -DisplayName "SQL Analysis Services" -Direction Inbound -
Protocol TCP -LocalPort 2383 -Action allow
New-NetFirewallRule -DisplayName "SQL Browser" -Direction Inbound -Protocol TCP -
LocalPort 2382 -Action allow
#Enabling Misc. Applications
New-NetFirewallRule -DisplayName "HTTP" -Direction Inbound -Protocol TCP -LocalPort
80 -Action allow
New-NetFirewallRule -DisplayName "SSL" -Direction Inbound -Protocol TCP -LocalPort
443 -Action allow
New-NetFirewallRule -DisplayName "SQL Server Browse Button Service" -Direction
Inbound -Protocol UDP -LocalPort 1433 -Action allow
#Enable Windows Firewall
Set-NetFirewallProfile - DefaultInboundAction Block - DefaultOutboundAction Allow -
NotifyOnListen True -AllowUnicastResponseToMulticast True
```

Deploy Internet Information Service 8 (IIS)

You will be using IIS 8 to publish the Moodle site.

You will need to install the Web Server Role and associated features:

In Web Server (IIS), Role Services ensure the following extras are checked
- Application Development
- ASP.NET
- .NET Extensibility
- CGI
- ISAPI Extensions
- ISAPI Filters
- Security
- Basic Authentication

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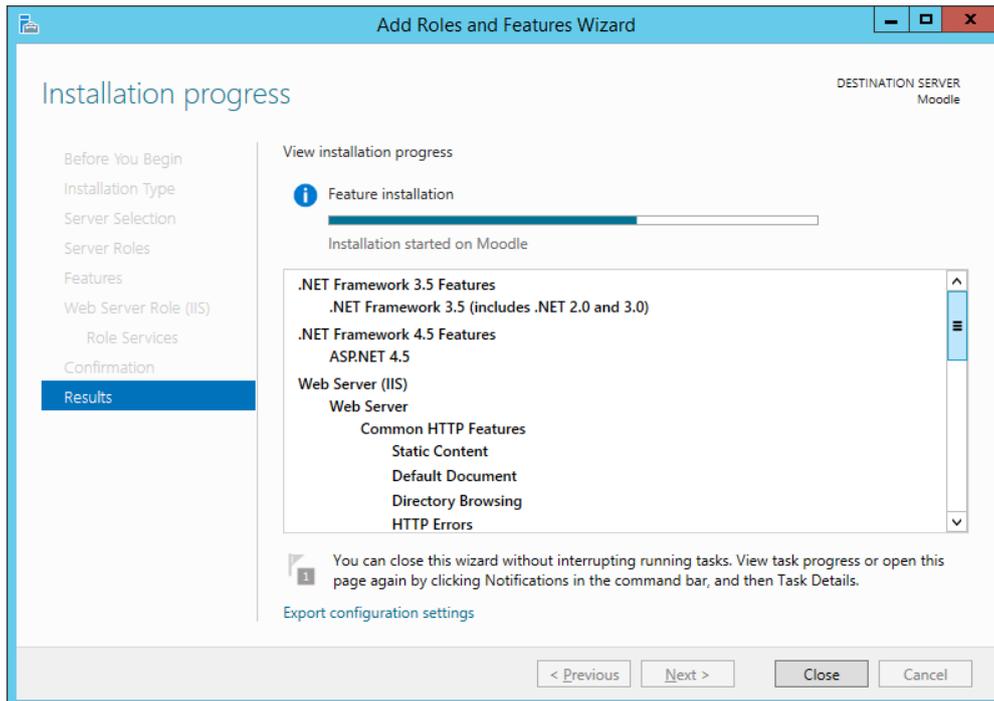
The PowerShell way:

```
Import-Module Servermanager
Add-WindowsFeature Web-Server,Web-App-Dev,Web-Asp-Net,Web-Net-Ext,Web-CGI,Web-
ISAPI-Ext,Web-Security,Web-Basic-Auth
```

Installing PHP and Configuring

There are two ways to install PHP and I will show you how to do both. Just remember that if you use the Web Platform Installer, you will need use the PHP Manager to configure it. Including adding the extensions. The installation is covered later on in the subheading Installing PHP Manager in IIS.

Using Web Platform Installer

in

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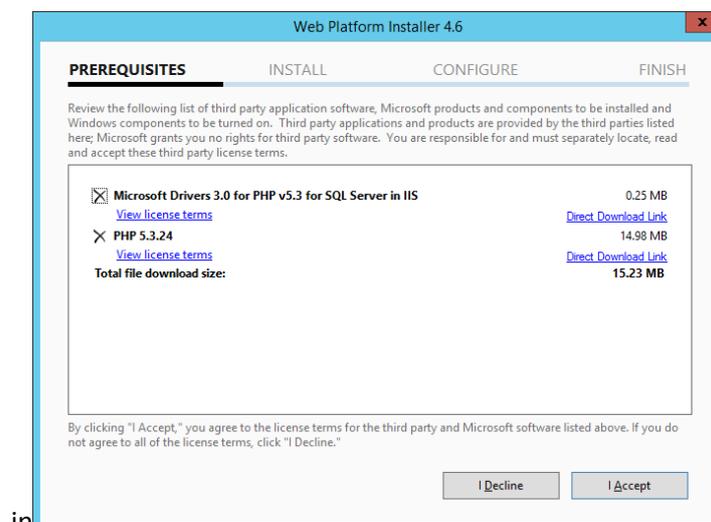
In this example I am showing the install of PHP v5.3 but you can use 5.4. Once installed you will need to configure PHP in PHP Manager. You will see how to install PHP Manager latter on in the article .In the PHP manager you will need to register the new PHP version as shown in the screenshot.
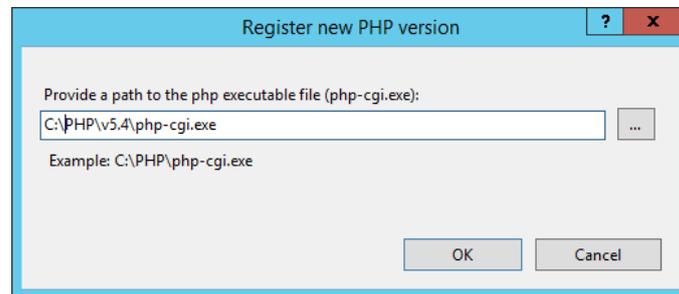
You will also need to enable the extension php_intl.dll

Installing PHP manually.

http://windows.php.net/download
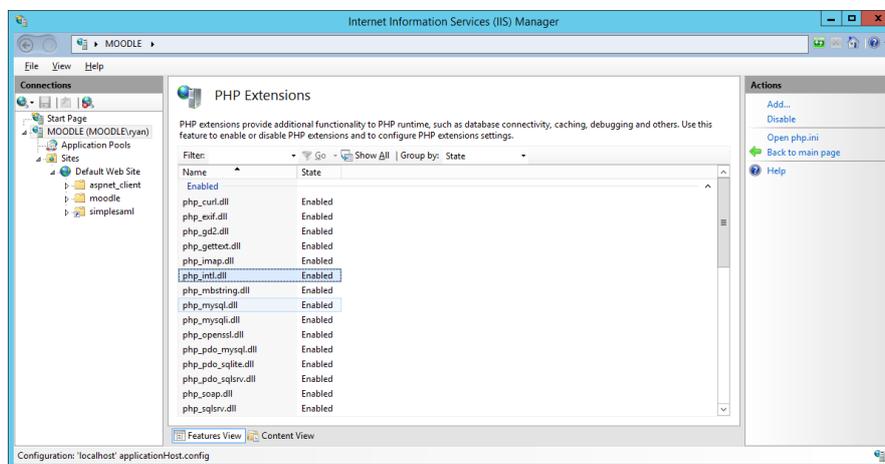
Download the None Thread Safe Installer x86 VC9 version of PHP from http://windows.php.net/download and save it to your Desktop. You can use x64 if you wish.

Run the installer.
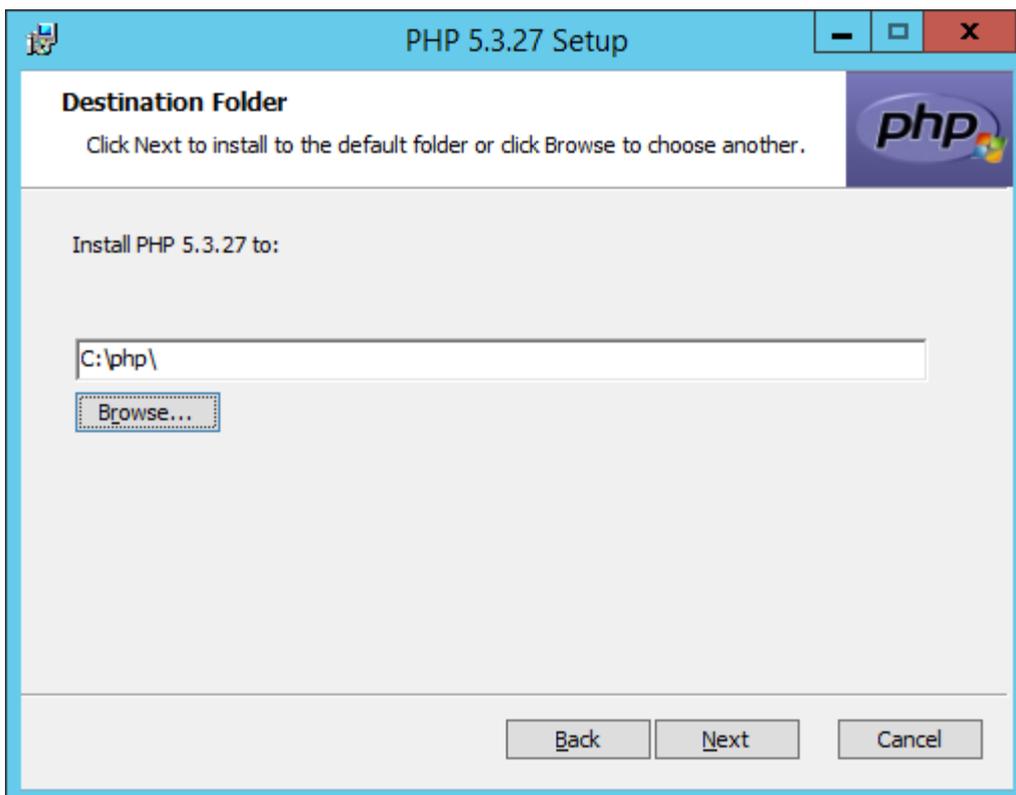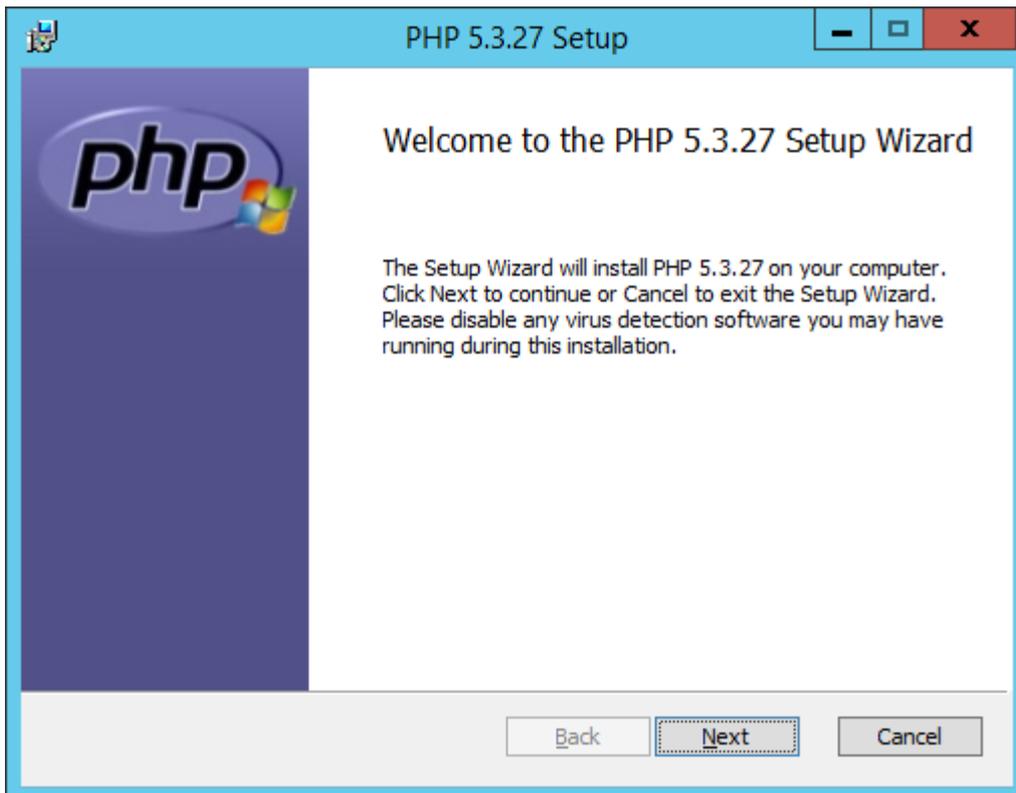
Install PHP to the directory C:\php\

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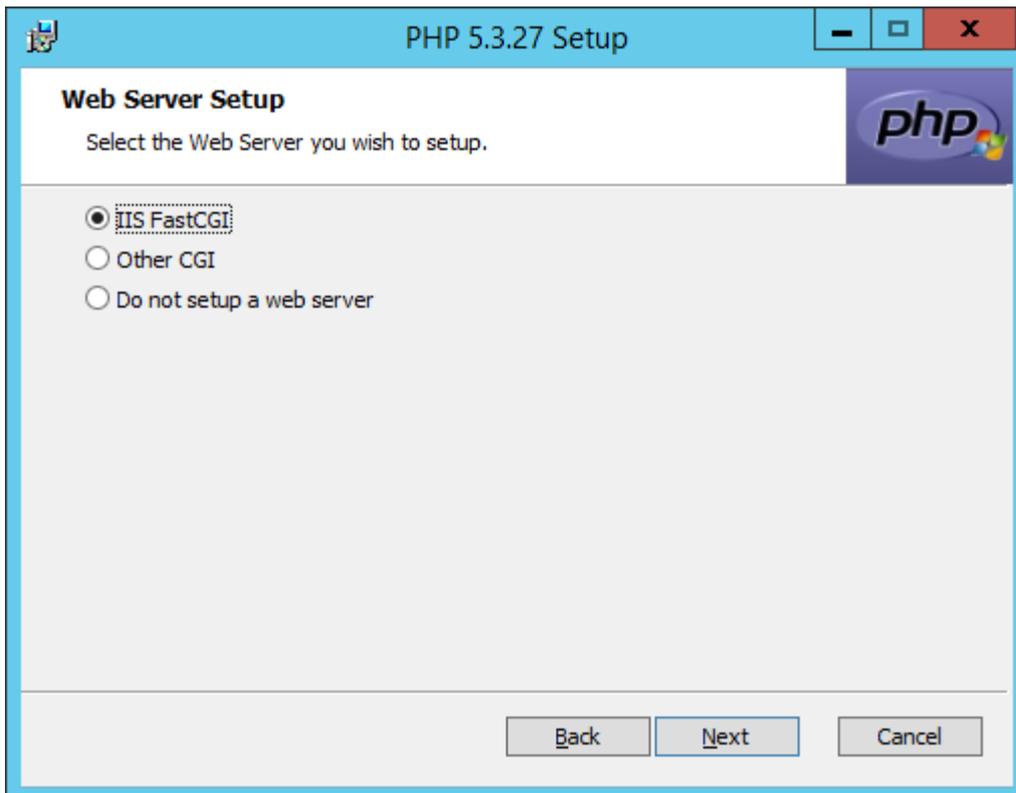
Select IIS Fast CGI and click next.
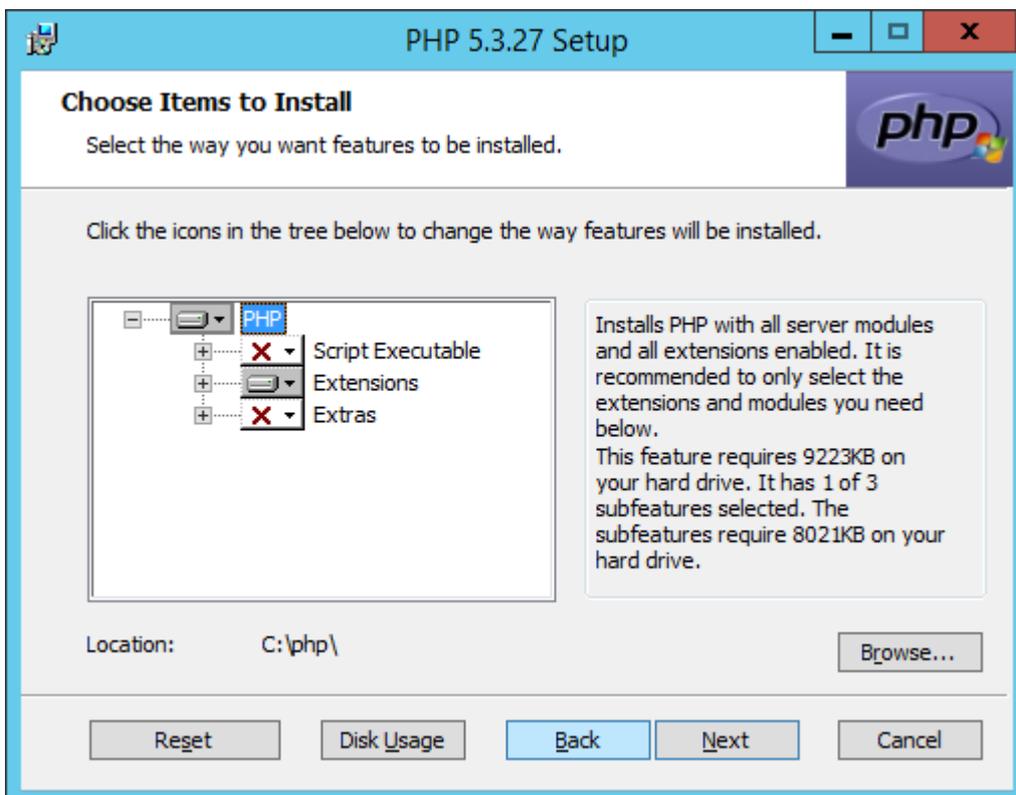
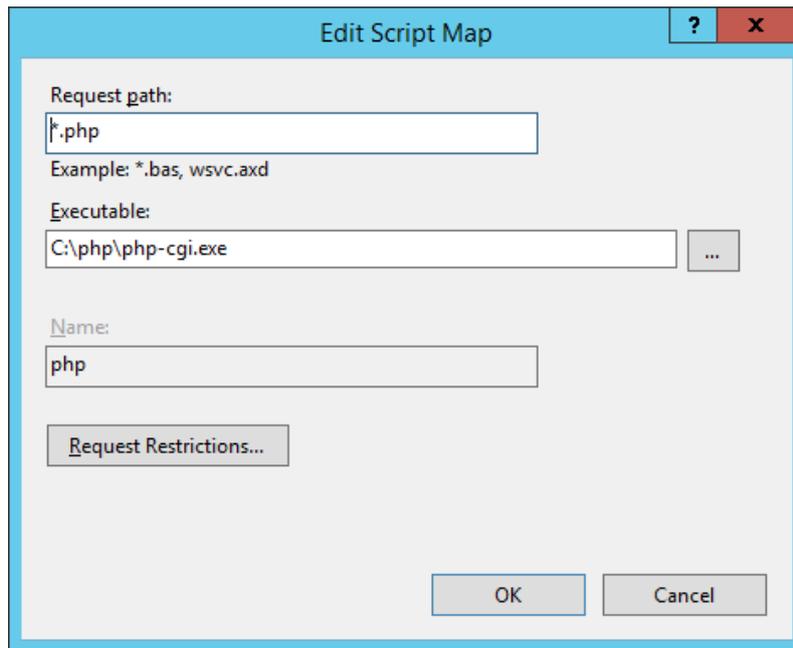Ensure the Extensions are selected, then next to install.

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Install PHP Manager for IIS

Download PHP Manager for IIS from Codeplex

http://phpmanager.codeplex.com/releases/view/69115

Install the PHP Manager 1.2 for IIS 7.5

Configuring PHP

- Open Server Manager and expand Roles down into Internet Information and Services.
- Once IIS Manager has opened on the right of the screen click on the name of your server.
- Scroll down the page and you will find Handler Mappings under the IIS Group.
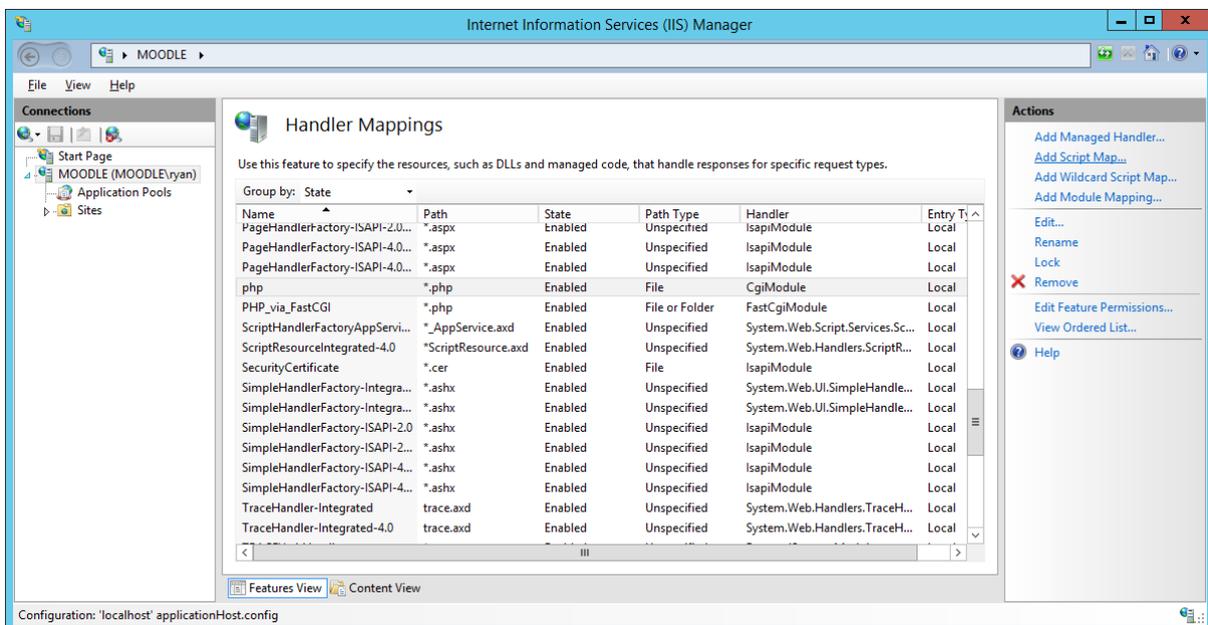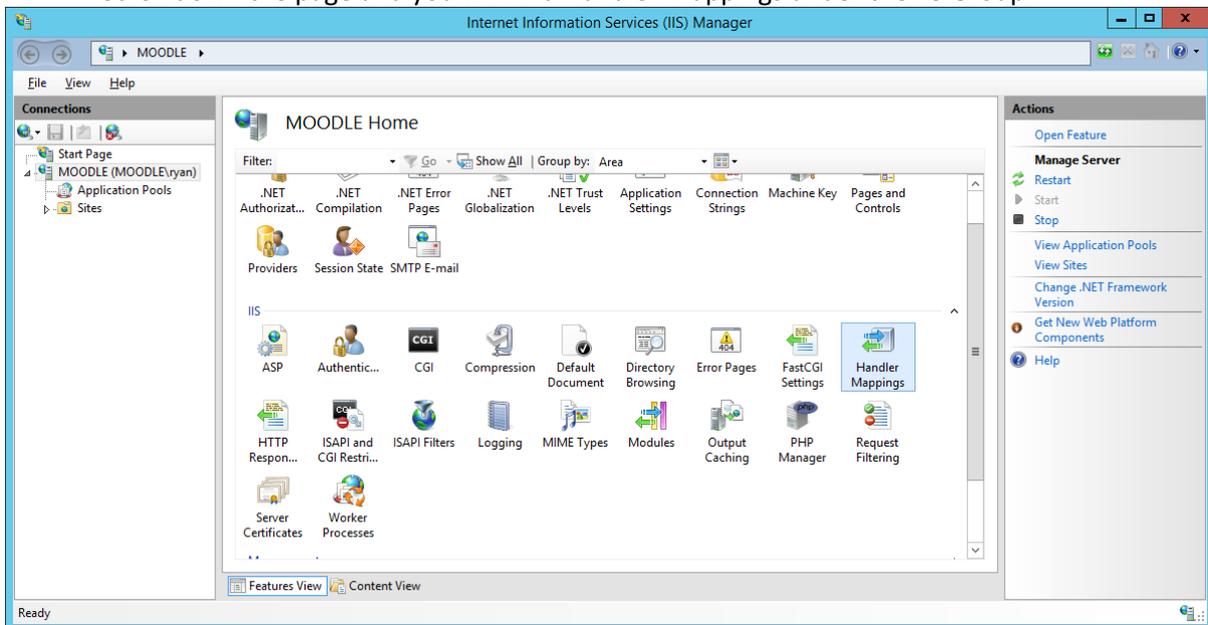
Open Handler Mappings and click on Add Module Map… which is located down the right Hand side.

Fill in the form with the following information
- Request path: *.php
- Module: FastCGIModule
- Executable: C:\php\php-cgi.exe
- Name: PHPviaFastCGI

You will then be prompted if you want to allow this ISAPI and click **Yes**.

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Testing the IIS and PHP Configuration

Create a file named testphp.php in the directory C:\inetpub\wwwroot\
As per the screen shot add the following:
<html>
<head>
<title>PHP test</title>
</head>
<body>
<?php
phpinfo();
?>
</body>
</html>
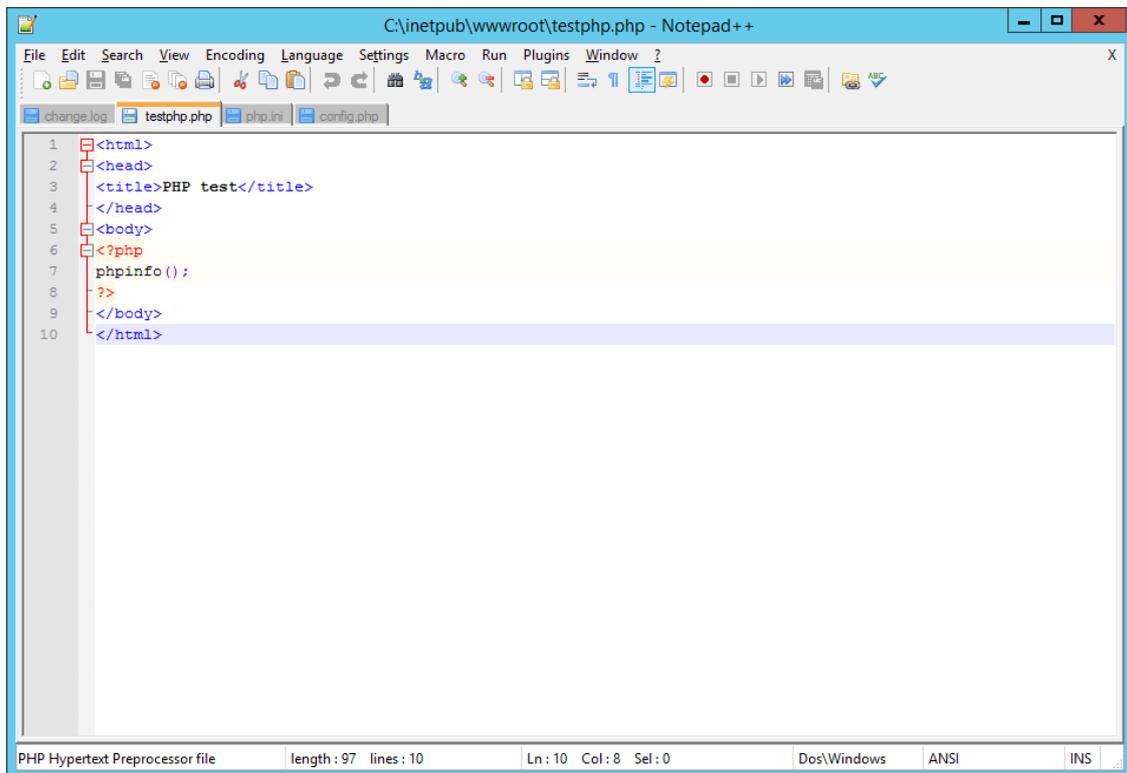
Navigate to http://127.0.0.1/testphp.php. If you have configured PHP correctly with Internet Information Servers (IIS) your page will load and at the top you will have the title of PHP Version 5.3.27 (x86) and look similar to the screenshot below. If you installed X64 PHP you should see (x64).

Configuring the PHP.ini file

There are a few setting that need to be configured for PHP and Moodle to work correctly. These Changes are made in the php.ini file which is located in the c:\php folder.

- Open the file C:\php\php.ini in notepad and start a search in the file.
- Search for doc_root and after the = add the root of your website, c:\inetpub\wwwroot\

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We will create a folder that Moodle will as a temporary location to upload files. Even though we haven't created this folder yet we can still tell PHP to use this folder. Search for upload_tmp_dir. Change both upload_tmp_dir and session.save_path on the next line to c:\php\sessions.

We are using FastCGI for our Moodle website we need to make some changes to the php.ini file that improves the performance of FastCGI with IIS. Navigate to the top of the page and search for (;cgi.fix_pathinfo) and remove the ; comment from the start of the line.
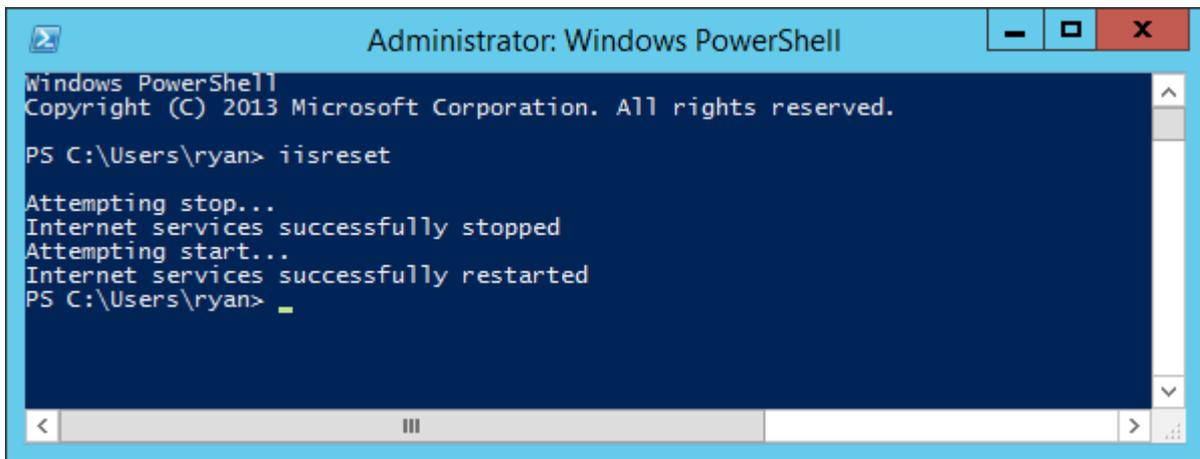
Run IIS Reset to ensure all changes have been applied.

To ensure that PHP is still working navigate to http://127.0.0.1/phpinfo.php and ensure the page loads.Search for session.save_path within the page and check that this has changed to the new location we set in set 3.

session.hash_function	0	0
session.name	PHPSESSID	PHPSESSID
session.referer_check	no value	no value
session.save_handler	files	files
session.save_path	c:\php\sessions	c:\php\sessions
session.serialize_handler	php	php
session.use_cookies	On	On
session.use_only_cookies	On	On
session.use_trans_sid	0	0

Configure Default Document

You will need to clear all the default files and add index.php as shown in the screenshot.
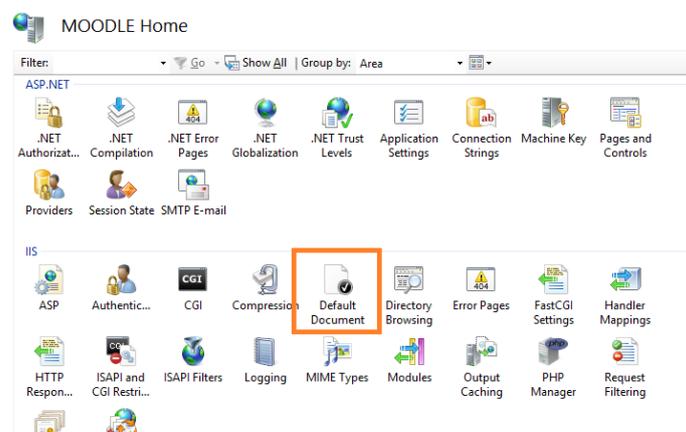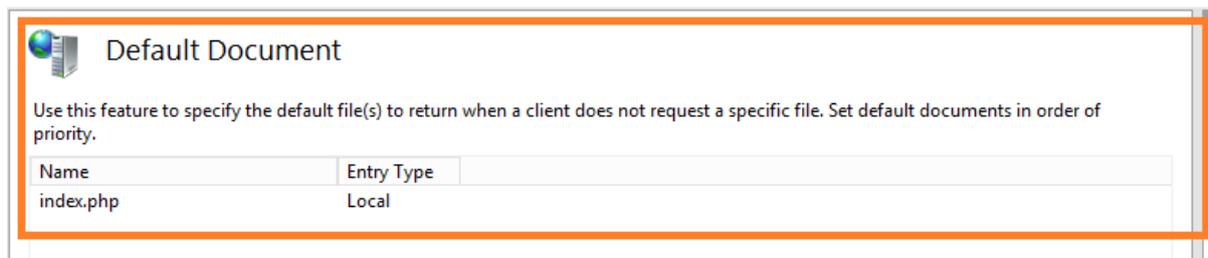
Configure MIME Types
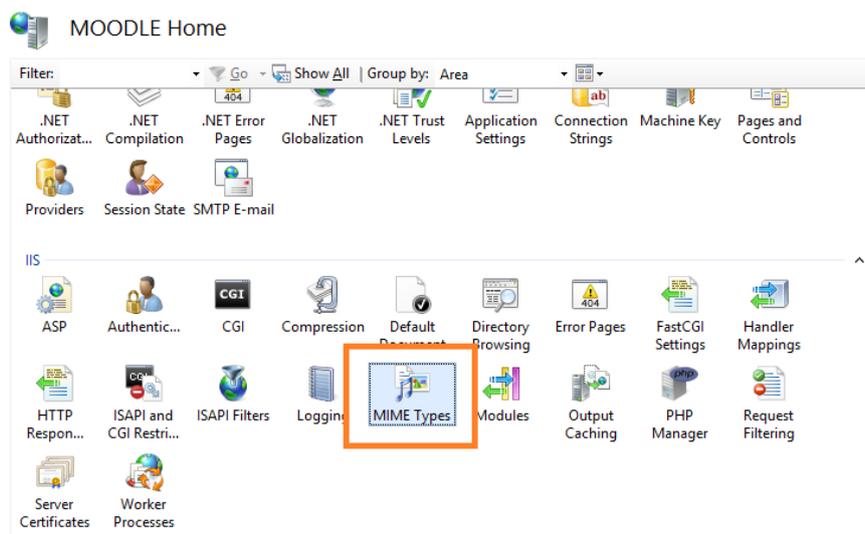
Add MIME Type

Folders and Security Permissions

You will now need to configure the required folders used by both PHP and Moodle. You will need to ensure that the right user has permission to write to these pages otherwise we will have upload issues while trying to add learning resource to a Moodle course.

- Navigate to c:\php and create a new folder called sessions.
- Right click on the new sessions folder and select properties.
- Select the Security Tab and click on Edit.

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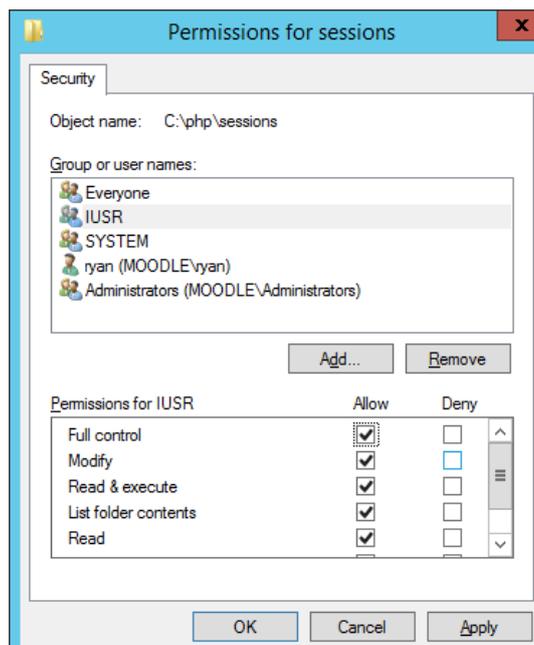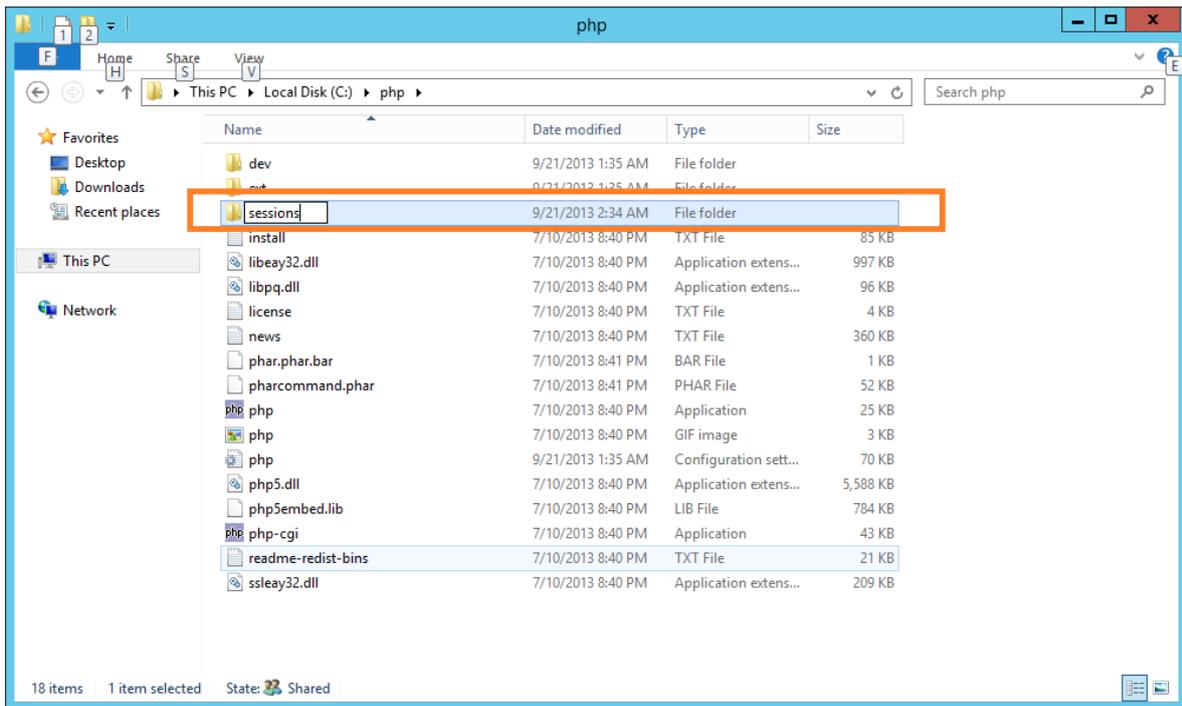
Now enter IUSR which is the default user that runs the website in IIS. The user will now appear in the permissions tab. By default the IUSR will only have view access. We now need to give the user write access. Check Modify which will also check Write. Click on OK to confirm these changes and then click on OK to confirm the Properties changed.

You now need to do the same with the Moodle data folder. Navigate to c:\inetpub and create the folder c:\inetpub\moodledata. Ensure the IUSR has write permission to the folder.

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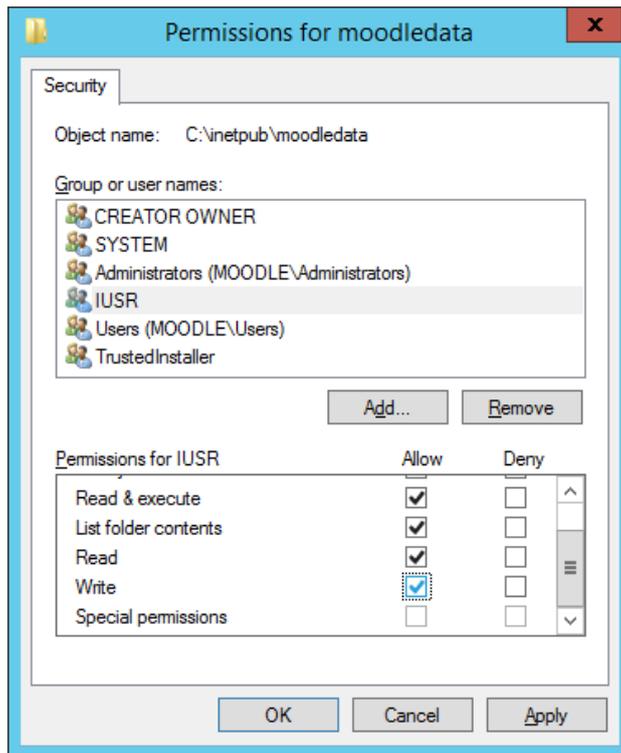
Installing SQL Server 2012

Download SQL 2012 Express with Management Studio. http://www.microsoft.com/en-gb/download/details.aspx?id=29062 , ENU\x64\SQLEXPRADV_x64_ENU.exe
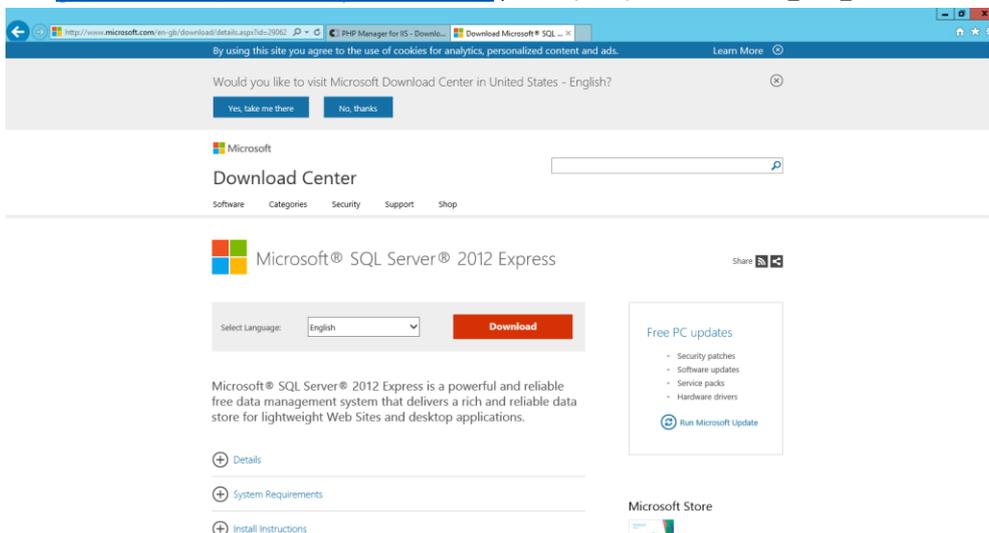
Create a service account for SQL

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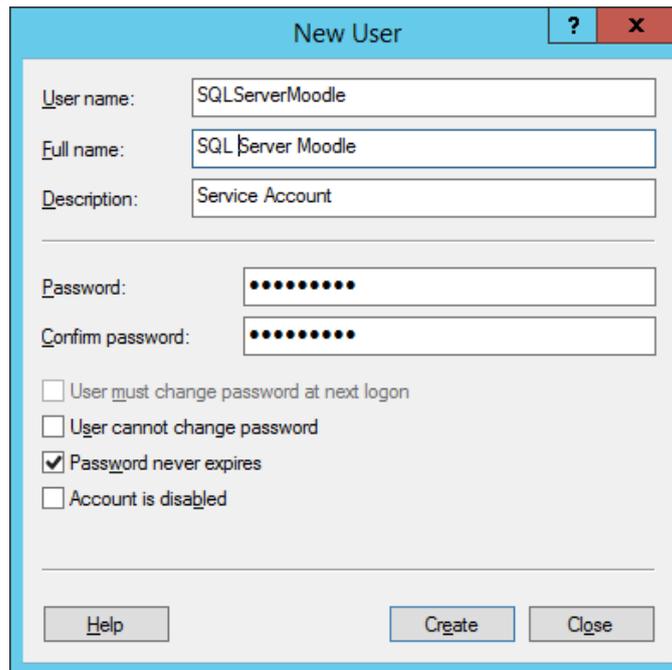
Add the service account to the local admins
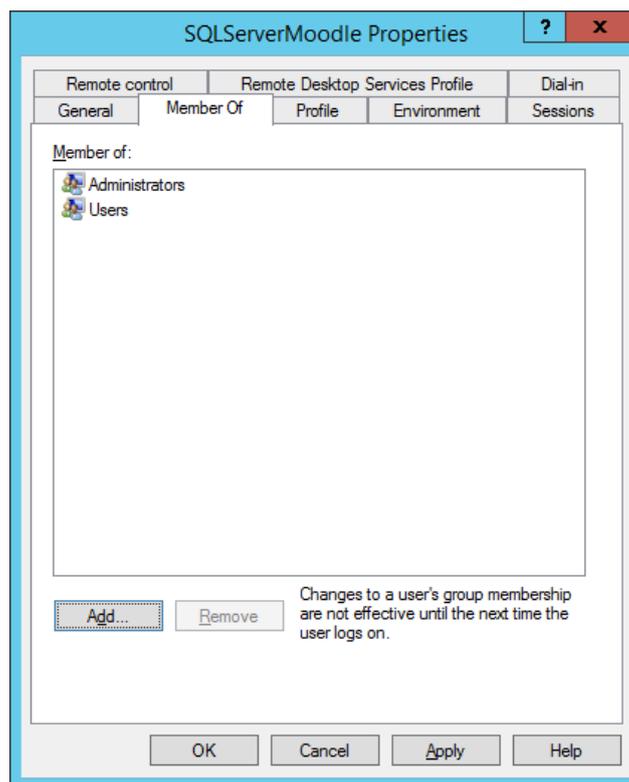
In a domain joined environment you would need to create the Service account in Active directory and then add the AD account to the local administrator group.

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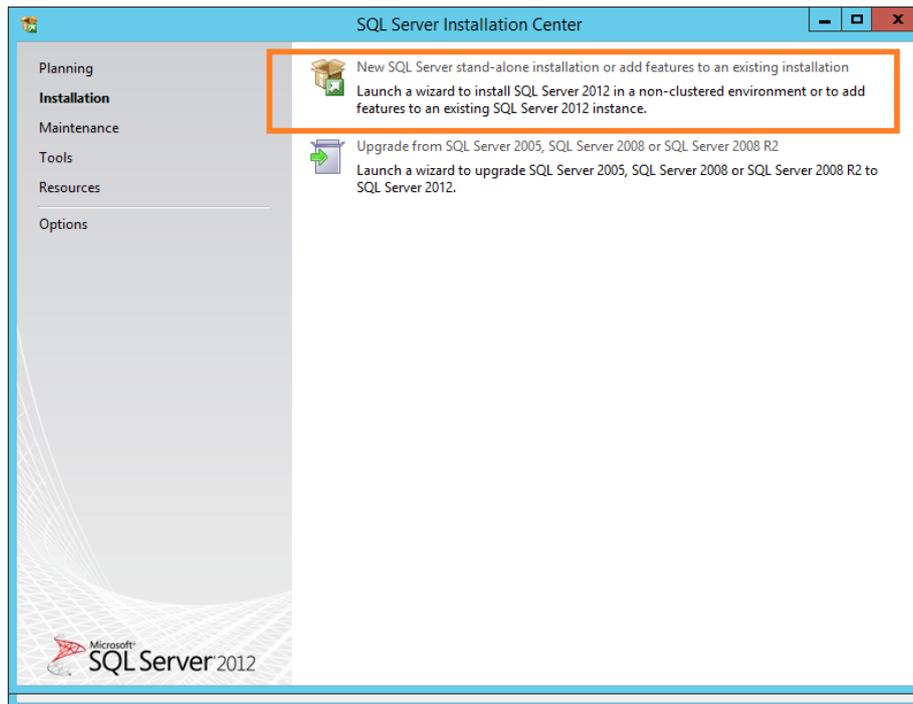
Select New SQL Server sand-alone installation or add features to an existing installation.
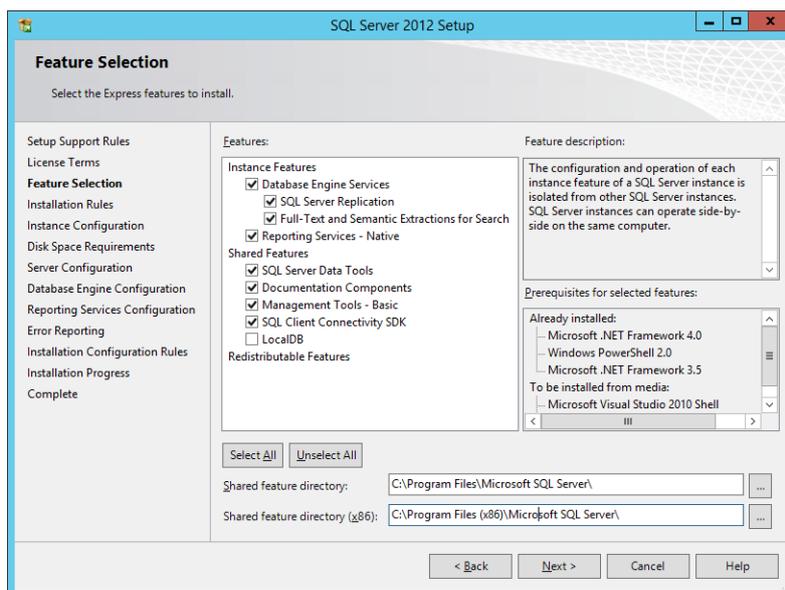
Install the following Features:
- Database Engine Services
- SQL Server Replication
- Full-Text Search
- Management Tools – Basic
- Management Tools – Complete
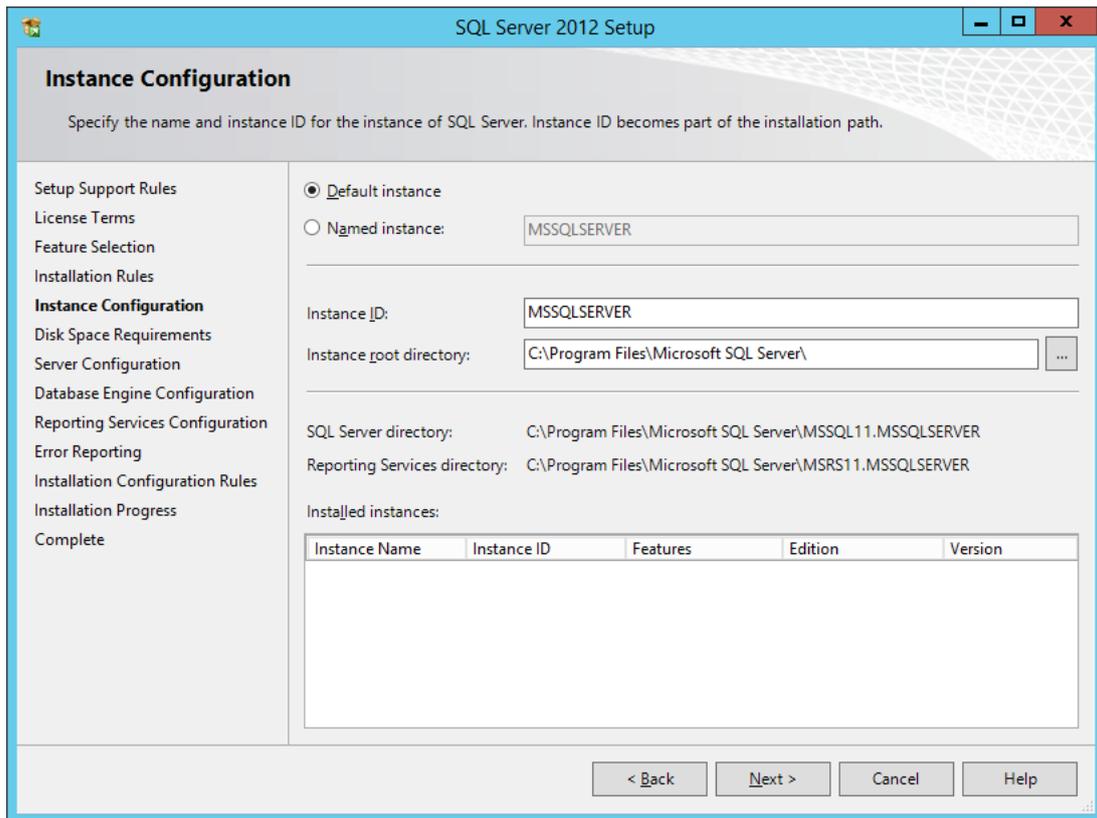
Select Default Instance
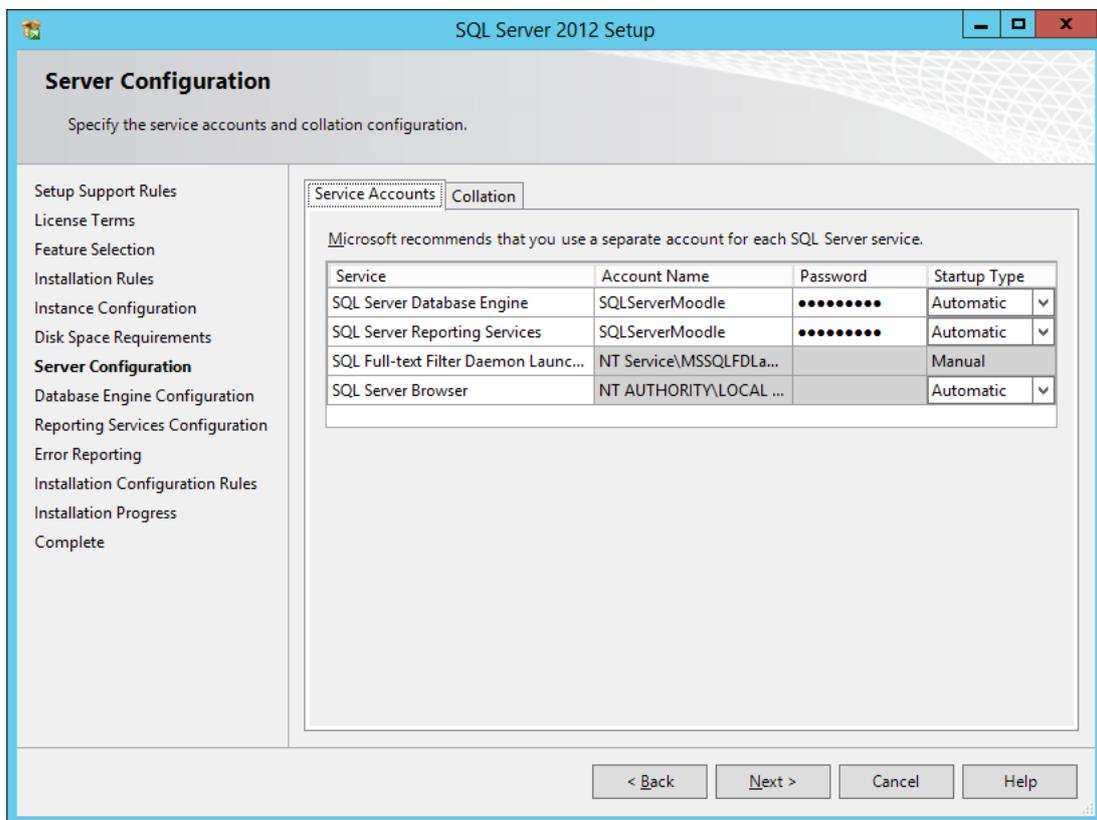
Add The SQL Service Account to the database Engine and Reporting Services.

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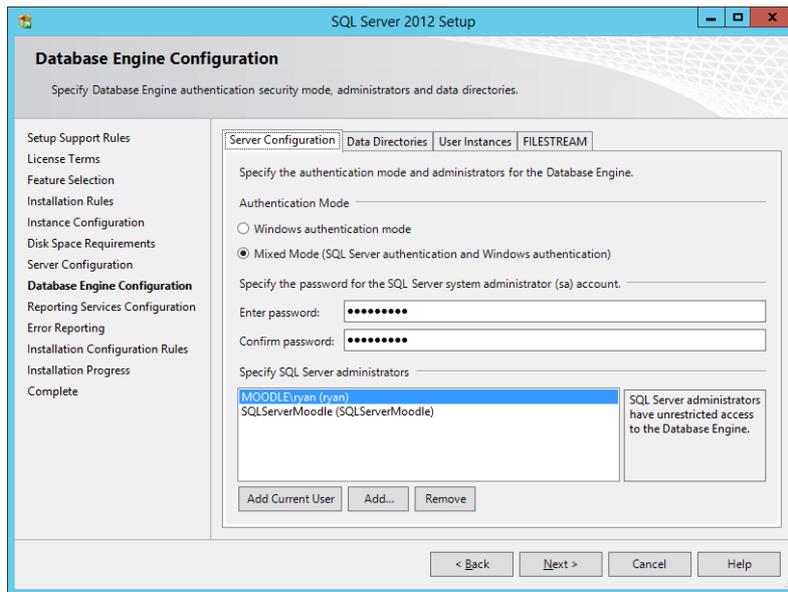
Use mixed Authentication and add the SQL Service account to the administrators
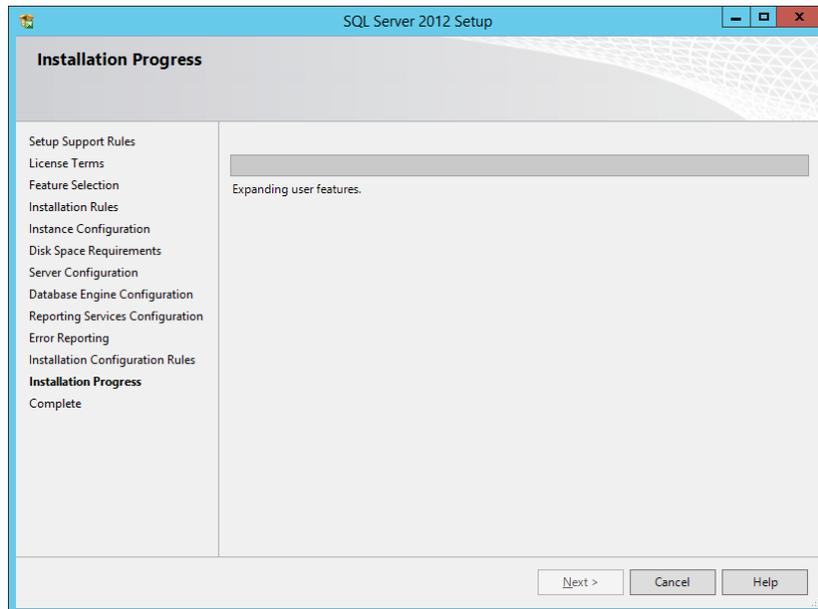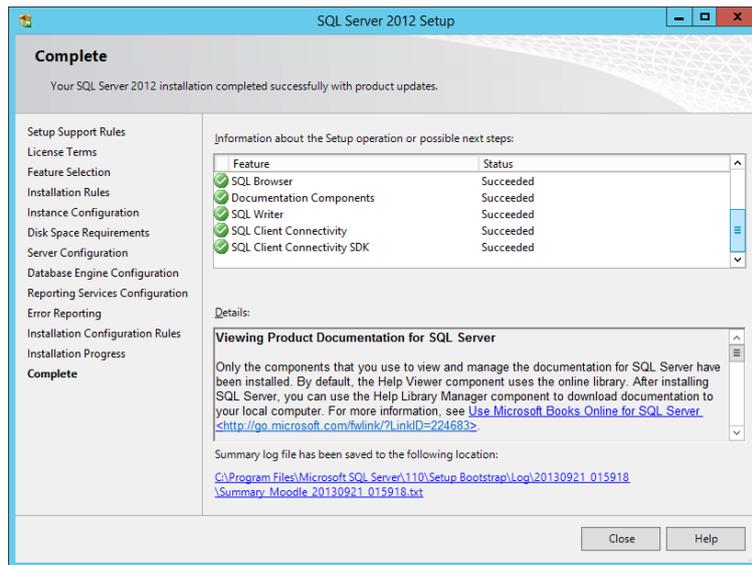
Install and Configure SQL Server 2.0 for PHP

Download the Microsoft Drivers 2.0 / 3.0 for PHP for SQL

http://www.microsoft.com/en-us/download/details.aspx?id=20098

Please see the System Requirements (Microsoft Drivers for PHP for SQL Server):
http://msdn.microsoft.com/en-us/library/cc296170.aspx
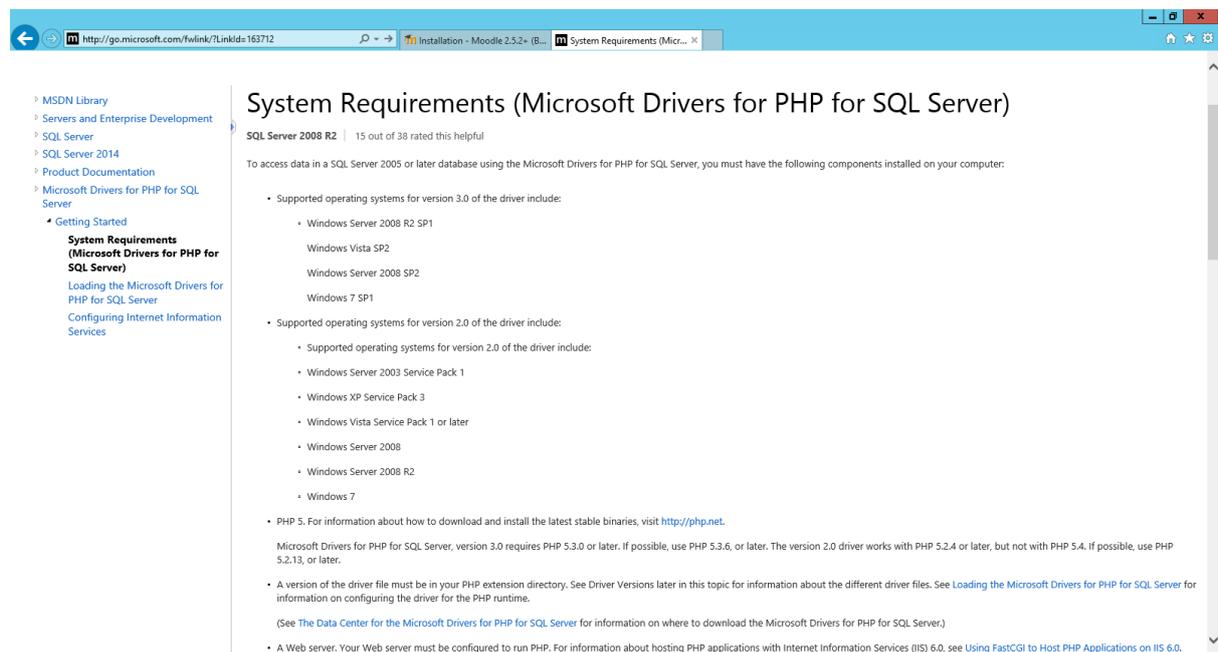
Extract the Drivers to the following path C:\sqldriverphp\
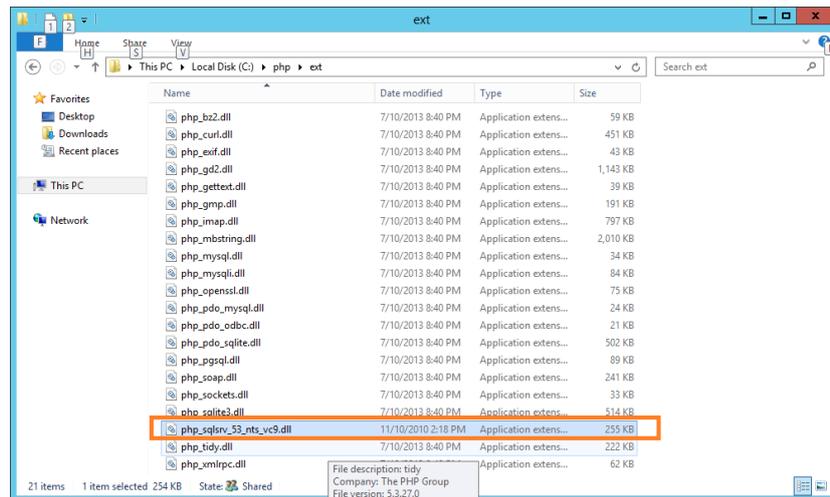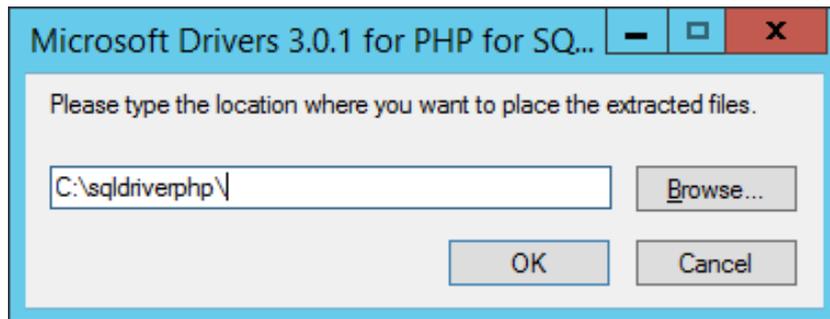
Copy the File: "php_sqlsrv_53_nts_vc9.dll" to the c:\php\ext\

- You now need to configure PHP.ini to see the extension dll file. Open C:\php\php.ini and navigate download to the bottom of the page.
- Add the code 'extension=php_sqlsrv_53_nts_vc9.dll' and save the file.

Save the file and run an IISreset.
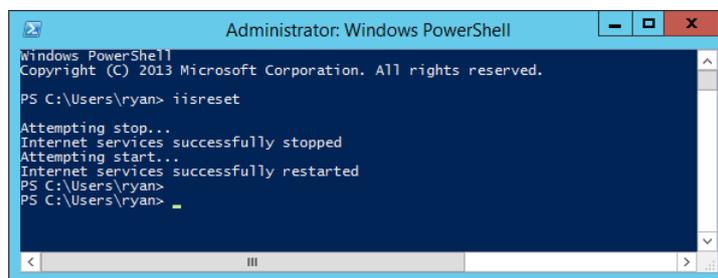
Microsoft SQL Server 2008 R2 Native Client

Download the Version 2.0 of the driver requires Microsoft SQL Server 2008 R2 Native Client and install. http://go.microsoft.com/fwlink/?LinkID=188401&clcid=0x409

Configuring SQL Server

Open SQL Server Management Studio and log into the Database Engine.

Create a new SQL User by expanding the Object Explorer and then expanding Logins. Click on Logins and click New Login.
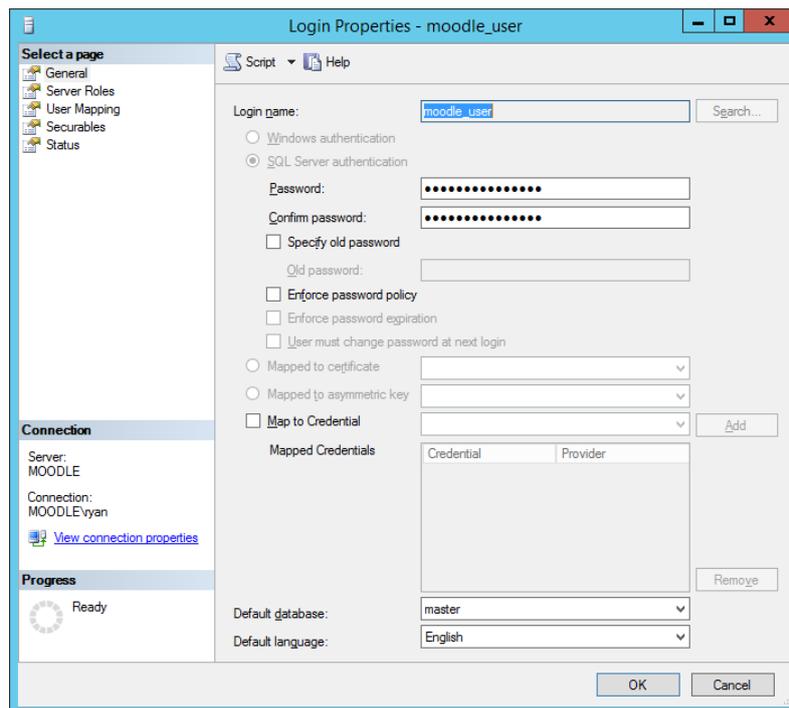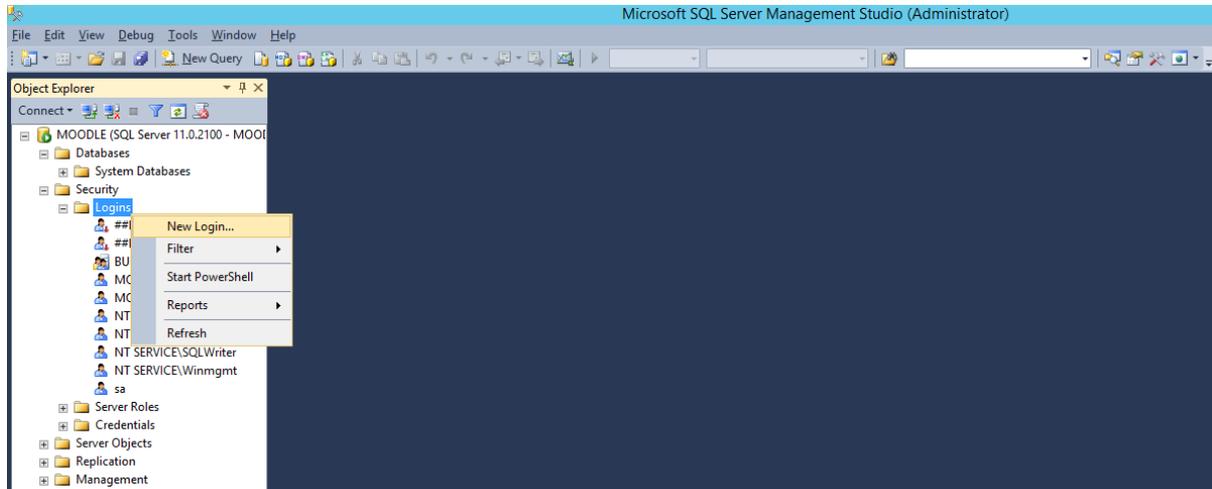
- Create a user called moodle_user.
- Click on SQL Server Authentication and add a password of moodle100
- Uncheck Enforce password policy
- Click OK to create the user
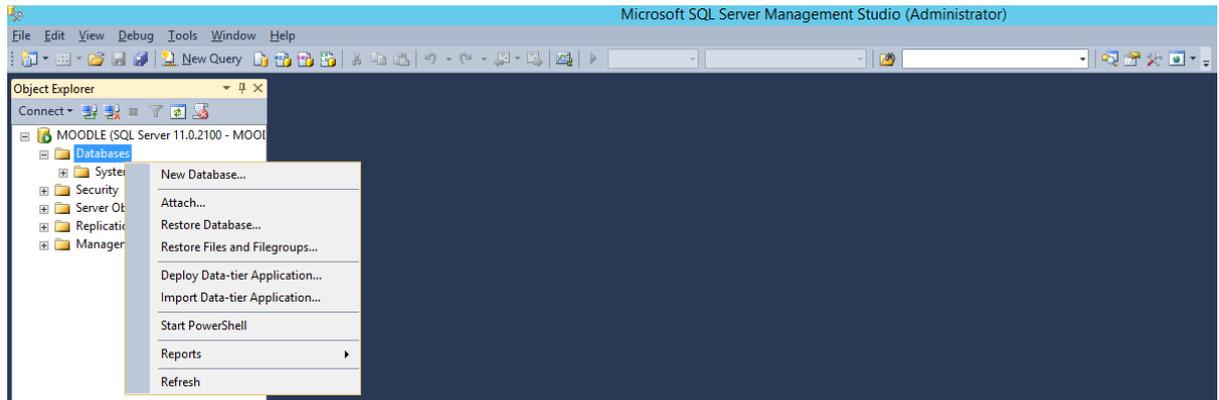
Create a new database by right clicking on Databases and clicking New Database

Give the database the name of moodle_DB and add Moodle_User as the owner. Then click on Options down the right hand side.

The Other option section at the bottom of the page you will see a group of settings under the Miscellaneous Group. Change ANSI NULLS Enabled to True and Quoted Identifiers Enabled to True and click OK to create the database.
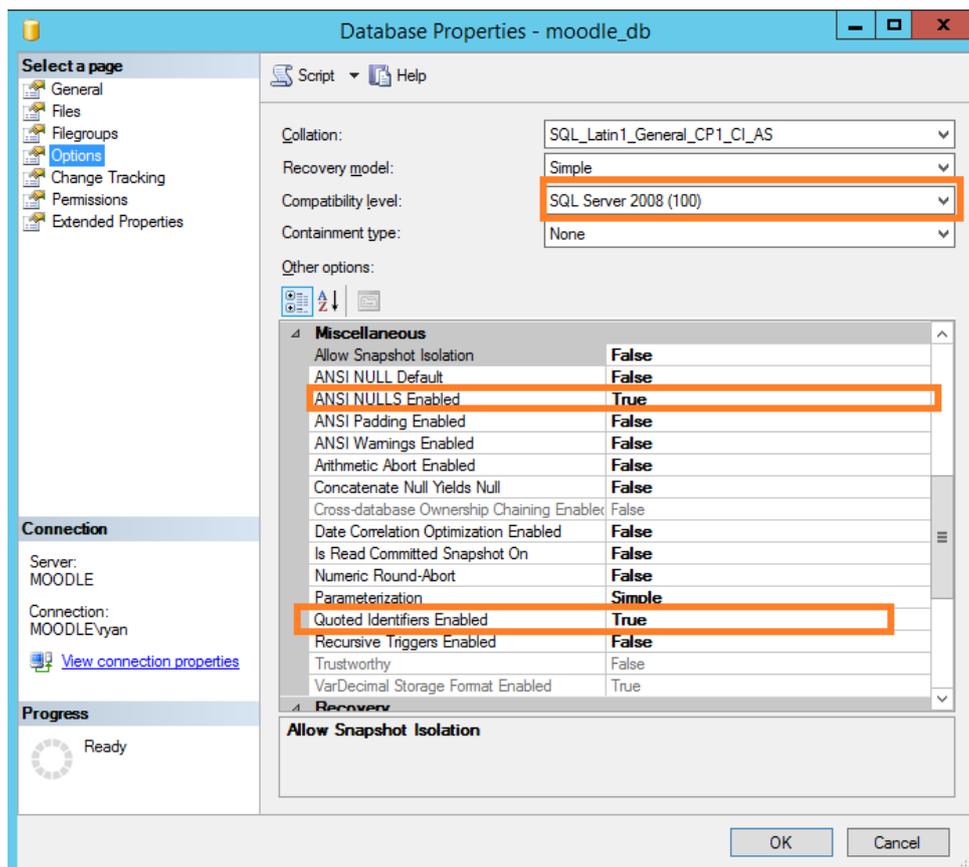
Ensure that the comparability level is set to **SQL Server 2008 (100)**
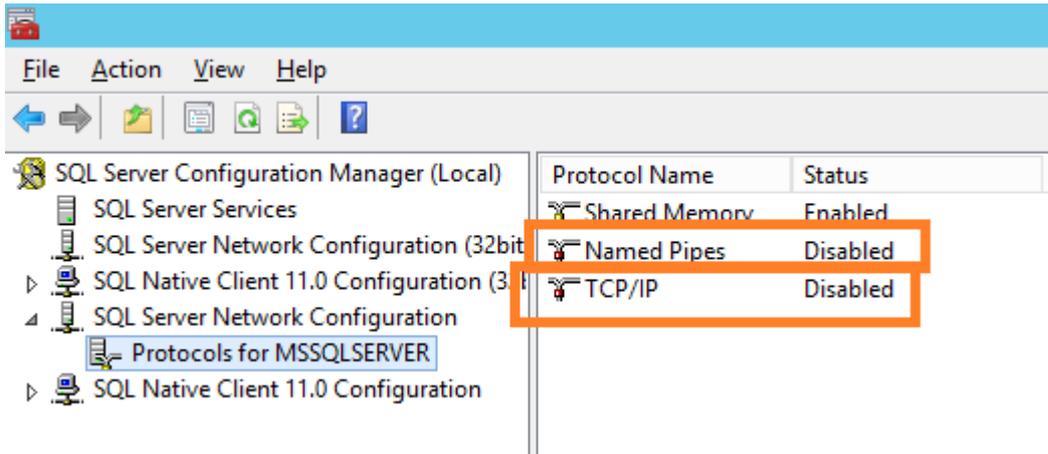
Open SQL Configuration Manager and enable named pipes and TCP/IP

Moodle Installation

Download Moodle 2.5 from www.moodle.org.

Extract the content of the downloaded zip file in c:\inetpub\wwwroot.
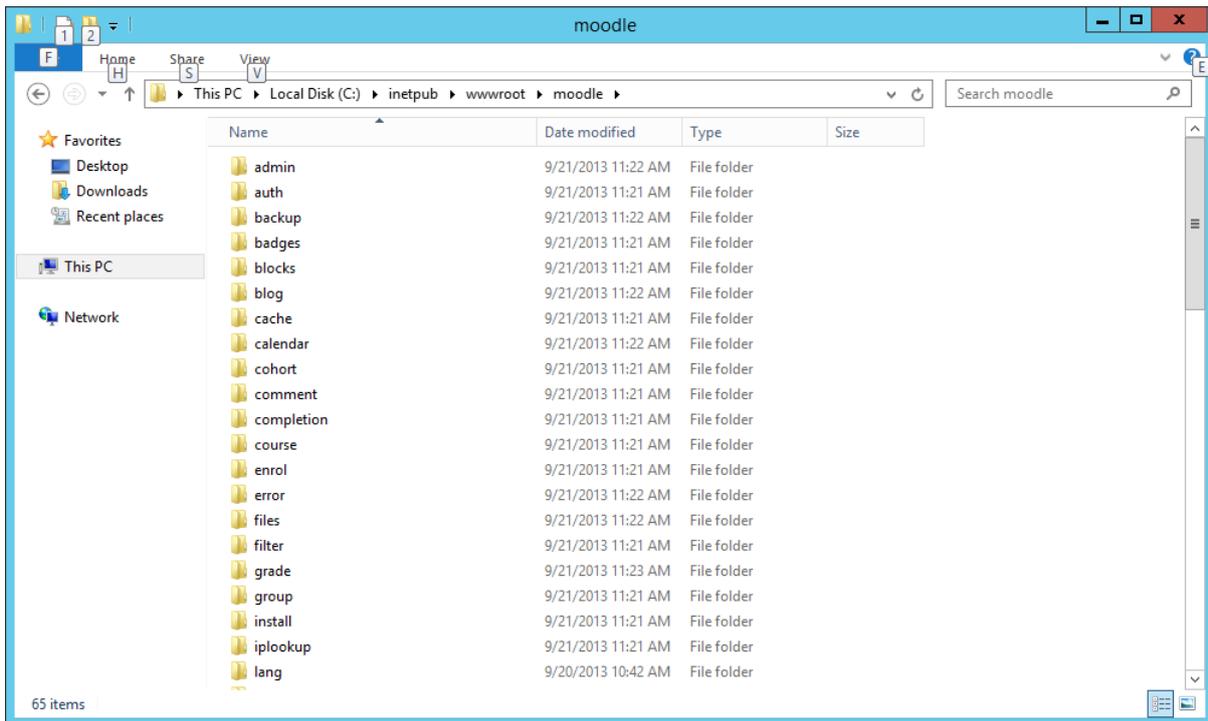
Configuring Moodle
Navigate to http://127.0.0.1/ and you will see the Moodle Installation page

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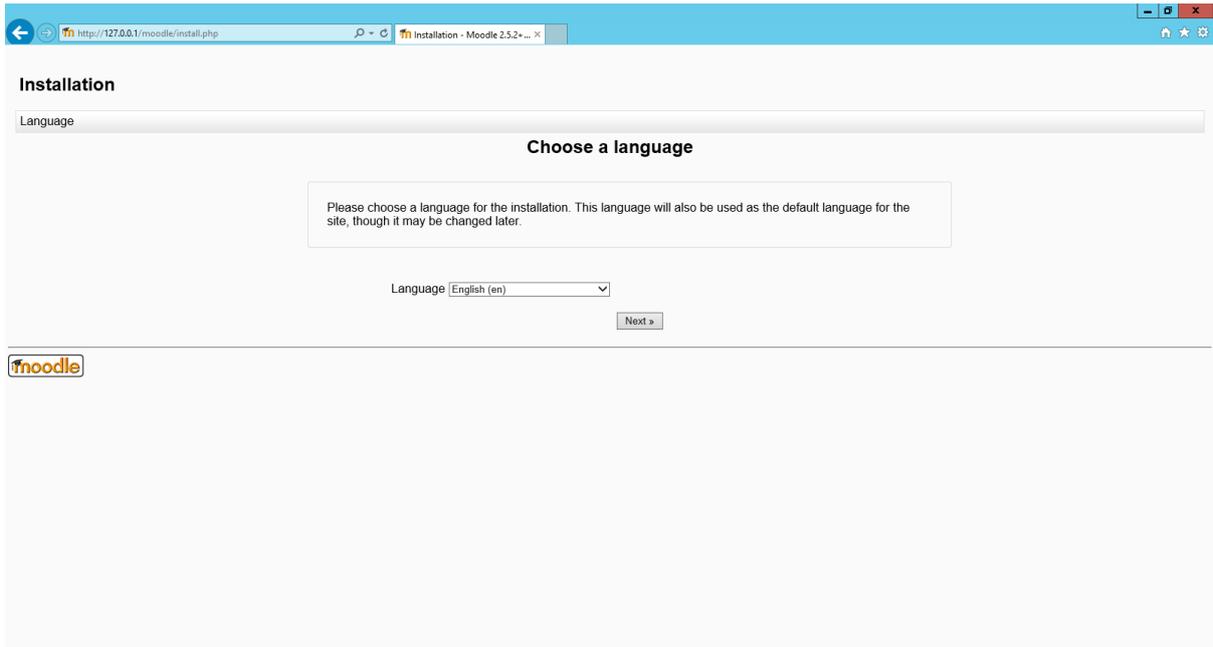
Choose the language you require
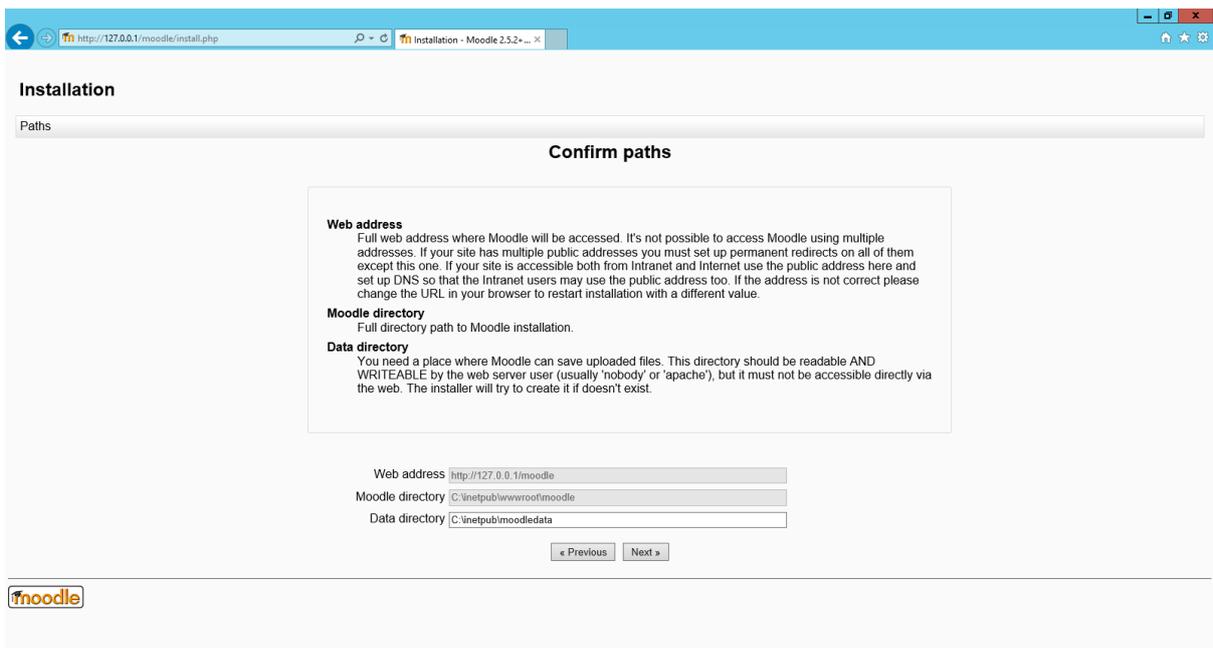
Confirm the directories you configured earlier and click next. The Moodle install will automatically enter the Data Directory which is c:\inetpub\modledata folder you created earlier. If you receive an error message from this screen you have not set the permissions correctly on the server.

Choose database driver

Moodle supports several types of database servers. Please contact server administrator if you do not know which type to use.

Type SQL*Server Microsoft (native/sqlsrv)

« Previous   Next »

Select*Server Microsoft (native/sqlsrv) and click next. Ensure that you have the 2008 r2 native client installed.

Database settings

SQL*Server Microsoft (native/sqlsrv)

Now you need to configure the database where most Moodle data will be stored. This database must already have been created and a username and password created to access it. Table prefix is mandatory.

Database host   localhost
Database name   moodle_db
Database user   moodle_user
Database password   moodle100
Tables prefix   mdl_

« Previous   Next »

Complete the online form in as below from everything we have configured in previous steps.

Database host: 127.0.0.1
Database name: Moodledb
Database user: Moodle_user
Database password: Password1

The next page will try and create a file called config.php in the c:\inetpub\wwwroot folder. By default the IUSR user does not have permission to write to this folder. Select the content of the page and copy it to your click board. Create the file config.php in the c:\inetpub\wwwroot folder. Open the file and paste the content into the file.

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> **Moodle made an attempt to save your configuration in a file in the root of your Moodle installation. The installer script was not able to automatically create a config.php file containing your chosen settings, probably because the Moodle directory is not writeable. You can manually copy the following code into a file named config.php within the root directory of Moodle.**

```php
<?php  // Moodle configuration file

unset($CFG);
global $CFG;
$CFG = new stdClass();

$CFG->dbtype    = 'sqlsrv';
$CFG->dblibrary = 'native';
$CFG->dbhost    = 'localhost';
$CFG->dbname    = 'moodle_db';
$CFG->dbuser    = 'moodle_user';
$CFG->dbpass    = 'moodle100';
$CFG->prefix    = 'mdl_';
$CFG->dboptions = array (
  'dbpersist' => 0,
  'dbsocket' => 0,
);

$CFG->wwwroot   = 'http://127.0.0.1/moodle';
$CFG->dataroot  = 'C:\\inetpub\\moodledata';
$CFG->admin     = 'admin';

$CFG->directorypermissions = 0777;

require_once(dirname(__FILE__) . '/lib/setup.php');

// There is no php closing tag in this file,
// it is intentional because it prevents trailing whitespace problems!
```
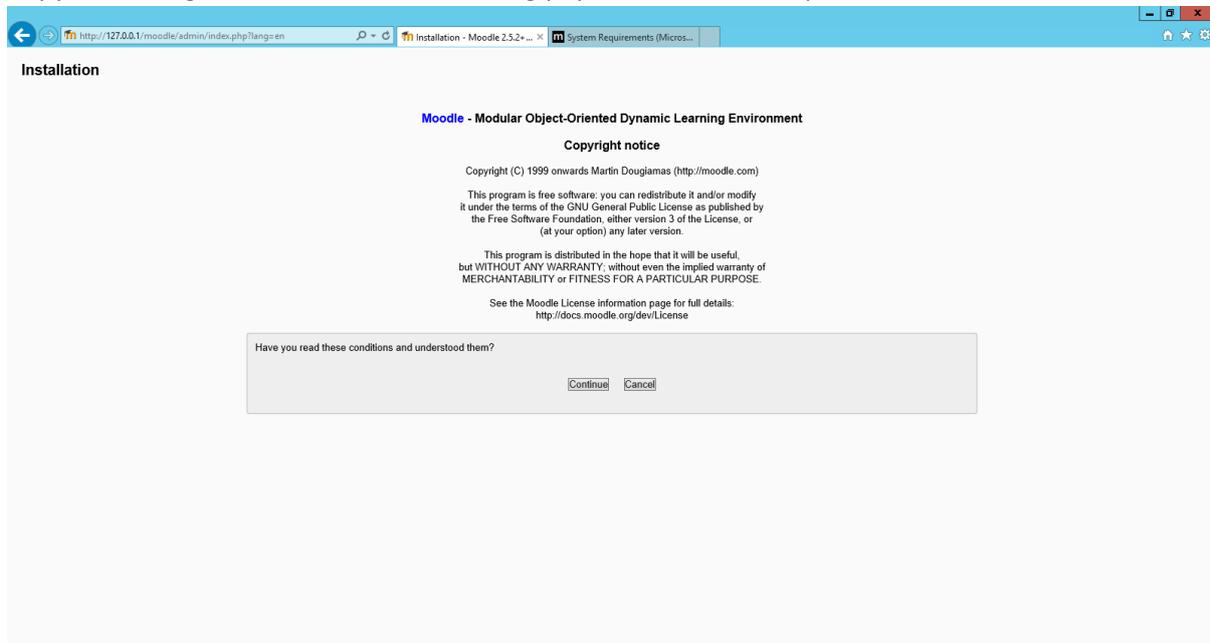
Copy this configuration into a text file config.php located in C:\inetpub\wwwroot\moodle.

If you have followed these steps correctly you will be able to click next in the Moodle install web page which will then ask you to confirm the term and conditions.

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Moodle will now complete a check on the state of your environment. Ensure everything is set to OK. If you are only using the English Language, there is no need to worry about the internationalisation extension. Click on Continue and wait for it to complete.

Moodle will create all the tables it requires in the Microsoft SQL Server database. Once it has loaded the page click on Continue at the bottom.

Installation

On this page you should configure your main administrator account which will have complete control over the site. Make sure you give it a secure username and password as well as a valid email address. You can create more admin accounts later on.

▼ General

Username*	admin
Choose an authentication method ⓘ	Manual accounts
	The password must have at least 8 characters, at least 1 digit(s), at least 1 lower case letter(s), at least 1 upper case letter(s), at least 1 non-alphanumeric character(s)
New password* ⓘ	Passw0rd! ☑ Unmask
Force password change ⓘ	☐
First name*	Admin
Surname*	User
Email address*	admin@admin.com
Email display	Allow everyone to see my email address
Email format	Pretty HTML format
Email digest type	No digest (single email per forum post)
Forum auto-subscribe	Yes: when I post, subscribe me to that forum
When editing text	Use HTML editor
City/town*	demo
Select a country*	United Kingdom
Timezone	Server's local time
Preferred language	English (en)
Description ⓘ	

You now need to give your admin account for Moodle a complex password. Also complete the other fields required. At the bottom click Update Profile.

We now complete the final install process by completing information about the education establishment. Fill in the online form and click on Save Changes at the bottom of the page.

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There you have it. Moodle install on Server 2012 R2.

Links and Resources

PHP Download: http://windows.php.net/download

PHP Manager IIS 7.5: http://phpmanager.codeplex.com/releases/view/69115

SQL Server 2012: http://www.microsoft.com/en-gb/download/details.aspx?id=29062

Download the Microsoft Drivers 2.0 / 3.0 for PHP for SQL: http://www.microsoft.com/en-us/download/details.aspx?id=20098

Microsoft SQL Server 2008 R2 Native Client:
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