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## Moodle Administration

If you are the site administrator for your Moodle installation, there are a lot of options at your fingertips. Most of the time, the default settings that come with your Moodle installation will work well. But there are a lot of options for customization and performance that can make your version of Moodle work exactly as you'd like.

The role of system administrator can be challenging, even if you're just administering your own site. You are responsible for keeping the system up and running.

### Configuration

The configuration settings in Moodle affect the basic functionality of the site. There are eight areas in the configuration menu: variables, settings, themes, module settings, blocks, filters, backup, and editor settings. Each of these areas affects the functioning of your Moodle site in different ways.

## Site Variables

Site variables are settings that determine how your entire Moodle site functions. The site variables are the most technical settings.

The variables fall into seven clusters.

### Language/location variables

#### Lang

Sets the default language for the site. This setting can be overridden by users using the language menu or the setting in their personal profile.

#### Langmenu

Sets whether the language menu is displayed on the login page and the home page. If this is turned off, the only places where a user can change the language setting is in her user profile or in the course settings if she is a teacher.

#### Langlist

If you want to limit the number of languages students and teachers can select from, enter that list here.

#### Locale

Determines date format and language. You need to have the locale set on your operating system for this to work.

#### Timezone

Sets the default time zone for date display. This can be overridden by the user's profile setting.

#### Country

Sets a default country for user profiles.

### Mail settings

#### SMTPhosts

SMTP stands for Simple Mail Transfer Protocol. The SMTP host is an email relay that will take the email from Moodle and send it to users. You will need to set this only if your server does not allow mail relay. Otherwise, PHP will send out the mail using its built-in mail server. All the email sent by forums and other modules will be sent through this host.

#### SMTPuser

If you set an SMTP server and it requires authentication, enter the username for the account that will be relaying the email from Moodle.

#### SMTPpass

Enter the password for the SMTP user you set earlier.

### Noreplyaddress

Email sent from Moodle needs to have a return address or many servers will reject it as spam. Some users also want to keep their email private, so Moodle sends all of its email using the noreply address you set here.

## Graphics library

### Gdversion

GD is a graphics library that manipulates graphics. It's used to create thumbnail images from uploaded files and other graphics on the fly. If you don't know what version is installed, leave this on the original setting.

## Timing settings

### Maxeditingtime

Sets the editing time for the forums and other feedback. The editing time is the amount of time users have to change forum postings before they are mailed to subscribers.

### Longtimenosee

To help keep course rosters organized, you can tell Moodle to unenroll any student who hasn't logged in for a certain amount of time. Be sure to keep this time long enough so students aren't unenrolled accidentally while they still need access to the course.

### Deleteunconfirmed

If you're using email account confirmation (see the section "User management"), users must confirm their account within a certain timeframe. Once the time set here has passed, any account that hasn't been confirmed will be deleted.

### Loglifetime

Moodle keeps extensive logs of user activity. Eventually, however, the logs will become so large that they begin to clog your server. Although the instructions on the screen suggest that you don't delete the logs, I recommend keeping the logs only as long as you need them. Usually, a year is enough time.

## Security and login settings

### Displayloginfailures

The logs display login failures. This is probably necessary only if people are attempting to steal student or teacher logins.

### Notifyloginfailures

If you're concerned about login failures, you can also have email sent to system administrators.

### Notifyloginthreshold

Sets the number of failed logins for a given user from a single computer that will trigger notification.

### Sessiontimeout

Once someone logs in to your Moodle server, the server starts a session. The session data allows the server to track users as they access different pages. If users don't load a new page during the amount of time set here, Moodle will end their session and log them out. Be sure this time frame is long enough to cover the longest test your teachers may offer. If a student is logged out while he is are taking a test, his responses to the test questions may be lost.

### Sessioncookie

Most of the time, you can leave this blank, unless you are running more than one copy of Moodle on the same server. In this case, you will want to customize the name of the cookie each copy of Moodle uses to track the session. That way, if you're logged in to one copy of Moodle, you won't also be logged in to the other copy.

## File and picture handling

### Zip and unzip

If you are running Moodle on a Unix or Unix-like server (Linux, Solaris, BSD, Mac OS X), you may need to specify where the zip program is located. Zip and unzip are used to compress and decompress zip archives such as the backup folder.

### Slasharguments

You will need to change this setting only if you are having trouble viewing files or images. Most of the time, Moodle will display files and pictures with no problem using the slash arguments. If you get errors when you try to view pictures or files from within Moodle, your PHP server doesn't allow the slash argument method and you will need to use the file argument method instead.

### Proxyhost and proxyport

Your Moodle server may need to access the Internet through a proxy server, depending on your network configuration. If you're not sure about whether you need a proxy server, contact your network administrator or ISP.

### Debug

Setting debug to Yes turns on PHP warnings and messages to help developers debug new modules. Unless you are actively writing new code, leave this turned off.

### Framename

If you've developed a web wrapper for Moodle and you want to include Moodle in a larger frame, set the name for the Moodle frame here.

### Secureforms

Whenever a user sends form data to Moodle, the browser also sends a piece of data called HTTP\_REFERER. This data contains the sending computer's IP address. If you turn on this setting, the referrer data will be compared to the IP address of the machine sending the request. If they match, then the data is being sent from the machine that originated the request. If they don't match, someone may be trying to spoof the user's IP address and initiate a man-in-the-middle attack to compromise

her Moodle data. This security check may cause problems with some firewalls. IP spoofing is rare, so you'll need to choose between locking out people with their firewalls on or risking an IP spoof attack.

#### Loginhttps

HTTPS encrypts the user's login data, so it's difficult to sniff out a user's username and password on the network. You will need to enable HTTPS on your server before you turn on this setting, or else you will be locked out of your site. Every web server has a different method for enabling HTTPS, so you should check the documentation for your web server. Most versions of Moodle won't let you set this to Yes unless HTTPS is enabled on the server.

#### Teacherassignteachers

If you want teachers to be able to assign other teachers to their courses, set this to Yes.

#### Allusersaresitestudents

The front page of your Moodle site is actually a Moodle course. If you want everyone who has an account on the server to be able to participate in the front page forum and news, set this to Yes. If the users should be associated with another class before they can participate, set this to No.

### **User management**

#### Showsiteparticipantlist

Determines who can view the site participants list. For privacy reasons, you will probably want to set this to Site Teachers.

#### Allowunenroll

Students may need to be able to unenroll themselves from courses, especially old versions of courses that are still visible.

#### Maxbytes

Determines the site-wide absolute maximum for file uploads. Any file upload sizes in the modules must be set lower than this number.

#### Fullnamedisplay

Determines how full names will be displayed.

#### Extenededusernamechars

Leaving this set to No restricts students' login names to alphanumeric characters. If you enable this setting, they can use extended characters such as (!@#\$\$%^&\*) in their username. This does not limit their first or surname settings.

#### Autologinguests

If a visitor goes to a course that allows guest access without first logging in as a guest, this setting will log them in automatically.

#### Forcelogin

By default, anyone who visits your Moodle site can see the front-page news and course listings. If you want users to log in before they see this page, set this to Yes.

#### Forceloginforprofiles

Forces users to log in before they can view other users' profiles. I usually leave this enabled for privacy reasons.

#### Opentoogle

Enabling this setting allows Google's search spiders guest access to your site. Any part of the site that allows guest access will then be searchable on Google.

#### Enablerrssfeeds

Individual modules can send RSS feeds to users' news readers. RSS feeds are headlines that let a user know when there is new content on the Moodle site. If you enable RSS here, you will also need to enable RSS in each RSS-enabled module.

#### Digestmailtime

Moodle now allows mail digests from the forums, so users get only one email per day instead of an individual message for every posting. This setting specifies when digests are emailed to users.

## Site Settings

Site settings determine how the site's front page looks. Compared to the site variables, these are simpler to work with.

The site settings include:

#### Full site name

The name for your entire site, which appears at the top of every screen above the breadcrumbs navigation.

#### Short name for site

The short name appears at the beginning of the breadcrumb navigation as a link back to the main site page.

#### Front page description

A short message to your users on the right side of the front page.

#### Front page format

The central block on the front page can display one of three things: news items, a list of the users' courses, or a list of course categories. This setting determines which of the three your site displays.

#### Include a topic section

Adds a full-course topic section with an Add Resource menu or activity menu. The topic section appears at the top of the central block.

#### Name for administrator and teachers

You can customize the label for people with administrator and teacher roles. The teacher-name setting can be overridden in the course settings.

## Themes

Themes set the background color, font types, and font color for your entire Moodle site. Moodle comes with a number of prepackaged themes. To select a new theme for your site:

1. Click on Themes in the administration area.
2. Click on a theme.
3. Once you have a theme you like, click Save Changes. If you don't click Save Changes, the theme will revert to the last saved theme when you leave the Themes page.

## Module Settings

The modules settings area allows you to control access to the Moodle modules.

Each activity module can be made available for teachers or turned off. If the modules are turned off, instructors won't be able to add them to their courses.

In addition to adjusting the site settings, you can adjust settings in many of the modules. Fortunately, the Moodle developers have done an excellent job documenting each of the variables you can adjust for each of the modules.

To change any of the module settings, select Modules from the administration area. Then select the settings for the module you want to adjust.

## Blocks

The settings for administration blocks determine which blocks available to all Moodle users. Just like the module settings, you can show, hide, and delete blocks. Two blocks have settings that can be changed: the courses block and the online users block.

## Filters

Moodle filters are text filters that help Moodle analyze the text in a course. Each of the 10 filters has a specific function.

### Glossary Auto-linking

Enables the Glossary module to highlight glossary entries in the forums and resources.

### Resource Names Auto-linking

Works a bit like the glossary text filter. If you use the name of a resource (text files, uploaded file, or other resource) anywhere in a Moodle course, the word will be linked to back to the definition.

### Wiki Page Auto-linking

Links the names of wiki pages back to the original wiki page.

### Activity Names Auto-linking

If you use the name of an activity elsewhere in the Moodle course, it will be linked back to the activity.

### Algebra Notation

Converts text mathematics notation into mathematics notation. See <http://moodle.org/mod/forum/discuss.php?d=5402> for some good examples.

### Word Censorship

Automatically deletes profanity in forum postings or other data from users.

### Email Protection

Scrambles user emails in user profiles. Once the emails are scrambled, outside search engines and guests won't be able to see users' email addresses. This will protect your users from spammers and other attackers.

### Multimedia Plugins

Associates uploaded multimedia files with the correct media players.

### Multi-Language Content

Allows you to print characters in different languages. It recognizes different character sets and displays them appropriately.

### TeX Notation

Another mathematics markup tool that allows you to use export TeX notation and display it correctly in Moodle.

The text filters also have two settings that will affect how the filters and your server work:

### Text cache lifetime

Text filters can take a lot of processor power to analyze. If you have a large number of courses, the filters may slow your system. The text cache lifetime determines how often the filters run. If you set them to run too frequently, your system may slow down. If you set them to run too infrequently, analyzing new content will take too long and users will notice. You should experiment to find the correct amount of time for your server.

### Filter uploaded files

Moodle can also apply filters to uploaded HTML and text files as, well as content entered directly into Moodle itself. Again, you will need to balance the increased load imposed by filtering more files against the added usefulness of applying filters more widely.

## Backup

There's a saying in the computer industry: "There are two types of users, those who have lost data, and those that will." Eventually, a hard drive will fail or your database will collapse on your Moodle server and you will lose data. Fortunately, Moodle has an automated backup system that you can run on a nightly basis to export all the course materials for the entire site.

The backup tool in Moodle actually runs the same functions as an individual course backup. It simply runs automatically on all of the courses on the site at a designated time. It's a good idea to schedule backups for when your server isn't usually busy. Running the backup tool over all the courses can be processor-intensive, so you shouldn't run it when there are a lot of students trying to access the server.

There are two steps to setting up the backup. When you access the backup screen, the top section lets you set the types of material to be backed up. Again, the Moodle developers have done a good job of describing each setting. If you are running a nightly full-server backup (which I heartily recommend), I suggest you use the following settings:

### Include Modules

Set this to "Yes with user data" to preserve all student work for each course.

### Users

Set this to All. If you need to restore your Moodle server from a backup, you don't want to lose any accounts, even if they aren't associated with a current course.

### User Files

Set this to Yes as well. You want the restored server to look as much like the original as possible, so all user files should be restored as well.

### Course Files

Again, set this to Yes. You'll need to deal with a lot of angry teachers if they have to restore all of their course files after you restore the server.

### Keep X Files

This setting determines how many old backups will be saved. Set this as high as you can without taking up too much space on your server. If you need to restore a course a few days after you run the backup (as I've had to a few times), you'll be glad you have a few weeks' worth of data.

Once you've set the backup settings, you'll need to set a backup schedule at the bottom of the screen. To set the backup schedule:

1. Set Active to Yes. This turns on the automated backup system.
2. Click the days of the week to run the backup. I recommend backing up every day.
3. Set the execution time for the backup process. For most servers, early morning will be the best time.

4. Set the “Save to...” path. If you can, choose a backup path on another machine or on a different drive than the one Moodle is on. You don’t want to lose your backups at the same time you lose your Moodle site if the drive fails.
5. Click Save Changes.

Once you’ve set up your backup sessions, Moodle will automatically create archives of all the courses on the server at the time you specified. Once the backup is complete, Moodle will send you an email describing the status of the backup.

## Editor Settings

In this area, you can enable and customize the HTML editor. If users on your site cannot see the HTML editor when they use a supported browser, check this page to make sure the editor is enabled on your site. As of this writing, the HTML editor is *not* enabled by default.

## Users

User management can be one of the most time-consuming jobs for a system administrator. As your system grows, the number of users who lose their password or have difficulty creating a new account grows as well. Fortunately, there are a few tools to help make the job of user management easier.

## Authentication

In Chapter 2, we covered how to create a user account using email authentication. You created the account and Moodle sent you an email with a link to confirm your address. While this is an effective and efficient way to create new accounts, Moodle provides a number of other account-authentication methods as well. If you are in a university environment and have access to a university email or directory server, you can tell Moodle to use them to authenticate new user accounts instead.

External servers prevent users from creating multiple accounts and prevent people from outside the university accessing your server when they shouldn’t.

Moodle provides the following account-authentication methods:

### Email-based

Email authentication is the default account-authentication method. With this method, users can create their own accounts. They then receive an email at the address they specified in their account profile to confirm their account.

### Manual

This method requires the administrator to manually create all user accounts. If you are using Moodle with a limited number of people or are synchronizing your database with a student-information system, use this method.

### No authentication

Users can create accounts with no external validation. Avoid using this option if you can.

### Use FirstClass/POP/IMAP/LDAP/NNTP server

These methods use an external server to check a user's username and password. If the name and password match the data on the mail server, an account with the same username and password is created on your Moodle site. Unfortunately, to avoid a performance bottleneck, Moodle doesn't check the password every time a user logs in. This means that if a user changes his email password on the external server, he will also need to change it in Moodle as well.

### Use an external database

This functions much like the other external account-authentication methods. The difference is that it uses a database of user data, such as the one in a student-information system. Once the username and password stored in the external database have been validated, you can tell Moodle to copy additional data. This is done by mapping fields at the bottom of the database-authentication screen. Each data field in the user profile has a text field next to it. Enter the name of the column in the external database that maps to the profile data field.

## Add and Edit User Accounts

Once you've configured authentication, you'll want to be able to maintain users' accounts. Below the authentication link are three other tools: edit user accounts, add a new user, and upload users.

### Edit user accounts

Allows you to edit the user profile of anyone on the system. Most frequently, you will use this to reset user passwords if users are unable to log in.

### Add a new user

Allows you to create a new user account. You must use this if you've set authentication to manual and need to add a new user. The form to add a new user looks just like the new user profile page in Chapter 2 you used to create your own account.

### Batch upload users

Allows you to add a number of users at once using a text file. If you have a student-information system at your institution but are unable to connect directly to the database, you may be able to export user data from the database as a text file and upload it into Moodle.

The user data text file must follow a certain format. The first line contains the names of the column headers, such as username and password. Below the first line, each user record must be on one line and each column must be separated by commas.

The user text file must have the following columns: username, password, firstname, lastname, and email. These columns are optional: institution, department, city,

country, lang, timezone, idnumber, icq, phone1, phone2, address, url, description, mailformat, maildisplay, htmeditor, and autosubscribe.

You can also enroll students in courses using the text file. In the column headings folder, list course1, course2, etc. Then in the data file, put the courses' short names in the appropriate columns.

So a properly formatted course-enrollment text file would look like:

```
username, password, firstname, lastname, email, course1
student1, abc123, Jane, Student, jstudent@mail.com, mdl101
student2, abc124, Joe, Student, joe@university.edu, mdl101
```

The course-enrollment feature can be a handy way to enroll students in a university-wide course on how to use Moodle and other university resources. I wouldn't use the user upload feature to enroll students in their regular courses, however. It's useful to keep the user data and the enrollment data separate so you don't have to constantly reload students to change their enrollments. In the next section, we'll explore some other ways to make sure students have access to their courses.

## User Roles

Once users have accounts on the server, they need access to the courses they are taking. The first step is to enroll the user in a course. By default, students must enroll themselves in their courses. Fortunately, Moodle now includes some tools to automatically enroll students in the proper courses.

But users also need to have the proper permissions once they are enrolled. Teachers need to have teacher permissions so they can build their courses. This next section explores the tools you will use to manage user enrollment and roles.

### Enrollments

The enrollment settings are similar to the authentication settings. You can choose between four methods of associating user data with the correct courses:

#### Internal Enrollment

The default enrollment method. It requires students to find their courses and enroll manually. They can enroll in any course unless it has an enrollment key (see Chapter 2 for details on setting a course-enrollment key). This is an easy method to use, but it isn't very secure.

#### External Databases

This method looks up enrollments in another database. You'll need to configure the login settings so Moodle can access the remote server. You'll then need to map the fields in Moodle to the fields in the remote database.

#### Flat File

Like the upload users tool, this method checks for an enrollment file at the specified location. If it finds a new file, it will process the data. The file should be structured

with the action, role, student number, and course's short name. There is a good example of a flat file in the flat-file instructions.

### Paypal

The latest enrollment addition, PayPal enrollment allows you to set up an e-commerce system so students can pay to enroll in a course. If you are running a business selling Moodle-based courses, this is an easy way to enable students to use a credit card.

## Enroll students

Enrolling students by hand is a tedious task. If you can, I recommend using one of the above methods to avoid this chore. But occasionally, a student or teacher will need access to a class that is not part of their regular schedule.

To enroll students in a course:

1. Click the Enroll Students link.
2. Find the course to which you want to add students. Click the link for that course.
3. Once in the course, click on the Students link in the course Administration panel.
4. Find the name of the student you want to add to the course and select it.
5. Click the left arrow to move the name to the course-enrollment box.

Of course, unless there is a good reason for you as system administrator to enroll students in a course, it's usually better to give leave the responsibility of maintaining their course rolls to the teachers.

## Assign Teachers, Creators, and Admins

As the system administrator, you are also responsible for adding teachers, course creators, and other system administrators. Assigning teachers to their courses is critical (unless you are using an alternative enrollment method). Otherwise, teachers will never be able to access their courses. Course creators can create courses they teach themselves, which is one way to overcome this limitation.

To add a teacher to a course:

1. Click Assign Teacher in the course Administration panel.
2. You will then see the course category list. Click on the category that includes the course you need.
3. Find the course that needs a teacher. Click on the teacher icon to the right of the course name.
4. Find the course teacher in the list of system users and click Add Teacher.

The only tricky step to adding teachers is identifying the correct icon. As of this writing, the face icon is second from the left.

The "assign course creators" link allows you to identify specific users as being authorized to create and teach their own courses. If you are managing a small Moodle system, this is

not a bad way to go. If you are administering a small Moodle installation for your department, then enabling your colleagues to create their own courses removes you as a potential bottleneck. If the other teachers are enabled to create their own courses, they may also take more ownership in the system as a whole.

If you are running a university-wide server, however, I do not recommend using this extensively. On a large installation, it can become difficult to track who is creating legitimate courses and who is abusing the system. A large number of bogus courses will clutter your system and could lead to performance slowdowns.

To enable course creators:

1. Click on the Assign Creators link in the Site Administration panel.
2. In the right column, select the names of the new creators.
3. Click the left arrow to add them to the creators column.

Once someone has been designated as a course creator, they can add their own courses and create new courses using the restore procedure.

System administrators have unlimited authority on their Moodle server. You should limit the number of people with administrator privileges to a bare minimum. A lot of people with administrator access is a recipe for disaster since they can add accounts and courses and change site variables at will.

To assign system admins:

1. Click on the Assign Admins link in the Site Administration panel.
2. In the right column, select the names of the new administrators.
3. Click the left arrow to add them to the admin column.

## Courses

The system administrator and course creators are also responsible for adding courses to Moodle. Currently, there isn't yet a way to automatically create courses, though I suspect this will be added soon. So for the time being, you will need to manually create courses for your teachers.

Courses can be organized by course category, and each course can be listed in only one category. It's up to you to define the categories.

## Creating Course Categories

By default, there is only one Moodle category: Miscellaneous. While you are certainly free to put all your classes in the miscellaneous category, your users will find it easier to find their classes if they are organized in descriptive categories.

Most people organize their courses by department and college or by topic. Be sure to test your organizational scheme with a few users before entering a large number of courses.

Fortunately, adding categories is very simple:

1. From the administration area, click Courses.
2. You will then see the course categories page. At the top of the page is a text area and an “Add new category” button. Type the name of your new category in the text area and click the button.

You now have a new course category.

## Creating Courses

Once you set up a few course categories, you are ready to create a course.

To create a course:

1. From the administration area, click Courses.
2. In the course category page, select the category for the new course.
3. In the courses list for the category, click “Add a new course” at the bottom of the page.
4. You will then see the course settings page for the new course. Consult Chapter 2 for details on the course settings. Once you’ve entered the course settings, select Save Changes at the bottom of the page.
5. You will then see the Add Teacher page. Find the teacher for the course and click the Add Teacher link.

Once you’ve added the course, the teacher will be able to add content and students will be able to enroll.

## Logs

Finally, as the administrator, you have access to user activity logs for the entire site. You can select to view logs based on course, user, date, and activity. Unfortunately, there currently isn’t a way to see aggregate logs.

One of the nicest tools in the logs area is the View Live Logs. This is a continually refreshed page that displays all user activity for the past hour. I use it to gauge server load and to get a snapshot of how students and teachers are using the system. Obviously, I could use the regular logs to do this as well, but I like the excitement of live viewing.

