



F r o m T e c h n o l o g i e s t o S o l u t i o n s

Moodle

E-Learning Course Development

A complete guide to successful learning using Moodle

William H. Rice IV

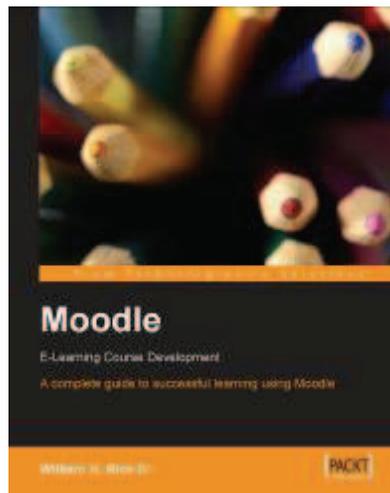
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**"Moodle E-Learning Course Development
Sample E-Book"**

In this package, you will find:

A Biography of the author of the book

A preview of:

Chapter 1: Introduction

Chapter 2: Installing and Configuring Moodle,

Chapter 8: Features for Teachers, and

Chapter 9: Extending and Administering Moodle.

A synopsis of the book's content

Information on where to buy this book

About the Author

William H. Rice IV is a training manager, a technical writer, and a knowledge manager who lives and works in New York City. He has been helping people to incorporate technology into their work processes since graduating with a degree in technical writing in 1988. He has developed training and documentation for Fortune 100 clients, hospitals, small businesses, and universities. His first book for Packt Publishing was *User Training for Busy Programmers*, ISBN 1-904811-45-0.

When William isn't working, he enjoys foraging for edible wild plants in New York City parks, hiking and climbing in Pennsylvania, and archery within sight of J.F.K. International Airport. His current favorite blog is www.43folders.com. His favorite non-work activity is spending time with his beautiful wife and child.

William maintains an online magazine for technical trainers and writers at www.williamrice.com. On this website, other trainers and writers are welcome to browse and submit articles. He can be reached through his website or at techcomm@williamrice.com.

For my father, William III, who instilled in me a curiosity and love of learning; and for William V, to whom I hope to pass on this wonderful legacy.

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Moodle: E-Learning Course Development

This book shows you how to use Moodle as a tool to enhance your teaching. Initially, it will help you to analyze your students' requirements, and understand what Moodle can do for them. After that you'll see how to use different features of Moodle to meet your course goals.

The social constructionist learning philosophy is at the heart of Moodle: we all *construct* knowledge through interaction with one another and with learning materials in a social way. This book will show you how to add static learning material, interactive activities, and social features to your courses so that students reach their learning potential.

Whether you want to support traditional class teaching or lecturing, or provide complete online and distance learning courses, this book will prove a powerful resource throughout your use of Moodle.

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Introduction

Moodle is a free learning management system that enables you to create powerful, flexible, and engaging online learning experiences. I use the phrase "online learning experiences" instead of "online courses" deliberately. The phrase "online course" often connotes a sequential series of web pages, some images, maybe a few animations, and a quiz put online. There might be some email or bulletin board communication between the teacher and students. However, online learning can be much more engaging than that.

Moodle's name gives you insight into its approach to e-learning. From the official Moodle documentation:

The word Moodle was originally an acronym for **Modular Object-Oriented Dynamic Learning Environment**, which is mostly useful to programmers and education theorists. It's also a verb that describes the process of lazily meandering through something, doing things as it occurs to you to do them, an enjoyable tinkering that often leads to insight and creativity. As such it applies both to the way Moodle was developed, and to the way a student or teacher might approach studying or teaching an online course. Anyone who uses Moodle is a **Moodler**.

The phrase "online learning experience" connotes a more active, engaging role for the students and teachers. It connotes web pages that can be explored in any order, courses with live chats among students and teachers, forums where users can rate messages on their relevance or insight, online workshops that enable students to collaborate and evaluate each other's work, impromptu polls that let the teacher evaluate what students think of a course's progress, directories set aside for students to upload and share their files. All of these features create an active learning environment, full of different kinds of student-to-student and student-to-teacher interaction. This is the kind of user experience that Moodle excels at, and the kind that this book will help you to create.

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A Plan for Creating Your Learning Site

Whether you are the site creator or a course creator, you can use this book as you would a project plan. As you work your way through each chapter, the book provides guidance on making decisions that meet your goals for your learning site. This helps you to create the kind of learning experience you want for your teachers (if you're the site creator) or students (if you're the teacher). You can also use this book as a traditional reference manual, but its main advantages are its step-by-step, project-oriented approach and the guidance it gives you about creating an interactive learning experience.

Moodle is designed to be intuitive to use and its online help is well written. It does a good job of telling you how to use each of its features. What Moodle's help files don't tell you is when and why to use each feature, and what effect it will have on the student experience; and that is what this book supplies.

The appendix contains a checklist of the major steps for creating a Moodle site and populating it with courses. The steps are cross-referenced to the relevant sections of this book. Download this checklist from the Packt Publishing website www.PacktPub.com, print it, and keep it handy while creating your Moodle site.

Step-By-Step: Using Each Chapter

When you create a Moodle learning site, you usually follow a defined series of steps. This book is arranged to support that process. Each chapter shows you how to get the most from each step. Each step is listed below, with a brief description of the chapter that supports the step.

As you work your way through each chapter, your learning site will grow in scope and sophistication. By the time you finish this book, you should have a complete, interactive learning site. As you learn more about what Moodle can do, and see your courses taking shape, you may want to change some things you did in previous chapters. Moodle offers you this flexibility. And, this book helps you determine how those changes will cascade throughout your site.

Step 1: Learn About the Moodle Experience (Chapter 1)

Every Learning Management System (LMS) has a paradigm, or approach, that shapes the user experience and encourages a certain kind of usage. An LMS might encourage very sequential learning by offering features that enforce a given order on each course. It might discourage student-to-student interaction by offering few features that support it, while encouraging solo learning by offering many opportunities for the student to interact with the course material. In this chapter, you will learn what Moodle can do and what kind of user experience your students and teachers will have, using Moodle. You will also learn about the Moodle philosophy, and how it shapes the user experience. With this

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information, you'll be ready to decide how to make the best use of Moodle's many features, and to plan your online learning site.

Step 2: Install and Configure Moodle (Chapter 2)

Most of the decisions you make while installing and configuring Moodle will affect the user experience. Not just students and teachers, but also course creators and site administrators are affected by these decisions. While Moodle's online help does a good job of telling you how to install and configure the software, it doesn't tell you how the settings you choose affect the user experience. Chapter 2 covers the implications of these decisions, and helps you configure the site so that it behaves in the way you envision.

Step 3: Create the Framework for Your Learning Site (Chapter 3)

In Moodle, every course belongs to a category. Chapter 3 takes you through creating course categories, and then creating courses. Just as you chose site-wide settings during installation and configuration, you choose course-wide settings while creating each course. This chapter tells you the implications of the various course settings so that you can create the experience you want for each course. Finally, Chapter 3 takes you through the usage of the various blocks, each of which adds a well-defined function to the site or to the course. After creating the categories and courses, and deciding which blocks to use, you've created a framework for your site. Then you're ready to fill your courses with learning material, which you'll do in Steps 4 through 6.

Step 4: Add Basic Course Material (Chapter 4)

In most online courses, the core material consists of web pages that the students view. These pages can contain text, graphics, movies, sound files, games, exercises: anything that can appear on the World Wide Web can appear on a Moodle web page. Chapter 4 covers adding web pages to Moodle courses, plus other kinds of static course material: plain-text pages, links to other websites, labels, and directories of files. This chapter also helps you determine when to use each of these types of material.

Step 5: Make Your Courses Interactive (Chapter 5)

In this context, "interactive" means interaction between the student and teacher, or the student and an active web page. Student-to-student interaction is covered in the next step. Interactive course material includes surveys posed by the teacher, journals written by the student and read only by the teacher, and lessons that guide students through a defined path based upon their answers to review questions and quizzes. Chapter 5 tells you how to create

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these interactions, and how each of them affects the student and teacher experience. You'll need this information to help you manage Moodle's interactive features.

Step 6: Make Your Course Social (Chapter 6)

Social course material enables student-to-student interaction. Moodle enables you to add chats, forums, and **Wikis** to your courses. These types of interactions will be familiar to many students. You can also create glossaries that are site-wide and specific to a single course. Students can add to the glossaries. Finally, Moodle offers a powerful workshop tool, which enables students to view and evaluate each others work. Each of these interactions makes the course more interesting, but also more complicated for the teacher to manage. Chapter 6 helps you to make the best use of Moodle's social features. The result is a course that encourages students to contribute, share, and evaluate.

Step 7: Create a Welcome for New and Existing Students (Chapter 7)

Chapter 7 helps you create a public face for your Moodle site. You can show a Login Page or the Front Page of your site. The content and behavior of the login and Front Pages can be customized. You can choose to allow anonymous users, require students to be registered, or use a combination of guest and registered access. Each of these options affects the kind of welcome that new and existing students get, when they first see your site. Chapter 7 helps you determine which options to use, and to combine them to get the effect you desire.

Step 8: Use Teacher's Tools to Deliver and Administer Courses (Chapter 8)

Moodle offers several tools to help teachers administer and deliver courses. It keeps detailed access logs that enable teachers to see exactly what content students accessed, and when. It also enables teachers to establish custom grading scales, which are available site-wide or for a single course. Student grades can be accessed online and also downloaded to a spreadsheet program. Finally, teachers can collaborate in special forums (bulletin boards) reserved just for them.

Step 9: Extend Moodle (Chapter 9)

Because Moodle is open source, new modules are constantly being developed and contributed by the Moodle community. The modules that are part of Moodle's core distribution are covered in this book. Additional modules extend Moodle's capabilities. While this book cannot cover every module available, it can cover the process of installing and integrating new modules into your site. One of the modules included with the core distribution is a **PayPal** module. Chapter 9 covers using this module for pay

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sites. This chapter also covers backing up and restoring the entire site, individual courses, and components within a course.

The Moodle Philosophy

Moodle is designed to support a style of learning called *Social Constructionist Pedagogy*. This style of learning is interactive. The social constructionist philosophy believes that people learn best when they interact with the learning material, construct new material for others, and interact with other students about the material. The difference between a traditional class and the social constructionist philosophy is the difference between a lecture and a discussion.

Moodle does not require you to use the social constructionist method for your courses. However, it best supports this method. For example, Moodle enables you to add five kinds of static course material. This is course material that a student reads, but does not interact with:

- A text page
- A web page
- A link to anything on the Web (including material on your Moodle site)
- A view into one of the course's directories
- A label that displays any text or image

However, Moodle also enables you to add six types of interactive course material. This is course material that a student interacts with, by answering questions, entering text, or uploading files:

- Assignment (uploading files to be reviewed by the teacher and/or students)
- Choice (a single question)
- Journal (an online journal)
- Lesson (a conditional, branching activity)
- Quiz (an online test)
- Survey (with results available to the teacher and/or students)

Moodle also offers five kinds of activities where students interact with each other. These are used to create social course material:

- Chat (live online chat between students)
- Forum (you can choose the number of online bulletin boards for each course)
- Glossary (students and/or teachers can contribute terms to site-wide glossaries)

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- Wiki (Wikis can be inserted into courses, or a Wiki can be the entire course)
- Workshop (workshops support collaborative, graded efforts among students)

That's five kinds of static course material, and eleven kinds of interactive course material. In addition, some of Moodle's add-on modules add even more types of interaction. For example, one add-on module enables students and teachers to schedule appointments with each other.

The Moodle Experience

Because Moodle encourages interaction and exploration, your students' learning experience will often be nonlinear. Conversely, Moodle has few features for enforcing a specific order upon a course. For example, there is no feature in Moodle that would require a student to complete Course 101 before allowing the student to enroll in Course 102. Instead, you would need to manually enroll the student in each course. Also, there is no Moodle feature that would require a student to complete Topic 1 in a course before allowing the student to see Topic 2. If you wanted to enforce that kind of linear course flow, you would need to manually place the student into the group that is authorized to view Topic 1, and then upon completion, place the student in to the group that is authorized to view Topics 1 and 2, and so on.

As a site administrator or teacher, enforcing a linear path through a course catalogue, or through the material in an individual course, often requires manual intervention. However, if you design your site with Moodle's nonlinear style in mind, you will find it offers you great flexibility and the ability to create engaging online courses.

In this section, I'll take you on a tour of a Moodle learning site. You will see the student's experience from the time the student arrives at the site, enters a course, and works through some material in the course. You will also see some student-to-student interaction, and some functions used by the teacher to manage the course. Along the way, I'll point out many of the features that you will learn to implement in this book, and how the demo site uses those features.

The Moodle Front Page

The Front Page of your site is the first thing most visitors will see. This section takes you on a tour of the Front Page of my demonstration site.

Arriving at the Site

When a potential student arrives at the demonstration learning site, the student sees the Front Page. Later in this book, you'll learn to control what an anonymous visitor to your learning site sees on the Front Page. You can even require the visitor to register and log in before seeing any part of your site. Like most sites, my demonstration site allows anonymous visitors to see a lot of information about the site:

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Wilderness Skills You are not logged in. ([Login](#))
English (en_us)

Main menu

- [About Wilderness Skills](#)
- [How to Use this Site](#)
- [Enroll for a Course](#)

Desert Plants Course Added

A new course has been added to our Wild Plants section. After taking our free course, *Basic Botany for Foragers*, you're ready to learn about the plants found in some of the harshest places on Earth.

[Win a Prize: Test Your Wilderness Knowledge](#)

Welcome to the *Wilderness Skills* site. If you have an interest in primitive living/survival skills, you're at the right place. This site offers courses in basic botany (just enough for a beginning forager), shelter building, firestarting without matches, orienteering, and other wilderness skills.

The first course, *Basic Botany for Foragers*, is free. It covers the terms and concepts you need to know to understand most field guides and to talk about wild plants. Try the free course, and if you like it, you can join us for other courses for a low fee.

Calendar

<< May 2006 >>

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Upcoming Events

There are no upcoming events

[Go to calendar...](#)
[New Event...](#)

Available Courses

Free Courses

- [Free Wild Pictures](#)
- [Wilderness Skills Discussions](#)
- [FREE COURSE: Basic Botany for Foragers](#)

Wild Plants

- [A Walk on the Beach](#)
- [By the Water's Edge](#)

Login

Username:

Password:

[Create new account](#)
[Lost password?](#)

One of the first things a visitor will notice is the announcement at the top and centre of the page, Desert Plants Course Added. Below the announcement are two activities: a quiz, Win a Prize: Test Your Wilderness Knowledge, and a chat room, Global Chat Room. Selecting either of these activities will require to the student to register with the site:

Wilderness Skills
You are not logged in. ([Login](#))

wildskills » [Login to the site](#)
English (en_us) ▾

Returning to this web site?

Login here using your username and password:
(Cookies must be enabled in your browser) ?

Username:

Password:

Some courses may allow guest access:

Forgotten your username or password?

Is this your first time here?

Hi! For full access to courses you'll need to take a minute to create a new account for yourself on this web site. Each of the individual courses may also have a one-time "enrollment key", which you won't need until later. Here are the steps:

1. Fill out the [New Account](#) form with your details.
2. An email will be immediately sent to your email address.
3. Read your email, and click on the web link it contains.
4. Your account will be confirmed and you will be logged in.
5. Now, select the course you want to participate in.
6. If you are prompted for a "enrollment key" - use the one that your teacher has given you. This will "enroll" you in the course.
7. You can now access the full course. From now on you will only need to enter your personal username and password (in the form on this page) to log in and access any course you have enrolled in.

Anonymous, Guest, and Registered Access

Notice the line Some courses may allow guest access at the middle of the page. You can set three levels of access for your entire site, and for individual courses:

Anonymous access allows anyone to access the site or course.

Guest access requires the user to login as guest. This enables you to track usage, by looking at the statistics for the user guest. But since everyone is logged in as the user guest, you can't track individual users.

Registered access requires the user to register on your site. You can allow people to register with or without email confirmation, require a special code for enrolment, and/or manually create/confirm their accounts.

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The Moodle Architecture

Moodle runs on any web server that supports the PHP programming language, and a database. It works best, and there is more support, when running on the Apache web server with a MySQL database. These requirements, Apache, PHP, and MySQL are common to almost all commercial web hosts, even the lowest-cost ones.

The Moodle learning management system resides in three places on your web host:

- The application occupies one directory, with many subdirectories for the various modules.
- Data files students and teachers upload—such as photos and assignments submitted by students—reside in the Moodle data directory.
- Course material that you create with Moodle (web pages, quizzes, workshops, lessons, etc.), grades, user information, and user logs reside in the Moodle database.

Summary

Moodle encourages exploration and interaction between/among students and teachers. As a course designer and teacher, you will have the most tools at your disposal if you work with this tendency, and make your learning experiences as interactive as possible. Creating courses with forums, peer-assessed workshops, journals, surveys, and interactive lessons is more work than creating a course from a series of static web pages. However, it is also more engaging and effective, and you will find it worth the effort to use Moodle's many interactive features.

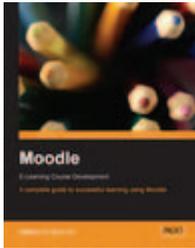
When teaching an online course in Moodle, remember that Moodle enables you to add, move, and modify course material and grading tools on-the-fly. If it's permitted by your institution's policies, don't hesitate to change a course in response to student needs.

Finally, learn the basics of Moodle's architecture, and at least read over the *Installation and Configuration* in Chapter 2.

Don't be afraid of the technology. If you can master the difficult art of teaching, you can master using Moodle to its full potential.

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Installing and Configuring Moodle

The title of this chapter makes it sound as if it applies only to the person who installs Moodle. If your system administrator or webmaster has installed Moodle for you, you might be tempted to skip this chapter. *Don't!*

Many of the configuration choices that are made during the installation process affect the student and teacher experience in Moodle. These are found on the Variables and Site Settings pages, which will be covered later in this chapter. This chapter's focus is on helping you create the user experience you want by making the right configuration choices. While someone else may have installed Moodle and made these configuration choices for you, you can always go back and change them.

second

Go Ahead, Experiment

While this chapter describes the effects of different configuration choices, there is no substitute for experiencing them yourself. Don't be afraid to experiment with different settings. You can try this method:

1. Install two different browsers in your computer. For example, **Internet Explorer** and **Firefox**.
2. In one browser, log in as an *administrator*. Go to the Site Settings or Variables page (I will tell you how), and experiment with the settings that you read about here.
3. In the other browser, go to your site as a *user*—an anonymous visitor, student, or teacher. Each time you change a configuration setting, refresh the user's browser and observe the change to your site.

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Using This Chapter

If you did not install Moodle, you should at least read the following sections later in this chapter:

- *Installation Step 7d: Specify Site Variables.* The site variables described affect how the site functions. Some of them affect the user experience, and others affect the teachers and course creators.
- *Configuration Choices after Installation.* Most of these configuration choices affect the student experience, and some affect the teachers and course creators.
- If you want, work with your system administrator to select the settings you want. Your administrator can create a site administrator account that you can use for this.

Moodle's online installation instructions provide a good step-by-step reference for installing Moodle. However, they do not cover the implications of the choices you make while configuring Moodle. This chapter covers the effects of the:

- Choices you make while installing Moodle
- Choices you make immediately after installing Moodle
- Ways of authenticating Moodle users, and how your choice affects the operation of your site

Accessing the Site Variables and Site Settings Pages

The fastest way to access the Variables and Site Settings pages is to:

1. Log in to Moodle with an administrator account.
2. In your browser bar, enter the URL of your site and add /admin. For example, `moodle.williamrice.com/admin`.
3. The Administration page displays. From here, you can select Variables or Site Settings.

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Administration	
Configuration	<p>Variables - Configure variables that affect general operation of the site</p> <p>Site settings - Define how the front page of the site looks</p> <p>Themes - Choose how the site looks (colors, fonts etc)</p> <p>Language - For checking and editing the current language pack</p> <p>Modules - Manage installed modules and their settings</p> <p>Blocks - Manage installed blocks and their settings</p> <p>Filters - Choose text filters and related settings</p> <p>Backup - Configure automated backups and their schedule</p> <p>Editor settings - Define basic settings for HTML editor</p>
Users	<p>Authentication - You can use internal user accounts or external databases</p> <p>Edit user accounts - Browse the list of user accounts and edit any of them</p> <p>Add a new user - To manually create a new user account</p> <p>Upload users - Import new user accounts from a text file</p> <hr/> <p>Enrolments - Choose internal or external ways to control enrolments</p> <p>Enroll students - Go into a course and add students from the admin menu</p> <p>Assign teachers - Find a course then use the icon to add teachers</p> <p>Assign creators - Creators can create new courses and teach in them</p> <p>Assign admins - Admins can do anything and go anywhere in the site</p>
Courses	Define courses and categories and assign people to them
Logs	Browse logs of all activity on this site
Site files	For publishing general files or uploading external backups

Installing Moodle

Installing Moodle consists of:

1. Obtaining space and rights on a web server that has the capabilities needed to run Moodle
2. Creating the subdomains and/or directories needed for Moodle and its data
3. Getting and unpacking Moodle, and uploading it to your web server
4. Creating the data directory
5. Creating the Moodle database
6. Setting up the cron job
7. Activating the installation routine and specifying settings for your Moodle site

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Each of these is covered in the following sections.

The official Moodle website, <http://moodle.org/>, contains detailed installation instructions. These instructions might change slightly with each version, or be occasionally updated. The material in this chapter supplements and expands on those directions. You should use the official Moodle installation directions, supplemented with this material.

Installation Step 1: The Web Server

Moodle is run from a web server. You upload or place Moodle in your directory on the server. Usually, the server is someone else's computer. If you're a teacher, or are in the corporate world, your institution might have their own web server. If you're an individual or have a small business, you will probably buy web-hosting services from another company. In either case, we are assuming that you have an account on a web server that offers Apache, PHP, and MySQL. If you must install your own Apache web server and MySQL software, the easiest way to do so is to use another open-source tool: XAMPP from <http://www.apachefriends.org>. Apache Friends is a non-profit project to promote the Apache web server. XAMPP is an easy, all-in-one installer that installs Apache, MySQL, PHP, and Perl. It is available for Linux, Windows, Mac, and Solaris.

How Much Hosting Service Do You Need?

With only a few dozen students, Moodle runs fine on a modest web-hosting service. At this time, many hosting companies offer services that can run a small Moodle installation for less than \$10 a month. Base your decision upon the factors discussed below.

Disk Space

A fresh Moodle installation will occupy about 60MB of disk space, which is not much. Most of the space will be occupied by content that is added while users create and take courses. Base your decision about how much space to obtain upon the kinds of courses you plan to deliver. If the courses will contain mostly text and a few graphics, you'll need less space than if they contain music and video files. Also, consider the disk space occupied by files that the students will upload. Will students upload small word processing files? Large graphics? Huge multimedia files? When determining how much disk space you will need, consider the size of the files that your courses will serve and that your students will submit.

Bandwidth

Moodle is a web-based product, so course content and assignments are added over the Web. Whenever a reader or user connects to a website, they're using bandwidth. When a user reads a page on your Moodle site, downloads a video, or uploads a paper, he or she uses some of your bandwidth. Most commercial hosting services include a fixed amount

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of bandwidth in their service. If your account uses more bandwidth than allowed, some services cut off your site's access. Others keep your site up, but automatically bill you for the additional bandwidth. The second option is preferable in case of unexpected demand. When deciding upon a hosting service, find out how much bandwidth they offer and what they do if you exceed that limit.

Installation Step 2: Subdomains

A subdomain is a web address that exists under your web address, and acts like an independent site. For example, my website is www.williamrice.com. I have a subdomain, <http://www.moodle.williamrice.com>, which holds a demonstration site for this book. They are independent sites. However, they exist on the same server, under the same account, and they both count towards the disk space and bandwidth that I use:

UNIT	USED	FREE
disk space	110	310
subdomains	2	3
ftp accounts	3	6
mail boxes	42	inf.
mailing lists	0	20
databases	3	1
parked dom	2	1
add. traffic		0
transfer (MB)	104	7064

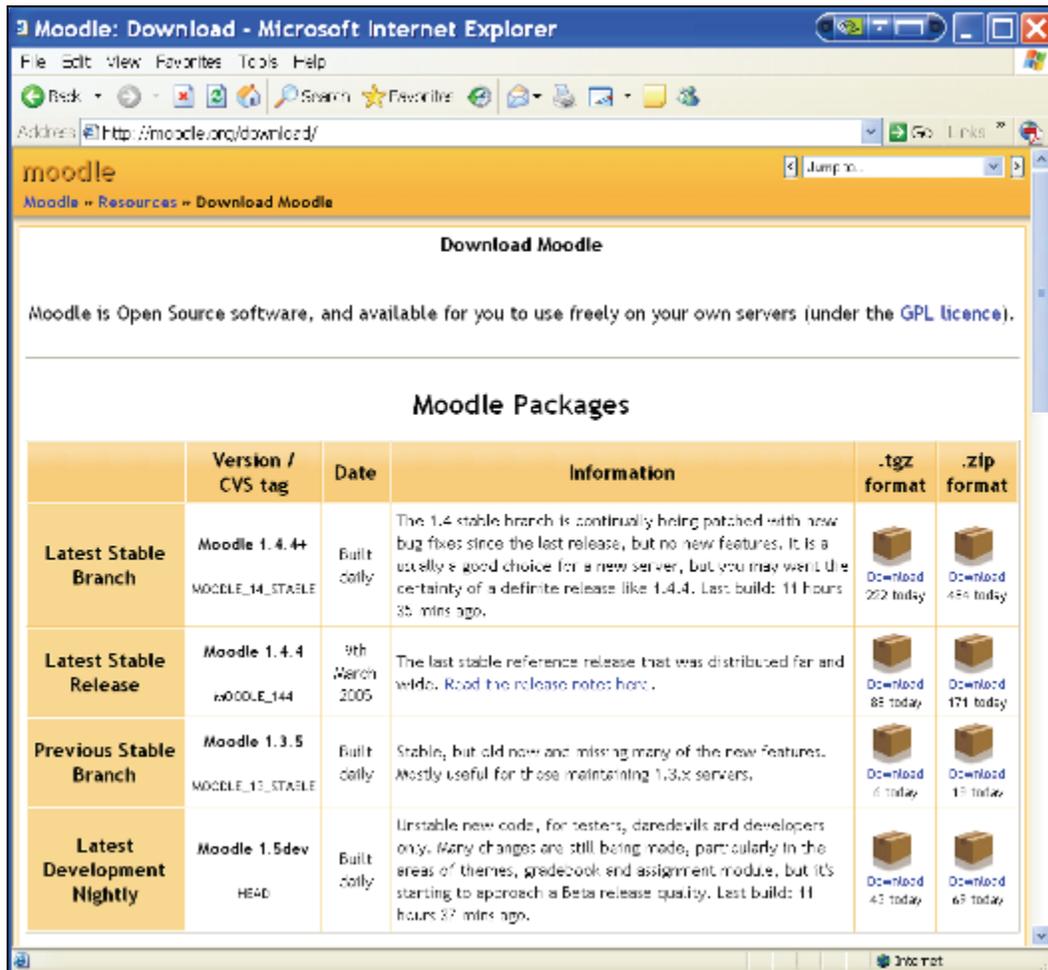
RESOURCES	
Used disk space	210.9M
Used disk space by web files	156.9M
Used disk space by mails	52.9M
Used disk space by databases	1.1M
Total subdomains count (w/o "www")	2 / 7
www.williamrice.com	38.1M
moodle.williamrice.com	118.8M
Traffic for this month	105.7M / 7.0G
ftp protocol	11.5M
sub-user williwilli	11.5M
http protocol	94.3M
subdomain moodle.williamrice.com	72.0K
subdomain www.williamrice.com	63.0M
Total databases count	3 / 4
moodledata	167.6K (97 tables)
mambo	401.3K (35 tables)
Total mail accounts count	42 / unlimited

In this example, Moodle is installed in the subdomain <http://www.moodle.williamrice.com>. Using a subdomain offers me several advantages. As you can see, I can manage them both from the same interface. Second, I can use a subdomain as a test site for my Moodle installation. I can install and test Moodle in the subdomain, and then copy it over to my main site when it's ready. Having a site to test updates and add-ons may be helpful if uninterrupted service is important to you. Later, you'll see how easy it is to copy a Moodle installation to a different location, change a few settings, and have it work. If you want to do this, make sure the hosting service you choose allows subdomains.

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Installation Step 3: Getting and Unpacking Moodle

Get Moodle from the official website, <http://www.moodle.org/>. Go to the Download Moodle page and select the version and format that you need:



	Version / CVS tag	Date	Information	.tgz format	.zip format
Latest Stable Branch	Moodle 1.4.4+ MOODLE_14_STABLE	Built daily	The 1.4 stable branch is continually being patched with new bug fixes since the last release, but no new features. It is a usually a good choice for a new server, but you may want the certainty of a definite release like 1.4.4. Last build: 11 hours 35 mins ago.	 Download 292 today	 Download 454 today
Latest Stable Release	Moodle 1.4.4 MOODLE_144	9th March 2005	The last stable reference release that was distributed far and wide. Read the release notes here.	 Download 85 today	 Download 171 today
Previous Stable Branch	Moodle 1.3.5 MOODLE_13_STABLE	Built daily	Stable, but old now and missing many of the new features. Mostly useful for those maintaining 1.3.x servers.	 Download 6 today	 Download 13 today
Latest Development Nightly	Moodle 1.5dev HEAD	Built daily	Unstable new code, for testers, daredevils and developers only. Many changes are still being made, particularly in the areas of themes, predebook and assignment module, but it's starting to approach a Beta release quality. Last build: 11 hours 37 mins ago.	 Download 43 today	 Download 69 today

Which Version?

For a new installation, the Latest Stable Branch is usually your best choice. The Last build: information tells you when it was last updated with a bug-fix or patch. This is usually irrelevant to you; the version number determines which features you get, not the build time.

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Which Format?

Moodle is downloaded as a single, compressed file. This compressed file contains the many small files and directories that constitute Moodle. After downloading the compressed file, you must decompress (or unzip) the file. Unzipping will extract many files and directories that you must place on your server.

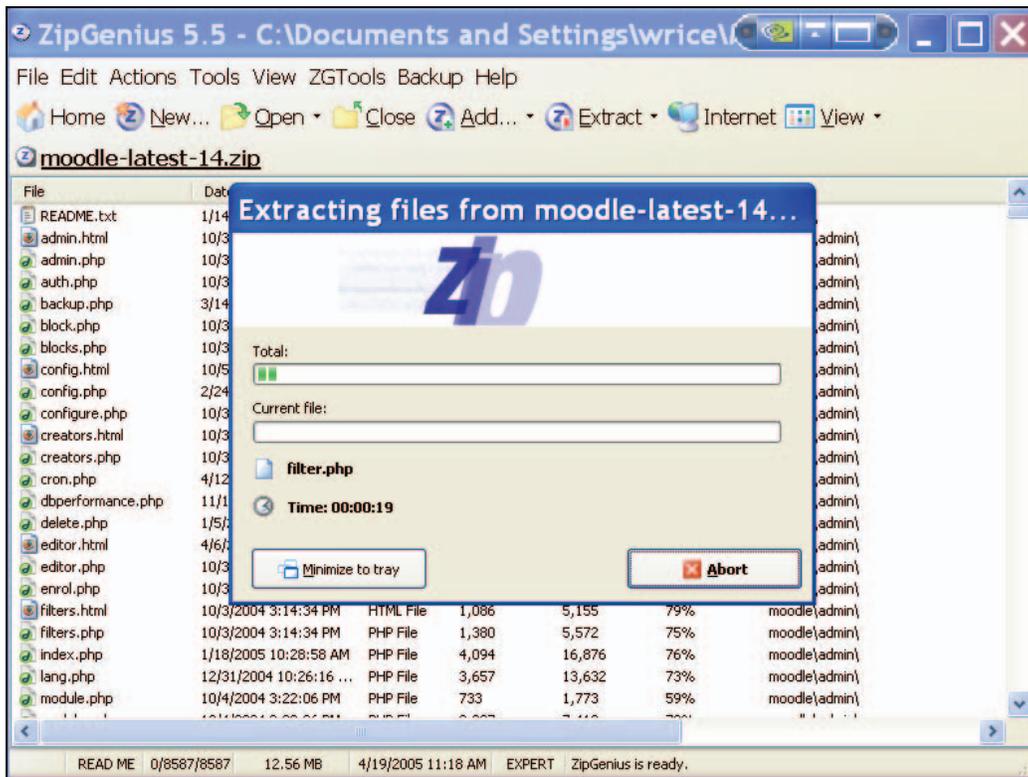
If you're using a hosting service, you probably do not have the ability to decompress the file on the server. Instead, you must decompress the file on your PC and then upload the extracted files to the server. If you're using a hosting service, you will probably:

1. Download the Moodle package (ZIP file) to your local hard drive.

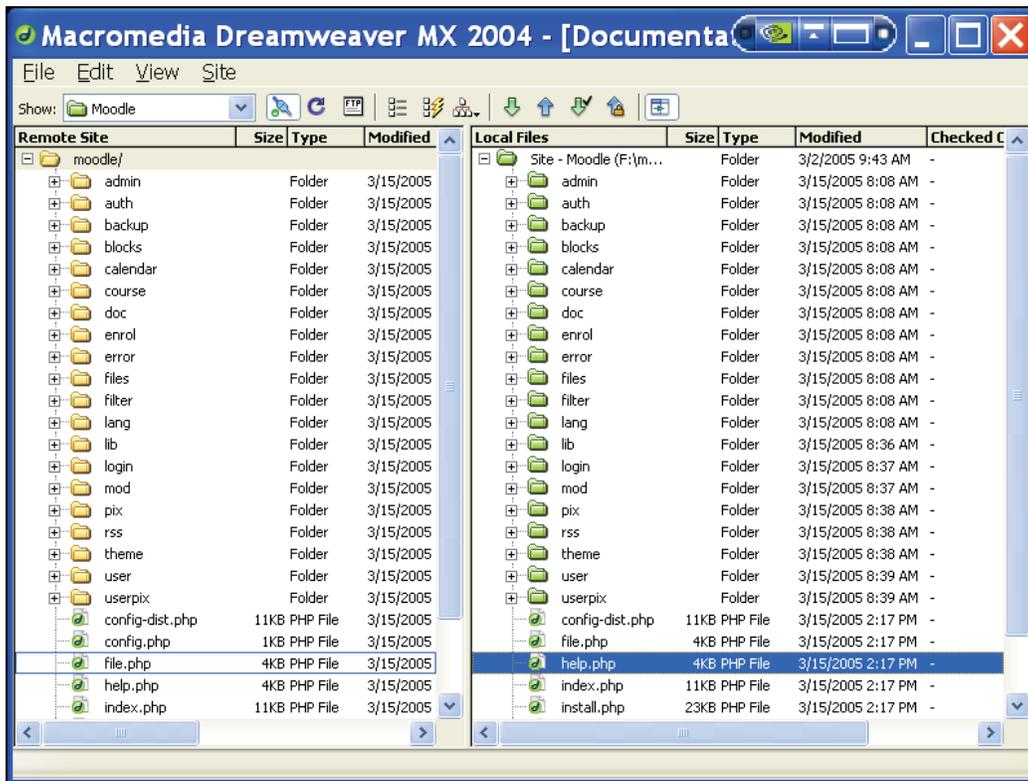
	Version / CVS tag	Date	Information	.tgz format	.zip format
Latest Stable Branch	Moodle 1.4.4+ MOODLE_14_STABLE	Built daily	The 1.4 stable branch is continually being patched with new bug fixes since the last release, but no new features. It is usually a good choice for a new server, but you may want the certainty of a definite release like 1.4.4. Last build: 14 mins ago.	 Download	 Download
Latest Stable Release	Moodle 1.4.4 MOODLE_144	9th March 2005	The last stable reference release that was distributed wide. Read the release notes here.		
Previous Stable Branch	Moodle 1.3.5 MOODLE_13_STABLE	Built daily	Stable, but old now and missing many of the new features. Mostly useful for those maintaining 1.3.x servers.		

2. Decompress, or unzip, the package. This will extract many files from the package. In the example overleaf, you can see from the title bar that I'm using the freeware program **ZipGenius** to unzip the package. Each file will be extracted to a specific directory. For example, near the bottom of the window, you can see that the file `module.php` will be extracted to the directory `moodle\admin\`.

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3. Upload the files to your web server. You'll need to use a special program to upload the files, which we'll cover later. In this example, I'm using **Macromedia Dreamweaver** to upload the file `help.php` from my local PC to my hosting service.



Whether you're using Windows, Mac, or Linux on your personal computer, you can find a decompression program that will unzip .zip files. If your system doesn't have a decompression program that works with .zip files, and you're using Windows, try www.nonags.com for freeware unzip programs. If you're using a web page editor like Dreamweaver or Microsoft FrontPage, your program has the ability to upload files to the server. If you're not using a web page editor that can upload files, you'll need an "FTP client". Again, try www.nonags.com for freeware FTP clients.

If your school or company has given you space on its web server, you might have access to the directory just as if it were another folder on your PC. In that case, you can download the .tgz file, put it into your directory on the web server, and then decompress it. Tell the system administrator who gave you access what you want to do, and ask how to decompress a file in your directory.

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Installation Step 4: The Moodle Data Directory

When you run the Moodle install script, the installer asks you to specify a directory in which to store course material. For security, this directory should be outside the main Moodle directory. This gives you two choices:

- You can install Moodle into a subdirectory, and the data into another subdirectory. For example, suppose your domain is `www.williamrice.com`. Your Moodle site might be located in `www.williamrice.com/moodle`, and the data at `www.williamrice.com/moodledata`.
- Alternatively, you can install Moodle into its own domain, and the data into another domain. For example, if you own the domain `www.williamrice.com`, you could create a subdomain for Moodle at `www.moodle.williamrice.com` and a subdomain for the course materials at `www.moodledata.williamrice.com`. This is usually the easiest option.

The two screenshots below illustrate this setup. The screen on the left is when I used my hosting service's control panel to create the `moodledata` subdirectory. The screen on the right appears while the configuration script runs. By entering `/home/williamr/www/moodle`, I specified the subdomain `http://moodle.williamrice.com` as the Moodle Directory. `/home/williamr/www/moodledata` specifies the subdomain, `http://moodledata.williamrice.com` as the Data Directory:

The left screenshot shows a control panel for subdomains. It has a table with columns: Subdomain, Action, FrontPage, and Status. The table lists three subdomains: `http://files.williamrice.com`, `http://learn.williamrice.com`, and `http://moodle.williamrice.com`. Below the table is a form to create a new subdomain with the text "Subdomain: `http://www.moodledata` .williamrice.com" and a "Create" button.

The right screenshot shows the Moodle installation configuration screen. It has the Moodle logo and the word "Installation". It asks to confirm the locations of the Moodle installation. It has three fields: "Web address" with the value `http://moodle.williamrice.com`, "Moodle Directory" with the value `/home/williamr/www/moodle`, and "Data Directory" with the value `/home/williamr/www/moodledata`. There are "Previous" and "Next" buttons at the bottom.

Installation Step 5: Creating the Moodle Database

While the `moodledata` directory stores files uploaded by students, and some larger files, the Moodle database stores most of the information in your Moodle site. By default, the installer uses the database name `moodle` and the username `moodleuser`. Using these

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default settings gives any hacker a head start on breaking your site. When creating your database, change these to something less common. At least make the hackers guess the name of your database and the database username.

Control Panel » MySQL Data Base

DATABASE MANAGER
DB Master Username: **williamr**

User **williamr** has 3 of 4 maximum allowed DBs.
You can manipulate your DBs with [phpMyAdmin](#)

Databases

DB Name:	Remove/Import:
learn	[Del] [Import]
mambo	[Del] [Import]
moodledata	[Del] [Import]

Database name: **Create**

MySQL users

DB Name:	Subuser:	Privileges:	Remote Connections:
learn	lms [Del]	Select, Insert, Update, Delete, Create, Drop, Alter, Lock	Enabled [Disable]
learn	williamr	Master user	Enabled [Disable]
mambo	mambouser [Del]	Select, Insert, Update, Delete, Create, Alter, Lock	Enabled [Disable]
mambo	williamr	Master user	Enabled [Disable]
moodledata	moodleusr [Del]	Select, Insert, Update, Delete, Create, Drop, Alter,	Enabled [Disable]
moodledata	williamr	Master user	Enabled [Disable]

Whatever username you use, that user will need the following privileges for the Moodle database: SELECT, INSERT, UPDATE, DELETE, CREATE, DROP, INDEX, and ALTER. The screenshot here shows the settings for my demo Moodle database, moodledata. If your hosting service provides you with the popular cPanel control panel for your account, you can use cPanel to create the database and database user. For instructions on using cPanel, see <http://www.cpanel.net/docs/cpanel/>.

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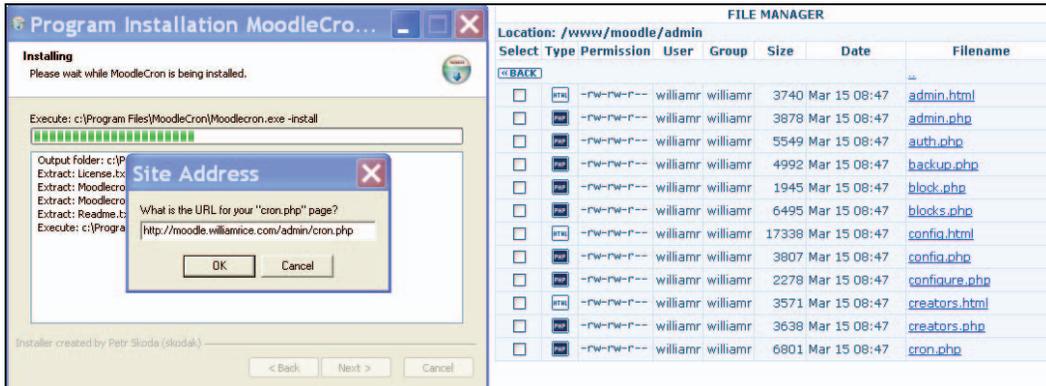
Installation Step 6: Setting up the Cron Job

Some of Moodle's functions happen on a regular, timed schedule. The most visible example is mailing out notices to the subscribers of a forum that a new message has been posted. A script called `cron.php` checks periodically to see if new messages have been posted to any forum. If so, the script causes the notice to be emailed to the members of that forum.

The script `cron.php` must be triggered at regular intervals. You can set this interval. The mechanism that triggers the script is called a **cron job**. Directions for setting up the cron job are in the [http://moodle.org/ installation guide](http://moodle.org/installation).

Some web-hosting services allow you to set up cron jobs. If you're buying hosting services, look for one that offers this. If you've been given space on your school's or company's web server, speak to the system administrator about setting up the cron job. If neither of these applies, then your only other option is to set up the cron job on a Windows machine that you control. The cron job will reach out over the Internet to your Moodle site, and activate the script `cron.php`. Again, directions for this are in the [http://moodle.org/ installation guide](http://moodle.org/installation). However, if you choose this option, you must keep that Windows PC running all the time, and it must also be connected to the Internet at all times. If the Windows PC goes down or offline, the Moodle functions that requires periodic triggering will also go down.

The following is a screenshot of installing the MoodleCron application, where I specify the location of the `cron.php` script. In the following figure, you can see the line Location: `/www/moodle/admin`, which on my server corresponds to `www.moodle.williamrice.com/admin`. This is the directory that holds `cron.php`.



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Installation Step 7: The Installer Script

The installer script walks you step by step through the creation of Moodle's database tables, and setting variables that determine how the site operates. In this section, we discuss how the setting of each variable affects the user experience.

Installation Step 7a: Run install.php

In the Moodle directory, a script called `install.php` creates the Moodle configuration file when the script is run. You run the script by just launching your browser and calling the script. The configuration file, `config.php`, holds information about your Moodle installation.

In the following screenshot, I've launched my browser and accessed `install.php` on my server:



Installation Step 7b: Specify Settings for config.php

Stepping through the install routine creates `config.php`, among other things. Here's the `config.php` for `www.moodle.williamrice.com`:

```
<?php /// Moodle Configuration File

unset($CFG);

$CFG->dbtype      = 'mysql';
$CFG->dbhost      = 'localhost';
$CFG->dbname      = 'moodledata';
$CFG->dbuser      = 'moodleusr';
$CFG->dbpass      = 'badpassword';
$CFG->dbpersist   = false;
$CFG->prefix      = 'mdl_';

$CFG->wwwroot     = 'http://moodle.williamrice.com';
```

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```
$CFG->dirroot = '/home/williamr/www/moodle';
$CFG->dataroot = '/home/williamr/www/moodldata';
$CFG->admin = 'admin';

$CFG->directorypermissions = 00777; // try 02777 on a server in safe
Mode

require_once("$CFG->dirroot/lib/setup.php");
// MAKE SURE WHEN YOU EDIT THIS FILE THAT THERE ARE NO SPACES, BLANK
LINES,
// RETURNS, OR ANYTHING ELSE AFTER THE TWO CHARACTERS ON THE NEXT
LINE.
?>
```

This site uses a `mysql` database. On most servers, the hostname will be `localhost`. In a previous subsection we covered creating the Moodle database, which in our example we called `moodldata`. We created a user called `moodleusr`, with the proper privileges. Note that the configuration file stores the password for the Moodle database, which in this example is `badpassword`. The `dbpersist` setting is specified by the installer script; do not change it without a good reason.

The prefix `mdl_` is added to the beginning of each table that Moodle adds to your database. A table is a section of a database. Think of each table as a database inside a database. On the running of `install.php`, Moodle adds all the tables it needs to the database that you created. It adds the prefix to the name of each of these tables, so that you (and Moodle) can recognize them when you look at the database. You could use the same database for Moodle and something else, or for two Moodle installations, if each program used its own tables with its own prefix. The different prefixes would prevent the two programs from becoming confused and reading each other's tables. If you're running more than one copy of Moodle, you might consider using the same database and different tables. You could back up the data for both copies by backing up the one database.

The settings in the first part of `config.php` are specified while running the installation script:

moodle Installation

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.

Type: mysql or postgres7
Host: eg localhost or db.isp.com
Name: database name, eg moodle
User: your database username
Password: your database password
Tables Prefix: optional prefix to use for all table names

Type:

Host Server:

Database:

User:

Password:

Tables prefix:

The second part of config.php specifies the directories used by the Moodle application and data:

```
$CFG->wwwroot = 'http://moodle.williamrice.com';
$CFG->dirroot = '/home/williamr/www/moodle';
$CFG->dataroot = '/home/williamr/www/moodledata';
$CFG->admin = 'admin';
```

These settings are also specified while running the installation script:

moodle Installation

Please confirm the locations of this Moodle installation.

Web Address: Specify the full web address where Moodle will be accessed. If your web site is accessible via multiple URLs then choose the most natural one that your students would use. Do not include a trailing slash.

Moodle Directory: Specify the full directory path to this installation. Make sure the upper/lower case is correct.

Data Directory: You need a place where Moodle can save uploaded files. This directory should be readable AND WRITEABLE by the web server user (usually 'nobody' or 'apache'), but it should not be accessible directly via the web.

Web address:

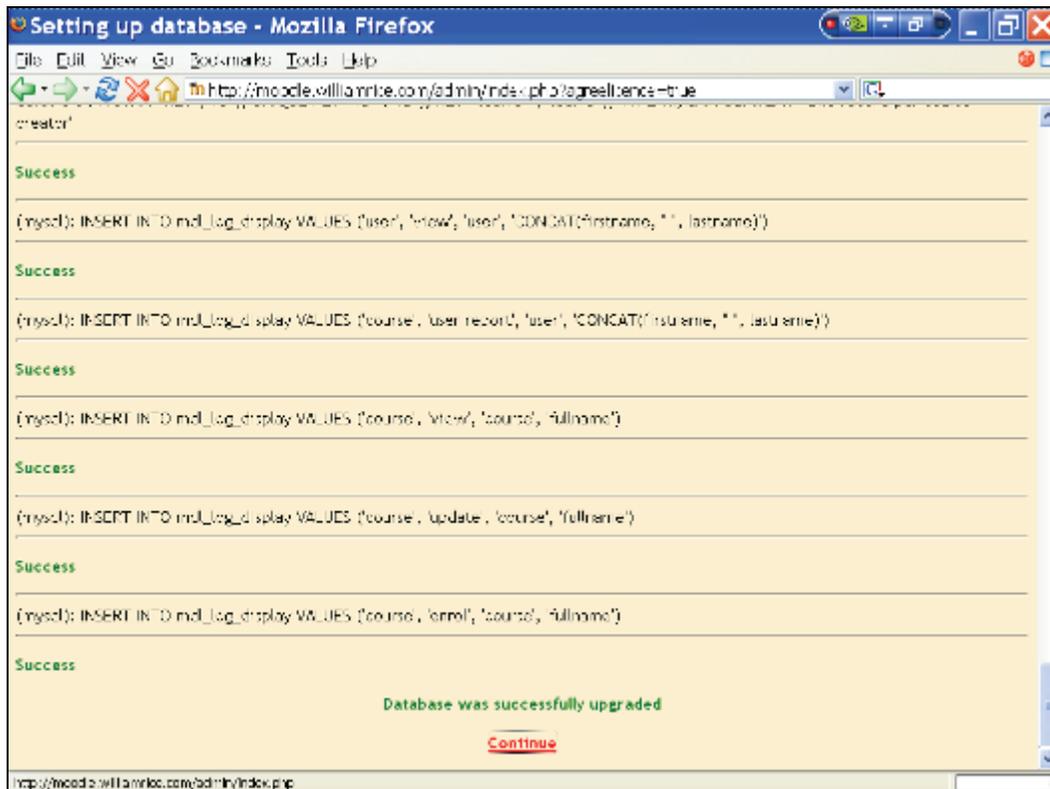
Moodle Directory:

Data Directory:

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Installation Step 7c: Database Tables Created by install.php

After stepping through a few more screens, `install.php` creates the tables in your Moodle database. You don't need to do anything during this part of the installation except click to see the next screen. The installation script tells you when this is complete:



Installation Step 7d: Specify Site Variables

After creating the database tables, the installation script displays the Variables page. The values you enter on this page affect the behavior of the entire site. Of course, you want to enter them correctly the first time. However, after Moodle is installed, you can return to this page at any time to change these variables.

The next screenshot shows the top of the Variables page for my demonstration site. Notice the breadcrumbs line at the top shows that I'm on the site whose short name is `wildskills`, and that to get to this page I've selected Administration, then Configuration, and then Variables:

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Wilderness Skills Logout

wildskills » Administration » Configuration » Variables

Variables

lang:	English (en_us) ▼	Choose a default language for the whole site. Users can override this setting later.
langmenu:	Yes ▼	Choose whether or not you want to display the general-purpose language menu on the home page, login page etc. This does not affect the user's ability to set the preferred language in their own profile.
langlist:		Leave this blank to allow users to choose from any language you have in this installation of Moodle. However, you can shorten the language menu by entering a comma-separated list of language codes that you want. For example: en,es_es,fr,it
locale:	en	Choose a sitewide locale - this will affect the format and language of dates. You need to have this locale data installed on your operating system. (eg en_US or es_ES). If you don't know what to choose leave it blank.

The page itself does a good job of explaining the purpose of each variable. However, the directions do not tell you the implications of the choices you make on this page. Below I've added some commentary to help you determine how your choices will affect the operation of your site, and information to help you decide upon the right choices for your needs.

lang and langmenu

The default language is specified by the variable lang. This is the language users will see when they first encounter your site. The variable langmenu determines whether users will see a language menu on your Front Page:

Wilderness Skills You are logged in as William Rice (Logout)

Main menu

Site news

Site news

[Subscribe to this forum](#)

English (en_us) ▼

- English (en)
- English (en_us)
- Español - Internacional (es)
- Español - Argentina (es_ar)
- Español - España (es_es)
- Español - Mexico (es_mx)
- Eesti (et)

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Notice that the site title, in this case *Wilderness Skills*, does not get translated. Neither does the content that you create. Only menus and field names are translated. In this example, Main menu, Site news, and Subscribe to this forum would be translated.

If you want to offer course content in multiple languages, you have several choices. First, you could put all of the different languages into each course. That is, each document would appear in a course in several languages. For example, if you offered a botany course in English and Spanish, you might have a document defining the different types of plants in both English and Spanish, side by side in the same course: *Types of Plants* or *Tipos de Plantaras*. While taking the course, students would select the documents in their language. Course names would appear in only one language.

Second, you could create separate courses for each language, and offer them on the same site. Course names would appear in each language. In this case, students would select the course in English or Spanish: *Basic Botany* or *Botánica Básica*.

Third, you could create a separate Moodle site for each language. For example, <http://moodle.williamrice.com/english> and <http://moodle.williamrice.com/spanish>. At the home page of your site, students would select their language and be directed to the correct Moodle installation. In this case, the entire Moodle site would appear in the students' language: the site name, menus, course names, and course content. These are things you should consider before installing Moodle. However, if you decide to change your approach, you can always come back to the *Variables* page and change these settings.

Fourth, and most elegantly, you could use the Multi-Language Content filter described in *Configuration Choices after Installation* later in this chapter to display course content in the language selected by your user.

langlist

As the directions on the *Variables* page state, leaving this blank will enable your students to pick from all available languages. Entering the names of languages in this field limits the list to only those entered. The directions tell you to enter "language codes".

Moodle looks in the `/lang` directory for subdirectories that hold each language's files. For example, the `/lang/en_us` subdirectory holds files for the U.S. English translation, and `/lang/es_es` holds the files for traditional Spanish (Español / España). The name of the subdirectory is the "language code." For example, if you want students to be able to choose between U.S. English and traditional Spanish, enter `en_us`, `es_es` into this field.

For example, the `/lang/en/forum.php` file holds text used on the forum pages. This includes text that is displayed to the course creator when creating the forum, and text that is displayed to the students when they use the forum. Here are the first few lines from that file:

```
$string['addanewdiscussion'] = 'Add a new discussion topic';  
$string['addanewtopic'] = 'Add a new topic';  
$string['advancedsearch'] = 'Advanced search';
```

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```
And here are the same first three lines from /lang/es_es/forum.php:
$string['addanewdiscussion'] = 'Colocar un nuevo tema de discusión
aquí';
$string['addanewtopic'] = 'Agregar un nuevo tema';
$string['advancedsearch'] = 'Búsqueda avanzada';
```

The biggest task in localizing Moodle consists of translating these language files into the appropriate language. Some translations are surprisingly complete. For example, most of the interface has been translated to **Irish Gaelic**, even though this language is used daily by only about 350,000 people; the Romanian interface remains mostly untranslated, while Romania has a population of over 23 million. This means that if a Moodle user chooses the Romanian language (ro), most of the interface will still default to English.

One of the greatest features of Moodle is that you can edit these language files directly in Moodle. To do this, select Administration | Configuration | Language. For more information about translating Moodle, see <http://docs.moodle.org/en/Translation>.

locale

Enter a language code into this field, and the system displays dates in the format appropriate for that language.

timezone

This field determines the time zone for times displayed, such as the last time a file was edited. The time zone entered here is used only for users who have not selected a time zone in their personal profile. Once a user selects a time zone for their profile, times are displayed in the user's time zone.

country

Leaving this field blank forces a new student to choose a country on the student's profile page. This could either be interesting or inconvenient for the students. Consider your students' temperament before making your selection.

smtphosts, smtpuser, and smtppass

The abbreviation SMTP stands for **Simple Mail Transfer Protocol**. It's a protocol, or communications method, used between computers. It describes the method those computers use to exchange email. To find out the name of the SMTP host to use, consult your hosting service or system administrator. It is usually `mail@domainname`, for example `mail@williamrice.com`.

The SMTP username is the first part of a valid email address, on the same server as Moodle. Your hosting service probably allows you to create multiple email addresses. On my hosting service, I created an email address `moodle@williamrice.com`. The `smtpuser` field contains `moodle` and the `smtppass` field contains that email address's password.

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noreplyaddress

This email address is used as the "reply to" address when Moodle sends an email to which you don't want a response. For example, Moodle can email the members of a forum when a new post is added to the forum. You would not want the members to respond to that notice by using "reply to," because the email comes from Moodle, not an individual who can read the replies. That is one of the times Moodle would use this `noreplyaddress`.

If you have a catch-all email address for your domain, replies sent to `noreplyaddress` will be caught by the catch-all address. For example, if I designate `catchall@williamrice.com` as the catch-all email address for my domain, any message sent to an invalid email address at `williamrice.com` gets caught by `catchall@williamrice.com`. If you don't have a catch-all email address for your domain, messages sent to `noreplyaddress` will be bounced.

gdversion

GD is a collection of open-source programs that can generate graphics, charts, and thumbnails on the fly. This library is installed on your web server. Most hosting services will have the latest version installed. Moodle uses GD to process images. The installation routine usually detects the correct version of GD installed on your server. However, if images do not display properly, try returning to this page and changing the setting. Also contact your system administrator and ask what version of GD is installed.

maxeditingtime

This sets the amount of time between when a forum posting or journal entry is submitted, and when it is added to the forum or journal. During this time, the posting or entry can be recalled by the author and edited.

As of this writing, Moodle does not have a function specifically for sending emails to all the students in a course. When a teacher wants to send an email to all students in a course, the teacher usually creates a forum and automatically subscribes all students to that forum. Then, the teacher chooses to have new forum postings emailed to all the members. When the teacher posts to the forum, the forum then emails that posting to all the students. The `maxeditingtime` determines how long the teacher has before that posting is added to the forum and emailed to all the students.

longtimenosee

The maximum amount of time you can keep a student enrolled in a course is 1000 days. If you plan on keeping students enrolled longer than that, you'll need to modify Moodle's source code:

1. If you've already installed Moodle, select any value for this field.
2. In the directory `/admin`, open the file `config.htm`.
3. Look for the line `$options[1000]=get_string("numdays", "", 1000);`
4. In both places in that line, replace 1000 with the number of days to keep students enrolled.

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5. Save `config.htm`.
6. Return to the Variables page by logging into Moodle as the administrator, and selecting Administration | Configuration | Variables.
7. For `longtimenosee`, select the value you entered into `config.htm`. You should see it in the pull-down list.
8. Save and exit the Variables page.

deleteunconfirmed

Students need an account on your site before they can enroll in a course. If you're using email to authenticate students, this sets the length of time they have to respond to the email. Note that while waiting for a student to respond to the authentication email, the username and email address of that student cannot be used by any other student. So, if a student loses the enrollment email, he or she should either wait until this time has expired or try again with a different username and email address.

If a student loses the enrollment email and must use the username and email address in that email, you will need to go into the Moodle database and delete the student's record. Look in the table called `mdl_user` for the username. You should see that the field `confirmed` contains a 0 (zero). Delete this record and have the student try enrolling again. You'll need to know how to edit a database to do this.

loglifetime

This sets the length of time Moodle keeps log files. Note that it doesn't set a size limit. If you have a very busy site, the log can become large quickly. Unlike most web-based programs that keep logs, Moodle does not keep them in their own files on the server. Instead, Moodle keeps log files in the Moodle database, in the table called `mdl_log`. This means that your database server must handle both Moodle content and logs. If you have a very active site and a very modest database server, or modest hosting service, this can slow down your site.

Consider setting `loglifetime` to the lowest value that you need to manage your courses. For example, if no course is longer than two weeks, 30 days of logs will usually give you enough time to look back at course activity. You can back up `mdl_log` to a local disk periodically, so that you can see archived course activity. You'll need to know how to edit a database to do this.

displayloginfailures, notifyloginfailures, and notifyloginthreshold

The settings you choose for these fields depend upon how closely you intend to monitor security on your site. There is very little drawback to choosing to display login failures to the administrator and teachers. If you're hosting courses that use an enrollment key, and students have trouble using the key to log in, `displayloginfailures` can give the administrator and teachers a warning that something is wrong.

For `notifyloginfailures` to work correctly, the persons being notified must have entered valid email addresses. The setting `notifyloginthreshold` will cause the system to send an email each time that threshold is reached. If you have this set to 10 failed logins, and your site becomes the target of an automated attack, this could result in a lot of emails clogging your inbox.

sessioncookie

If you're running several copies of Moodle from the same site, you can use this to customize the name of the cookie for each copy of Moodle. This prevents each copy of Moodle from using the other's cookie. For example, suppose I had one copy of Moodle running under `www.williamrice.com/paid` and another running under `www.williamrice.com/free`. I would not want the cookie set by the copy running under `/free` to be used by the copy running under `/paid`.

If you're running each copy of Moodle in a different subdomain, you don't need to customize the name of the session cookie. For example, if I was running different copies of Moodle under `paid.williamrice.com` and `free.williamrice.com`, this setting would be unnecessary.

zip and unzip

The `zip` and `unzip` routines are used to compress entire courses before downloading them, and to uncompress them after uploading them. When you move a course between Moodle sites, or when you want to duplicate an entire course, the usual method is `zip-download-upload-unzip`.

If you think that you will frequently move courses between sites, or duplicate courses, then check with your hosting company to see if they offer this feature. Access to a `zip` and `unzip` program might be one of the factors in deciding which hosting service to use.

If your hosting service doesn't offer a `zip` program, then Moodle will use its own, built-in `zip` program. This uses a lot of memory, so you're always better off using your hosting service's `zip` program.

slasharguments

You need to change this only if you have trouble viewing uploaded graphics. Try running your site before changing this setting.

proxyhost and proxyport

Most web servers do not run from behind a firewall, especially paid hosting services. However, if you're hosting Moodle from a personal computer located inside a school or company, there's a good chance you're behind a firewall. For example, if you're hosting Moodle from a computer located at your desk in your school or company, then that host is probably behind the same firewall as every other personal computer in your institution. If this is the case, ask your network administrator for the setting to use in these fields.

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If you're hosting Moodle from a personal computer inside your institution, not only might you need to deal with a firewall but also with a changing IP address. The IP address of that computer might change each time you reboot it. This would change the IP address that students use to access your site.

If you're running Moodle from a personal computer located inside your institution, ask your network administrator about the proxyhost settings and also if your Moodle server can have a fixed IP address.

framename

This feature is useful if you're embedding Moodle inside another site. For example, you may want to embed Moodle into your school's or company's pages, retaining the headers and footers used by your institution. If you embed Moodle like this, consider modifying the content of Moodle's headers and footers so they do not conflict with the information in your institution's headers and footers. You will find the files, `header.html` and `footer.html` in the folder `/themes/themename`, where `themename` is the name of the theme you chose under Administration | Configuration | Themes.

secureforms

Selecting **Yes** for this setting may cause pages to become unusable for students running firewalls. It gives you a small amount of additional security. If you turn this on, I suggest that you put a notice on your Login Page that the site may not work with a firewall when the firewall strips the IP address, or `HTTP_REFERER`, from the user's computer.

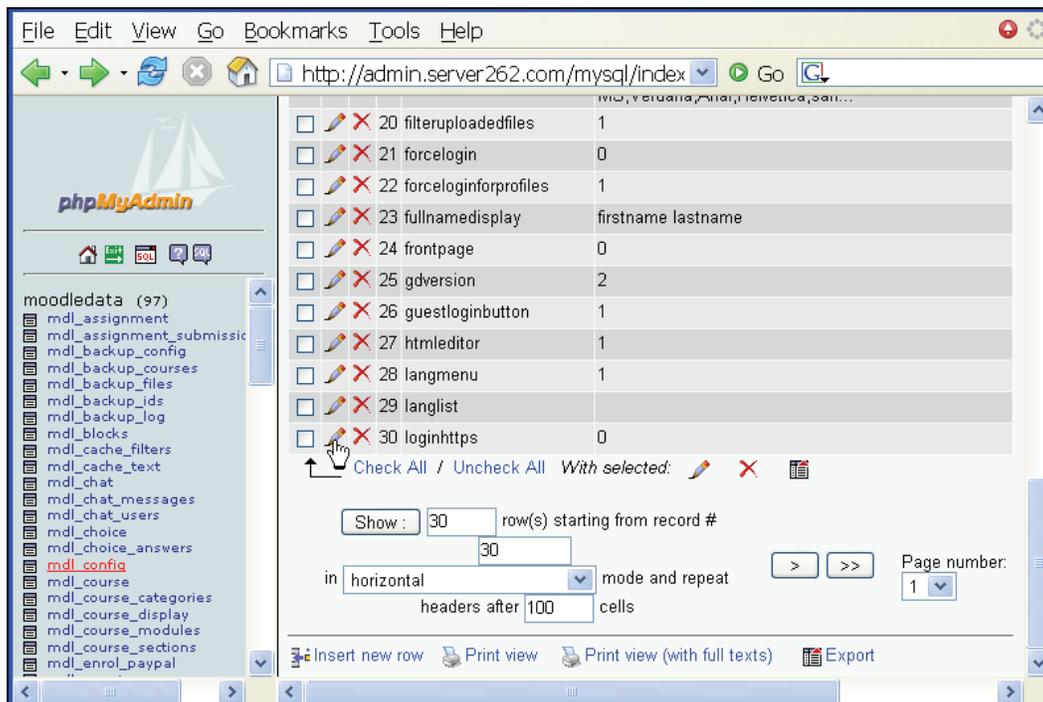
loginhttps

If you select **Yes** for this setting, but your server doesn't have HTTPS enabled for your site, you will be locked out of your site. Moodle will require you to use HTTPS when you log in, but you won't be able to comply. If that happens to you, then you must go into the Moodle database and change this setting to **No**.

The following screenshot shows an administrator using the web-based product phpMyAdmin to edit this setting in Moodle's database. Notice the setting for logging in via HTTPS is contained in the table `mdl_config`. The administrator is clicking on the edit icon. If this cell contains a `0`, HTTPS login is not required. If it contains a `1`, HTTPS login is required. If you're locked out because of HTTPS login, change the contents of this cell to `0`.

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allusersaresitestudents

The Front Page of your Moodle site can contain the same features as any other course. In fact, the Front Page can act as an introductory course to your site. It can contain forums, resources for students to read, quizzes, and other course material. Building a course on the Front Page of your site can be useful in two ways.

First, you can use the Front Page as a sample course for your site. The Front Page course becomes a sales tool. This is a good way to tempt new visitors into joining your site.

Alternatively, you can use the Front Page as an introductory course for existing students. This course would teach students how to use your site, how to choose and join courses, your policies and procedures. The Front Page course becomes an orientation.

The setting for `allusersaresitestudents` determines whether everyone who is a student (all registered users) is automatically enrolled in the Front Page course. If you're using the Front Page as a sample or orientation, you probably want this set to Yes.

showsiteparticipantslist

This setting determines whether students who are enrolled in the Front Page course (the "site course") are shown on the list of students for that course. Remember that if you set `allusersaresitestudents` to Yes, then all registered students are in the site course, and on this list.

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Setting `showsiteparticipantslist` to `Site teachers` means that only teachers who teach the site course can see the list of students. Setting it to `Students and teachers` means that the students can see each others' name on this list. If all registered students are enrolled in the site course, then they can all see each others' name.

maxbytes

There are three settings that limit the size of a file that can be uploaded on your server. The first two are the PHP setting `upload_max_filesize` and the Apache setting `LimitRequestBody`. These are set by your hosting service. They are probably greater than the 20 Megabyte maximum that you can set with `maxbytes`. However, if you set this and then cannot upload files of the size you selected, talk to your system administrator or hosting service provider about their settings for `upload_max_filesize` and `LimitRequestBody`.

fullnamedisplay

Remember that your students may not want their full names displayed to one another. Consider privacy issues when selecting this setting.

autologinguests

When a course is created, the course creator can choose to allow guest access. If this is enabled, when a visitor who is not logged in selects the course, the visitor is taken to Moodle's Login Page. At the Login Page, one of the visitor's options is to `Login as a guest`. The visitor can then take the course anonymously, using the username `guest`.

If `autologinguests` is set to `Yes`, when a visitor who is not logged in chooses a course with guest access enabled, the visitor is taken straight into the course. The Moodle Login Page is bypassed, and the visitor does not need to register or select `Login as a guest`. This seems very convenient; however, you should consider how this might affect your registered users before enabling it.

With `autologinguests` set to `No`, when any course is selected, the visitor is taken to the Login Page. If the visitor is a registered student, he or she will login with a username/password. Then that visitor's activity in the guest-enabled course will be logged. However, if `autologinguests` is set to `Yes`, when a registered student hits your site and selects a guest-enabled course, the student will bypass the Login Page and be taken straight into the course. This means the student's activity will not be logged. If having a registered student take a course without logging the student's activity is OK, then enable `autologinguests`. However, if you want to be certain that all of your registered students' activities are logged, then you should disable this feature.

forcelogin

As stated in the directions, setting this to `Yes` causes the Front Page to become hidden until a visitor logs in to Moodle. When visitors first hit your Moodle site, they see the Moodle Login Page.

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Setting this to **Yes** means that you cannot use Moodle's Front Page as an information and sales tool. You can customize the text on the Login Page, but you won't be able to add all the features available to a Moodle course.

Setting this to **No** enables you to use a non-Moodle page as your introduction to the site. If you want your Front Page to be something that cannot be created in Moodle, this is a good option. For example, you might make `moodle.williamrice.com/index.htm` into a flash presentation about your site. Visitors then click on an Enter link and are taken to the Moodle Login Page at `moodle.williamrice.com/moodle/index.php`. Notice that Moodle is now in its own subdirectory.

If you want a non-Moodle introduction page that leads to a Moodle Login Page, put Moodle into its own subdirectory and not in the same directory as the introduction page. Moodle's Front Page is called `index.php`, and your introduction page will probably be called `index.htm`. If they are in the same directory, your server might get confused about which page to serve.

forceloginforprofiles

What the directions don't state is that setting this to **no** enables anonymous visitors to read not only teachers' profiles, but also the profiles of any students enrolled in courses that have guest access. This may be a privacy issue.

The effect of enabling `forceloginforprofiles` is that anonymous visitors cannot read the profiles for the teachers in a course that accepts guest access. They must register as a student before being able to read student and user profiles. This may be a drawback if your teachers' profiles are a selling point for the course.

Consider enabling `forceloginforprofiles` to force people to register before reading student or teacher profiles. Then, if your teachers' profiles are a selling point, you can add a section to the Front Page for "About Our Teachers".

opentogoogle

This setting lets the Google indexing robot into a course that allows guest access. If you want to know more about the **Googlebot**, see <http://www.google.com/bot.html>.

It seems that everyone with a website wants their site to be ranked high in Google's search results. However, you should consider whether you really want Google to add each of your guest-enabled courses to its search engine. There are several disadvantages:

- If your course content changes frequently, Google might index out-of-date information for your courses.
- Your students and teachers might not want their names and materials indexed and available to the public.

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- If Google indexes all of your guest-enabled courses, you have less control over what information about your site appears in Google. Everything on the pages that the Googlebot searches is used in indexing your site. There might be items on those pages that don't accurately represent your site. For example, a negative forum posting or an off-topic discussion could become associated with your site. Also, if the focus or structure of your Moodle site changes, it may take awhile before all the Google references to all those pages are corrected.

If you want strict control over what information appears in Google about your site, then set `opentogoogle` to `No`. Put only the information that you want to appear in Google on the Front Page of your site, and do not allow teachers or students to modify anything on the Front Page. This way, Google will index only your Front Page. You should also request anyone who links to your site to link only to the Front Page (for example, "Please link only to `http://www.moodle.williamrice.com`, not directly to a course page.") Google and other search engines use links to your site to calculate your ranking. If all those links point to the same page, you can better control your site's public image. By setting `opentogoogle` to `No`, and requesting that people link only to the Front Page, you are trading away some of your search engine presence in exchange for greater control of your site's public image.

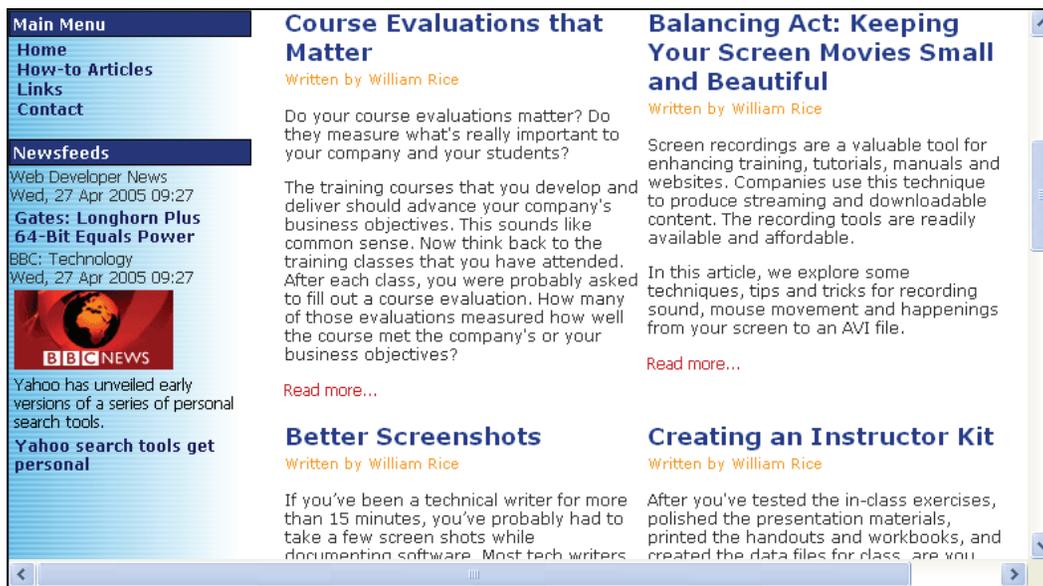
For the ultimate in control of what information about your site is indexed, consider this plan: set `forcelogin` to `Yes` to keep search engine robots out of Moodle completely. Set `opentogoogle` to `No` to prevent Google from crawling your guest courses. Set `autologinguests` to `No` to eliminate the possibility that any other search engine's robots crawl your guest courses. Now you've locked out all but registered users.

Put Moodle into a subdirectory of your site. Link to Moodle from the index page at the root of your site. In my case, I would put Moodle into `moodle.williamrice.com/moodle/` and link to it from `moodle.williamrice.com/index.htm`. Then, use `index.htm` as an introduction to your site. Ensure that `index.htm` contains exactly the kind of information you want the public to know about your site, and optimize it for the best search engine placement.

enablerssfeeds

An **RSS** feed is when a website supplies selected content to the rest of the world. It stands for **Really Simple Syndication**. You may have seen web pages that have a section where news from a major news source appears. For example, my personal site has RSS feeds from Web Developer News and BBC: Technology in the left column:

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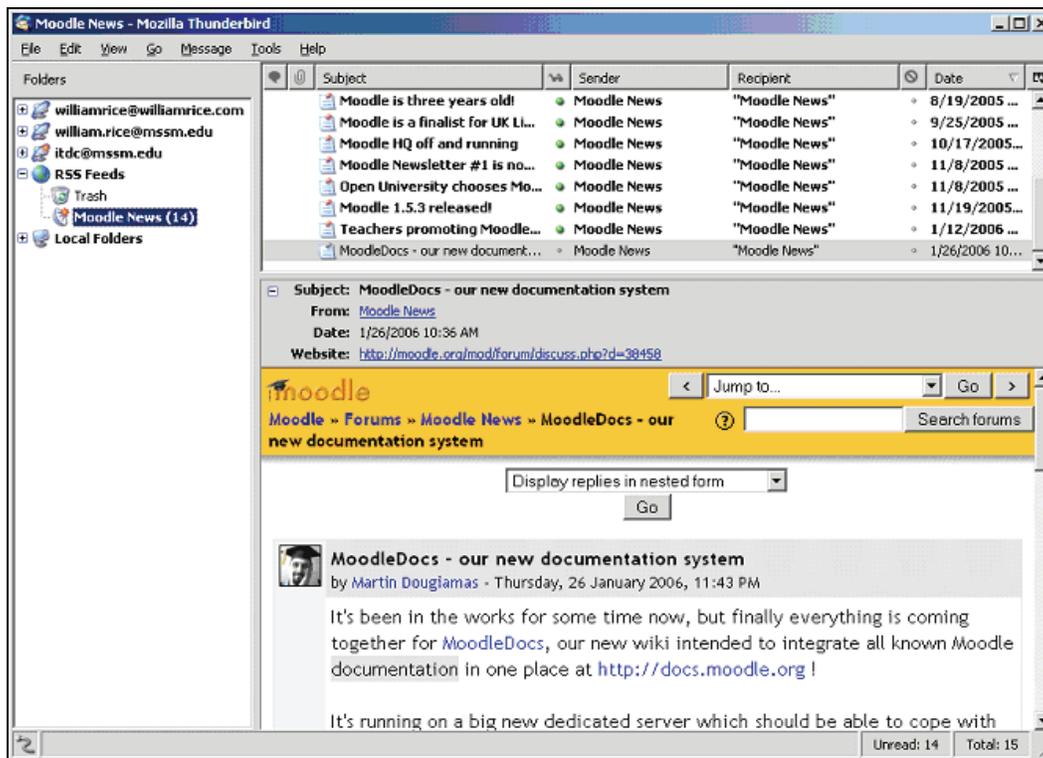
Those RSS feeds are updated periodically.

You can also enable RSS feeds for your Moodle site. This variable enables and disables the feeds site-wide. Then, for each module you enable RSS feeds individually. For example, your Moodle site can feed, or syndicate, the latest forum entries by enabling RSS feeds here and in the Forums module (under Administration | Configuration | Modules | Forum Settings). Remember that you're not using RSS to announce the latest content changes inside your Moodle site. You're using it to announce those changes to the rest of the world.

RSS feeds can be read by most popular email clients, such as **Outlook**, **Thunderbird**, and **Netscape Mail**. This is probably how your students will receive the RSS feeds from your learning site. In the following example, I've subscribed to <http://www.moodle.org>'s RSS feed. Notice how each individual feed shows up as an email.

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The site administrator must use this setting to enable RSS feeds. The administrator can choose to allow only the administrator to create RSS feeds, or to allow teachers to create RSS feeds. Allowing teachers to create RSS feeds enables them to add RSS to the courses they teach. For example, a teacher could add RSS to a course forum. Assuming the students use their email program to get RSS feeds, the students would then see a new feed item when the forum is updated. This is a good way for the teacher to stay in touch with the students.

digestmailtime

This is the time that email digests get sent to users who have subscribed to digests. It is the time on the server, so if your server is located in a different time zone than you or your students, consider the time difference when setting this.

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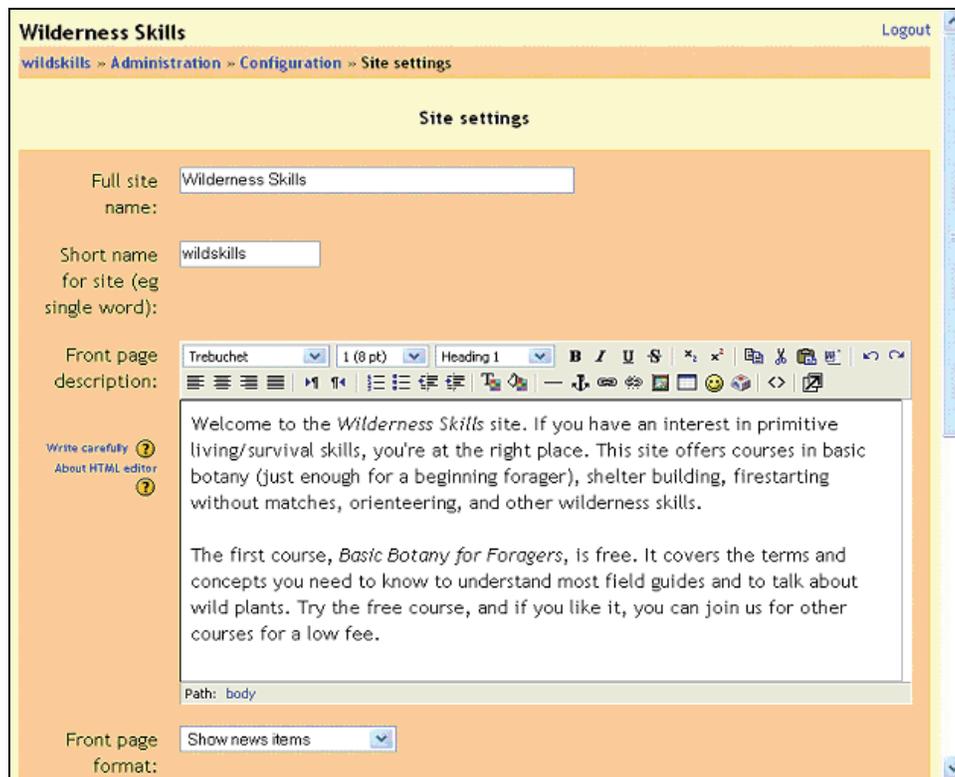
Installation Step 8: Upgrading the Database and Setting Up Tables

After stepping through a few more screens, `install.php` upgrades the Moodle database and creates more tables. You don't need to do anything during this part of the installation except click to see the next screen. The installation script tells you when this is complete.

Installation Step 9: Site Settings

After creating the database tables, the installation script displays the Site settings page. The values you enter on this page affect Moodle's Front Page. Of course, you want to enter them correctly the first time. However, after Moodle is installed, you can return to this page at any time to change these variables.

The screenshot below shows the top of the Site settings page for my demonstration site. Notice the breadcrumbs line at the top shows that I'm on the site whose short name is `wildskills`, and that to get to this page I've selected Administration, then Configuration, and then Site settings:



The screenshot shows the Moodle administration interface for a site named "Wilderness Skills". The breadcrumb trail at the top reads "wildskills > Administration > Configuration > Site settings". The page title is "Site settings".

The form contains the following fields and content:

- Full site name:** A text input field containing "Wilderness Skills".
- Short name for site (eg single word):** A text input field containing "wildskills".
- Front page description:** A rich text editor with a toolbar. The content of the editor is:
Welcome to the *Wilderness Skills* site. If you have an interest in primitive living/survival skills, you're at the right place. This site offers courses in basic botany (just enough for a beginning forager), shelter building, firestarting without matches, orienteering, and other wilderness skills.

The first course, *Basic Botany for Foragers*, is free. It covers the terms and concepts you need to know to understand most field guides and to talk about wild plants. Try the free course, and if you like it, you can join us for other courses for a low fee.
Path: body
- Front page format:** A dropdown menu set to "Show news items".

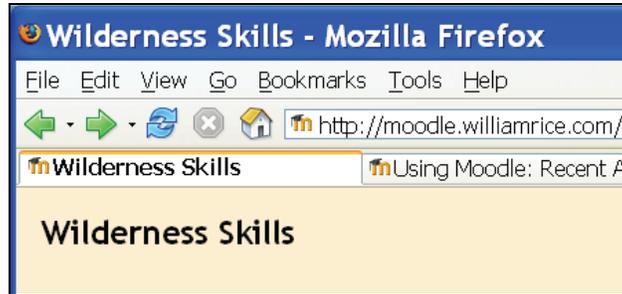
There are also links for "Write carefully" and "About HTML editor" on the left side of the form.

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Let's examine how each of the Site settings influences the Front Page and the user experience.

Full Site Name

The full site name appears at the top of the Front Page, in the browser's title bar, and also on the page tab in Netscape or Firefox:



The full site name also appears in the metadata for the Front Page. Here are the first few lines of HTML code from my Front Page. The line containing the full site name is in bold:

```
<html dir="ltr">
<head>
<meta http-equiv="content-type" content="text/html; charset=iso-8859-1" />
<style type="text/css">@import
url(http://moodle.williamrice.com/lib/editor/htmlarea.css);</style>
<meta name="description" content="
welcome to the wilderness skills site. If you have an interest in
primitive living/survival skills, you're at the right place. This
site offers courses in basic botany (just enough for a beginning
forager), shelter building, firestarting without matches,
orienteering, and other wilderness skills. The first course, Basic
Botany for Foragers, is free. It covers the terms and concepts you
need to know to understand most field guides and to talk about wild
plants. Try the free course, and if you like it, you can join us for
other courses for a low fee.">
<title>wilderness skills</title>
<meta name="keywords" content="moodle, wilderness skills " />
```

Short Name for Site

Once a user enters your Moodle site, a navigation line is displayed at the top of each page. This shows the user where he or she is in the site. The first item in this navigation line, or breadcrumb trail, is the short site name:



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Front Page Description

This description appears in the left or right column of your site's Front Page. If you require visitors to register and log in before seeing the Front Page (see *forcelogin* under *Installation Step 7d: Specify Site Variables*), remember that visitors will see this information after they have logged in. In that case, the Front Page description can't be used to sell your site. Instead, it can instruct students on how to get started with your site. For example, "Take the Introduction course to learn how to use this site..."

If your Front Page is visible to all visitors, then you can use this description to sell your site, tempt visitors to take a sample course, tell them what's inside, etc.

Remember that the Front Page description always appears in the left or right column of the Front Page. It does not appear in the center column. If you want your site description (e.g. Welcome to the...) top and center, you'll need to include a topic section (covered next), which always appears in the center of your Front Page. You would make your site description the first topic. In this case, you turn the Front Page Description off.

Also, this description appears in the metadata of the first page:

```
<html dir="ltr">
<head>
<meta http-equiv="content-type" content="text/html; charset=iso-8859-1" />
<style type="text/css">@import
url(http://moodle.williamrice.com/lib/editor/htmlarea.css);</style>
<meta name="description" content="
welcome to the wilderness skills site. If you have an interest in
primitive living/survival skills, you're at the right place. This
site offers courses in basic botany (just enough for a beginning
forager), shelter building, firestarting without matches,
orientteering, and other wilderness skills. The first course, Basic
Botany for Foragers, is free. It covers the terms and concepts you
need to know to understand most field guides and to talk about wild
plants. Try the free course, and if you like it, you can join us for
other courses for a low fee.">

<title>wilderness skills</title>
<meta name="keywords" content="moodle, wilderness skills " />
```

The implication here is that even if you plan to use a Topic section to put your site description top and center, instead of using the Front Page Description in a column on the left or right side, you should type your site description into this field. Even though you've turned off the Front Page Description, it will still show up in the metadata, which can be helpful for optimizing search engine results.

Front Page Format

This setting determines whether the center column of the Front Page shows news items, a list of courses, or a list of course categories. Each setting has its unique advantages.

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Show News items

This setting is useful if the content of your site changes frequently, and you want to keep visitors informed. If one of the primary purposes of your Front Page is serving repeat customers, showing news items on the Front Page is a good idea.

Front page format:	Show news items	▼
--------------------	-----------------	---



The screenshot shows the Moodle front page for 'Wilderness Skills'. At the top right, there is a 'Login' link and a language dropdown menu set to 'English (en_us)'. Below the site title, there are three main columns. The left column contains a 'Main menu' with a 'Site news' link and a 'Courses' section with links for 'Free Courses', 'Wild Plants', 'Tracking and Animal Observation', and 'Shelter and Fire'. The middle column, titled 'Site news', features a news item: 'Desert Plants Course Added' by William Rice, dated Monday, May 2 2005, 11:34 AM. The news text states: 'A new course has been added to our Wild Plants section. After taking our free course, *Basic Botany for Foragers*, you're ready to learn about the plants found in some of the harshest places on Earth.' The right column contains a welcome message: 'Welcome to the Wilderness Skills site. If you have an interest in primitive living/survival skills, you're at the right place. This site offers courses in basic botany (just enough for a beginning forager), shelter building, firestarting without matches, orienteering, and other wilderness skills. The first course, *Basic Botany for Foragers*, is free. It covers the terms and concepts you need to know to understand most field guides and to talk about wild plants. Try the free

The downside is that the list of course categories is now relegated to a side column. If you want the course categories, or courses themselves, to be displayed more prominently, you'll need to use Show a list of categories or Show a list of courses.

Show a List of Categories

This setting is useful if you want to make it easy for your students to find and select a course. It puts the course categories in the center of the Front Page. The drawback is that you no longer have a news section at the center and top for your repeat visitors.

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Front page format:

I've added a topic section to the Front Page (this is covered next). The topic section gave me an area where I can add course resources. To this topic section, I added a label. The label consists of the Desert Plants Course Added notice that you see in the screenshot. The label is not as convenient to manage as a news area. However, this method does enable me to get the course categories on the Front Page, while still posting an announcement center top.

Notice that in the previous screenshot, for Show news items, I chose to keep the course category listing in the left column. Now that I'm showing course categories in the center, the list of categories in the left-hand block became superfluous. Later, we'll cover how to turn blocks off and on for the Front Page.

Show a List of Courses

Notice also that I've added a Main menu in the left column, with links to detailed information about the site, how to use it, and the enrollment/payment page. The welcome message in the right column and the links to detailed information about the site in the left column serves my new visitors. The label (announcement), Desert Plants Course Added and course options Available Courses in the center serve my existing customers.

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Front page format: 

Wilderness Skills

English (en_us)  [Login](#)

Main menu

-  [About Wilderness Skills](#)
-  [How to Use this Site](#)
-  [Enroll for a Course](#)

Desert Plants Course Added

A new course has been added to our Wild Plants section. After taking our free course, *Basic Botany for Foragers*, you're ready to learn about the plants found in some of the harshest places on Earth.

Available Courses

-  **Free Courses**
 - FREE COURSE: [Basic Botany for Foragers](#)  
-  **Wild Plants**
 - [A Walk on the Beach](#) 
 - [By the Water's Edge](#) 
 - [Desert Plants](#) 
-  **Tracking and Animal Observation**
 - [Tracking Basics](#) 

Welcome to the *Wilderness Skills* site. If you have an interest in primitive living/survival skills, you're at the right place. This site offers courses in basic botany (just enough for a beginning forager), shelter building, firestarting without matches, orienteering, and other wilderness skills.

The first course, *Basic Botany for Foragers*, is free. It covers the terms and concepts you need to know to understand most field guides and to talk about wild plants. Try the free course, and if you

This setting makes it as easy as possible for students to find the course they're looking for. It can also be a powerful marketing tool. Notice the  icon next to each course. Clicking this gives the visitor a description of the course (later in the section on creating courses, you'll see how to enter a course description). If you want to encourage visitors to do this, you could insert another label between the announcement **Desert Plants Course Added** and the **Available Courses** section, saying something like, "For a short description of each course, click on the  next to it."

The drawback to using **Show a list of courses** is that the course list can get very long. You must decide how much tolerance your visitors are likely to have for scrolling and browsing through a long list of courses.

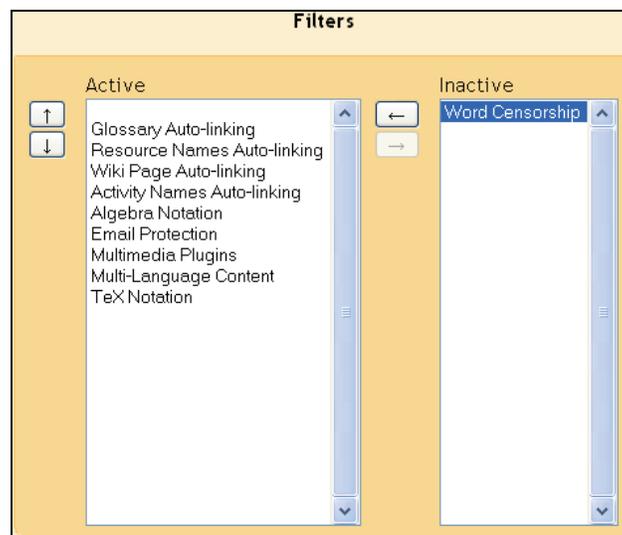
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Configuration Choices after Installation

You won't be prompted for these configuration choices, but after installation you should look at these settings. You may want to make some choices immediately after installation, and others you may want to delay. All of these settings can be changed later.

Filters

You'll find the Filters settings under Administration | Configuration | Filters. Filters go through all the text that you enter in your courses, and process this text. For the most part, Filters create an automatic link whenever a glossary term or learning resource is mentioned on your site. They also handle special mathematical notation. Read the descriptions below for detailed information about what filters can do for your site.



Auto-Linking Filters

The Auto-linking filters search the text on your site, and automatically link to items when they find an item mentioned in the text. For example, **Glossary Auto-linking** looks for terms that are in any glossary, and when it finds them links the term to the glossary entry. The term is highlighted, and when a user clicks it, the user is taken to the glossary.

Resource Names Auto-linking searches course text for the names of course resources. When it finds the name of a resource, it links the name to the resource. This means whenever a student sees the name of a document, web page, or other course resource, the student can just click on the name and be taken to the resource. **Activity Names Auto-linking** works the same way for course activities. **Wiki Page Auto-linking** creates a link to a Wiki page whenever the page is mentioned on the site.

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Math Filters

Algebra Notation and TeX Notation search the text for special characters used to describe mathematical formulas. For example, if you enter `@@cosh(x,2)@@` the Algebra Notation filter will display it as:

$$\cosh^2(x)$$

If you enter `$$ \Bigsum_{i=1}^{n-1} $$`, the TeX Notation filter will display it as:

$$\sum_{i=1}^{n-1}$$

Algebra Notation and TeX Notation are standard markup languages. The <http://www.moodle.org> site contains more information about Algebra Notation. For more information about TeX, see the TeX Users Group at tug.org. TeX is more mature and complete than Algebra Notation. If you plan on writing more complex equations, I suggest making the TeX Notation filter active and leaving the Algebra Notation filter inactive.

Email Protection Filter

Activating this filter makes email addresses on the site unreadable to search engines, while keeping them 'human-readable'. If you set `opentogoogle` to `No`, or require users to log in, then you probably don't need to worry about search engines automatically picking up your students' email addresses. If your site is open to search engines and anonymous users, then you might want to use this filter to protect the users' email addresses.

Multimedia Plugins

If you leave this filter inactive, then multimedia content will usually play in a separate window. For example, without this filter, when a user clicks on a video, that video might open and play in a separate **Windows Media Player** or **RealPlayer** window. By activating this filter, you embed multimedia so that it plays on the page in which it was linked.

Multi-Language Content

In the Variables screen, you used the variable `langlist` to determine which languages, if any, users can select. When a user selects one of these languages, only the Moodle interface is translated. The course content remains in whatever language you created it. If you want your site to be truly **multi-lingual**, you can also create course content in several languages. Activating the Multi-Language Content filter will then cause the course material to be displayed in the selected language.

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To create course content in multiple languages, you must enclose text written in each language in a `` tag, like this:

```
<span lang="en">Basic Botany</span>  
<span lang="es">Botánica Básica</span>
```

This requires that you write course material in HTML. This can be done for headings, course descriptions, course material, and any other HTML document that Moodle displays.

Filter Uploaded files

Setting this to **Yes** applies the activated filters to files that teachers and students upload to Moodle. When set to **No**, Moodle's filters apply only to content created in Moodle.

Backup

You'll find the backup settings under **Administration | Configuration | Backup**. Most of these settings enable you to choose the type of data that gets backed up. You also choose on which days of the week the backup will automatically run. The backup is activated by the cron job routine (see *Installation Step 6: Setting up the Cron Job*).

The backups are stored in compressed, or ZIP format. In the **Variables** page, you indicated if your hosting service has a zip program or if Moodle should use its own, built-in zip program (see *zip and unzip* under *Installation Step 7d: Specify Site Variables*). If you activate automatic backups, and Moodle must use its built-in zip program during the backups, you might see backup failures caused by lack of memory. If you plan on using the backup feature for more than a handful of courses, ensure that your hosting service offers a zip program on its servers.

Authentication

Authentication and login are different. Authentication is what happens when a new user signs up for your site, and creates a new Moodle account. Login is when an authenticated user logs into Moodle.

Moodle offers a variety of ways to authenticate users. You'll find them under **Administration | Users | Authentication options**. Each of the options is explained on that page. This subsection will fill in a few key blanks left by Moodle's explanations.

When you authenticate users with an external database (MySQL, Oracle, etc.), Moodle copies over the username and password from the external database into Moodle's internal database. From then on, when the user logs into Moodle, it uses Moodle's internal database to check the username and password. There is no live link between the external database and Moodle's user database. This means that if the user changes his or her username and password in the external database, the username and password in Moodle is not changed.

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When you authenticate users with a server (LDAP, IMAP, etc.), Moodle checks the username and password against that server every time the user logs in. If the user changes his or her password on the server, the user will have that new password in Moodle.

If you authenticate against an external database or an LDAP server, you can have Moodle bring over user information from the database or server. This user information is copied into Moodle at the time of authentication. For example, Moodle can copy over the user's first name, last name, and email address. Once it's copied into Moodle, it is no longer synchronized with the external database.

Enrolment Choices

Enrolment is different from authentication. In authentication, you confirm a user's membership to your site. In enrolment, you grant or confirm a user's access to a course. You have several options for managing student enrolment. They are found under Administration | Users | Enrolments.

External Database

You can use an external database to control student enrolment. In this case, Moodle looks in the designated database and determines if the student is enrolled. As of version 1.4, Moodle will not write back to the external database. All changes in the external database are made by another program.

In addition to using the external database, you can also allow Moodle's normal enrolment routine. Checking `enrol_allowinternal` enables this feature. If you enable internal enrolment in addition to the external database, Moodle checks two databases when a student tries to enter a course: the external one, and its internal one.

In the External Database screen, you designate which field in Moodle corresponds to the course name field in the external database. In the example overleaf, you can see the Edit course settings for the Basic Botany course. I've given this course an ID number of 0001. This course ID number will correspond to the same ID number in the external database. To match the field ID number from course settings against the external database, I need to enter the field name for ID number in `enrol_localcoursefield`.

External Database

You can use an external database (of nearly any kind) to control your enrolments. It is assumed your external database contains a field containing a course ID, and a field containing a user ID. These are compared against fields that you choose in the local course and user tables.

enrol_dbtype: Database server type

enrol_dbhost: Database server hostname

enrol_dbuser: Username to access the server

enrol_dbpass: Password to access the server

enrol_dbname: The specific database to use

enrol_dbtable: The table in that database

enrol_localcoursefield: The name of the field in the course table that we are using to match entries in the remote database (eg idnumber)

enrol_localuserfield: The name of the field in the local user table that we use to match the user to a remote record (eg idnumber)

enrol_remotecoursefield: The field in the remote database we expect to find the course ID in

enrol_remoteuserfield: The field in the remote database we expect to find the user ID in

enrol_allowinternal: Allow internal methods as well

Edit course settings

Category:

Full name:

Short name:

ID number:

User profile for William Rice

Username:

New password:

The following items are optional:

Current picture:

New picture:

Web page:

ICQ number:

ID number:

The temptation is to type ID number into enrol_localcoursefield, since ID number is what you see in the Edit Course Settings screen. Surely that is the field name, right? Well, no. Take look at the Moodle database, in the mdl_course table, and you'll see the real name of this field is idnumber:

Server: localhost Database: moodledata Table: mdl_course

Field	Type	Attributes	Null	Default	Extra	Action
<input type="checkbox"/> id	int(10)	UNSIGNED	No		auto_increment	
<input type="checkbox"/> category	int(10)	UNSIGNED	No	0		
<input type="checkbox"/> sortorder	int(10)	UNSIGNED	No	0		
<input type="checkbox"/> password	varchar(50)		No			
<input type="checkbox"/> fullname	varchar(254)		No			
<input type="checkbox"/> shortname	varchar(15)		No			
<input checked="" type="checkbox"/> idnumber	varchar(50)		No			

Similarly, we would look up the field name for the student's ID number, and enter that into enrol_localuserfield.

Flat File

The flat file method of student enrolment causes Moodle to read in a text file, or "flat file," and use that as the source for enrolment information. The flat file has this format:

```
operation, role, ID number of user, ID number of course
```

where:

- operation is add or del.
- role is student, teacher, or teacheredit.
- ID number of user is the field idnumber from the database table mdl_user.

ID number of course is the field idnumber from the database table mdl_course.

Moodle periodically reads in this file, and modifies its enrolment data according to what the file says. For example, the line

```
add, student, 0005, WP102
```

will add the student with the ID number of 0005 to the course with the ID number of WP102.

Place this file in a directory that is accessible to your web server. For example, you can put it inside the data directory.

Internal Enrolment

This is the default form of enrolment. When this is selected, there are two ways to enroll a student in a course:

- A teacher or administrator can enroll the student. From within the course, the teacher selects Students and is taken to the Enroll students screen.
- The prospective student is supplied with an **enrolment key**. Using this key, the student can enroll in the course.

Paypal

The Paypal option enables you to set up paid access to the site, or to individual courses. When you select this option, if you enter a value of zero into enrol_cost, students can access the site for free. If you enter a non-zero amount, students must pay to access the site.

Selecting this option puts an enrol_cost field into the Edit Course Settings screen Wildskills | Administration | Users | Enrolments of every course. Again, entering a non-zero amount into this field requires students to pay to access the course.

The Paypal payment screen displays a notice that this course requires a payment for entry. It also contains a button labeled Send payment via Paypal. You can modify this screen by modifying the source file at enrol/paypal/enrol.php.

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Summary

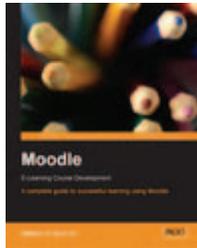
This chapter tells you how to make changes to the **Variables** page. The values you enter on this page affect the behavior of the entire site. The values you enter on the **Site settings** page affect Moodle's Front Page.

It covers the creation of the database, which is also very important. You need to know the correct amount of disk space and the bandwidth required for the software. It also covers the ways of authenticating Moodle users and how your choice affects the operation of your site.

It also helps you to make the right configuration choices during and after the installation process. You can edit the choices, if you have already made any. The configuration choices that are made during the installation process affect the student and teacher experience in Moodle.

Once you have completed the installation of Moodle, you can continue with the next chapter, *Creating Categories and Courses*. It will help you understand how to create course structures and settings and change them as needed.

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8

Features for Teachers

Moodle keeps detailed logs of all activities that users perform on your site. You can use these logs to determine who has been active in your site, what they did, and when they did it.

Moodle has a modest log viewing system built into it. However, for sophisticated log analysis, you need to look outside Moodle. The following section will help you with the tools you need to view and analyze your site logs.

Logs: Where Are They Stored?

Unlike some programs, Moodle does not store logs as text files. Instead, it stores the logs in the Moodle database. The following screenshot shows the first few lines of my site's log:

	id	time	userid	ip	course	module	cmid	action	url	info
<input type="checkbox"/>  	1	1110902813	1	146.203.50.85	1	user	0	update	view.php?id=1&course=1	
<input type="checkbox"/>  	2	1114089138	0	146.203.50.85	0	login	0	error	http://moodle.williamrice.com/login/index.php	admin
<input type="checkbox"/>  	3	1114089145	0	146.203.50.85	0	login	0	error	http://moodle.williamrice.com/login/index.php	admin
<input type="checkbox"/>  	4	1114089149	1	146.203.50.85	1	user	0	login	view.php?id=1&course=1	1
<input type="checkbox"/>  	5	1114132470	1	24.185.54.44	1	user	0	login	view.php?id=1&course=1	1
<input type="checkbox"/>  	6	1114137884	1	24.185.54.44	1	user	0	logout	view.php?id=1&course=1	1
<input type="checkbox"/>  	7	1114169804	1	146.203.50.85	1	user	0	login	view.php?id=1&course=1	1
<input type="checkbox"/>  	55	1115044485	1	146.203.50.85	6	course	0	new	view.php?id=6	
<input type="checkbox"/>  	9	1114172679	1	146.203.50.85	1	user	0	logout	view.php?id=1&course=1	1
<input type="checkbox"/>  	10	1114172747	0	146.203.50.85	1	library	0	mailer	http://moodle.williamrice.com/login/signup.php	ERROR: The following From address failed: williamr...
<input type="checkbox"/>  	11	1114172778	1	146.203.50.85	1	user	0	login	view.php?id=1&course=1	1

Notice that the time is stored in ascending order. This means that the lines you see at the beginning of the log are the oldest entries.

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But when Moodle displays log files, it does so in reverse order; it displays the most recent entries first. You would need to scroll to the end of Moodle's log display to see the oldest entries.

Moodle's Logs Page

Here is a screenshot of the site's log as it appears in Moodle's Logs page:

The screenshot shows the Moodle Logs page for the course 'Wilderness Skills'. The page title is 'Wilderness Skills: All participants, All days (GMT-5)'. There are three filter dropdown menus: 'Wilderness Skills (Site)', 'All participants', and 'All days'. Below these is a dropdown for 'All activities' and a 'Show these logs' button. The page indicates 'Displaying 1259 records'. A pagination bar shows 'Page: (Previous) 1 ... 116 117 118 119 120 121 122 123 124 125 126'. The log entries are as follows:

wildskills	Fri	April 22 2005, 07:25 AM	146.203.50.85	library mailer	ERROR: The following From address failed: williamrice@packtpub.com	
wildskills	Fri	April 22 2005, 07:24 AM	146.203.50.85	William Rice	user logout	1
wildskills	Fri	April 22 2005, 06:36 AM	146.203.50.85	William Rice	user login	1
wildskills	Thu	April 21 2005, 09:44 PM	24.185.54.44	William Rice	user logout	1
wildskills	Thu	April 21 2005, 08:14 PM	24.185.54.44	William Rice	user login	1
wildskills	Thu	April 21 2005, 08:12 AM	146.203.50.85	William Rice	user login	1
	Thu	April 21 2005, 08:12 AM	146.203.50.85		login error	admin
	Thu	April 21 2005, 08:12 AM	146.203.50.85		login error	admin
wildskills	Tue	March 15 2005, 11:06 AM	146.203.50.85	William Rice	user update	

At the bottom, there is another pagination bar: 'Page: (Previous) 1 ... 116 117 118 119 120 121 122 123 124 125 126'.

Notice that Moodle's display of the log files can be filtered by course, participant, day, and activity. When you select **Logs** from the **Admin** block on the site's Front Page, the first drop-down list is set to select the entire site. You can change this to select a single course instead. If you select **Logs** from the **Admin** block within a course, the log display will be set to that course. Once again, you can always change it.

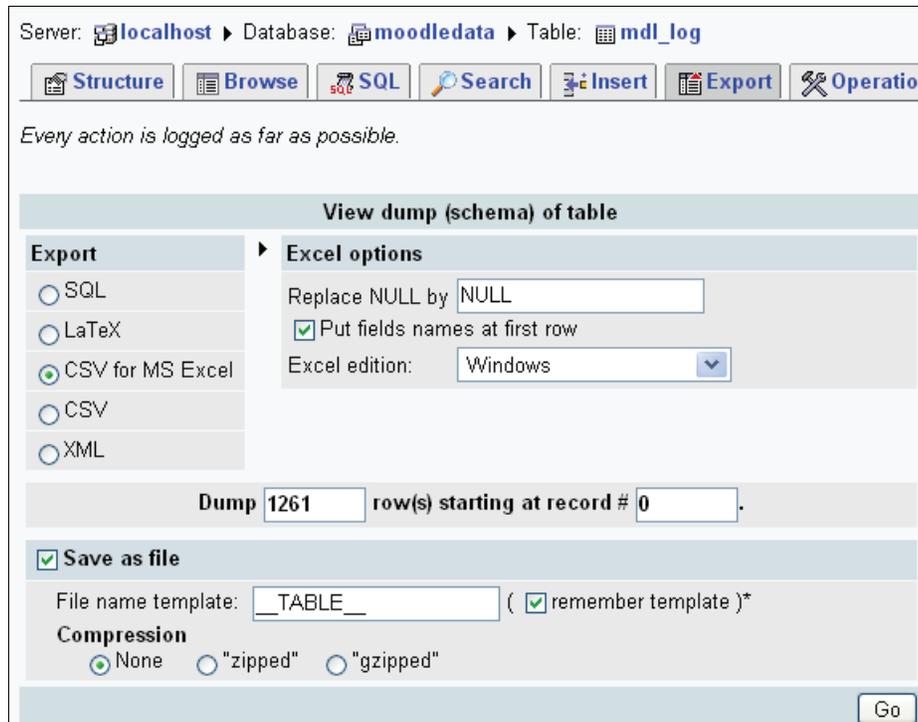
You cannot select multiple values for any of these variables. That is, you cannot select two courses for the first drop-down list, then four participants from the second, and a few days from the third. If you want a more sophisticated view of the logs, you must use a tool other than Moodle's built-in log viewer. Unfortunately, you cannot just download the logs as text files and import them into a log viewer. Moodle does not offer a direct way to download log files. The next subsection tells you how to download your site logs so that you can use them in a more sophisticated log viewer.

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Export Logs using phpMyAdmin

phpMyAdmin is installed by many hosting services. In the Moodle installation chapter, you saw how to use this product to edit the Moodle database directly. You can also use it to export data from the database.

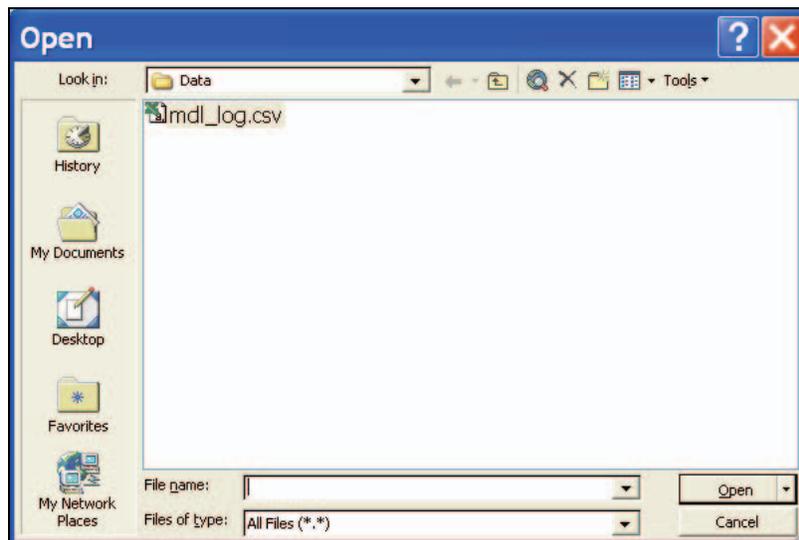
In the following screenshot, the table `mdl_log` has been selected, which contains log data. Then the Export tab was selected. In this example, because I'm preparing to import the log data into **Microsoft Excel**, under Export, CSV for MS Excel was selected. This same setting will work if you're importing the data into **OpenOffice's** spreadsheet. Also notice that Put fields names at first row has been selected, so that we get the field names in the exported file. To save this as a file on the local hard drive, the Save as file checkbox has been selected:



The screenshot shows the phpMyAdmin interface for the `mdl_log` table in the `moodledata` database on `localhost`. The 'Export' tab is active, and the 'Export' section is expanded to show 'Excel options'. The 'Export' section has radio buttons for SQL, LaTeX, CSV for MS Excel (selected), CSV, and XML. The 'Excel options' section includes a text input for 'Replace NULL by' (set to 'NULL'), a checked checkbox for 'Put fields names at first row', and a dropdown for 'Excel edition' (set to 'Windows'). Below this, it shows 'Dump 1261 row(s) starting at record # 0'. The 'Save as file' checkbox is checked, and the 'File name template' is set to `__TABLE__` with the 'remember template' checkbox also checked. The 'Compression' section has radio buttons for 'None' (selected), 'zipped', and 'gzipped'. A 'Go' button is at the bottom right.

phpMyAdmin saved the file on my local hard drive as `mdl_log.csv`. The next step was to launch Microsoft Excel, and import the file. Because this file was exported specifically for Excel, importing it is as simple as opening it from within Excel:

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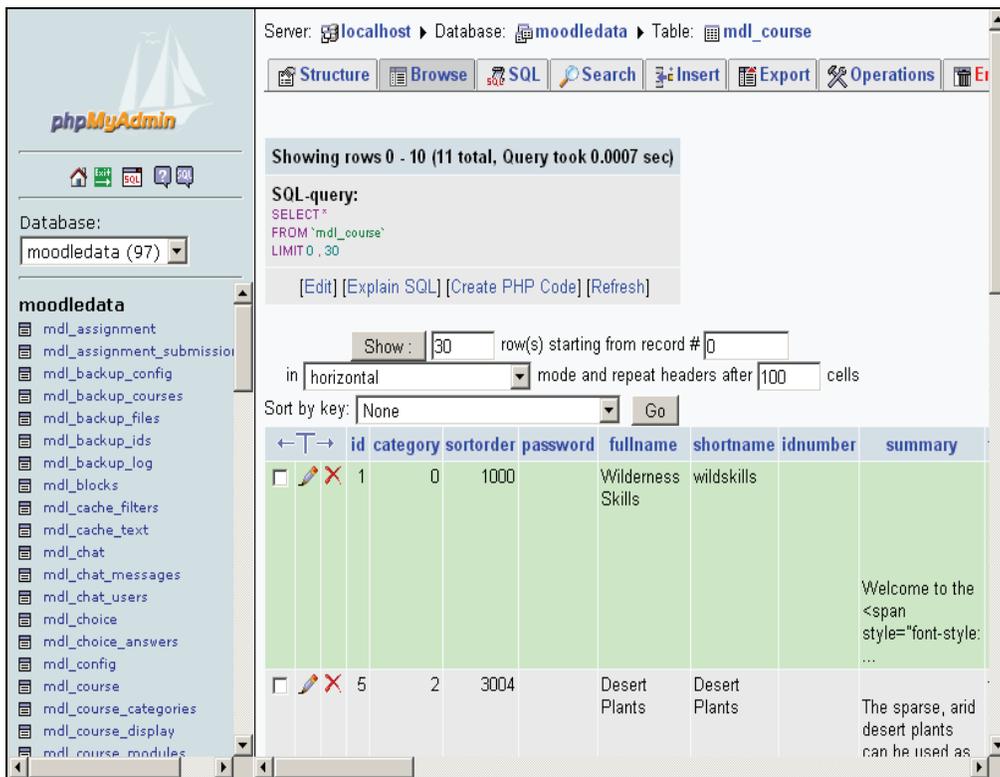


The following figure is the log file in Excel. Notice these are the same ten lines you saw in Moodle's Logs page, and while browsing the database with phpMyAdmin:

A	B	C	D	E	F	G	H	I	
	time	userid	ip	course	module	cmid	action	url	info
1	1110902813	1	146.203.50.85	1	user	0	update	view.php?id=1&course=1	
2	1114089138	0	146.203.50.85	0	login	0	error	http://moodle.williamrice.com/login/index.php	admin
3	1114089145	0	146.203.50.85	0	login	0	error	http://moodle.williamrice.com/login/index.php	admin
4	1114089149	1	146.203.50.85	1	user	0	login	view.php?id=1&course=1	
5	1114132470	1	24.185.54.44	1	user	0	login	view.php?id=1&course=1	
6	1114137884	1	24.185.54.44	1	user	0	logout	view.php?id=1&course=1	
7	1114169804	1	146.203.50.85	1	user	0	login	view.php?id=1&course=1	
55	1115044485	1	146.203.50.85	6	course	0	new	view.php?id=6	
9	1114172679	1	146.203.50.85	1	user	0	logout	view.php?id=1&course=1	

Notice that the userid field displays the number of the user, not the name. Also notice that the course field displays the course number instead of a user-friendly course name. To find out what these codes mean, you need to look inside the database. Once again, I use phpMyAdmin, and view the mdl_course table. The following screenshot shows course IDs 1 and 5:

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With the data in Excel, you can use Excel's data menu to format, chart, and analyze the data. A complete discussion of Excel's data functions is beyond this book, but there are many sources of help for these functions. The lower figure opposite is an example of a table created in Excel from the imported data. The data cells contain the number of course actions performed by each user in each course. At a glance, you can see which users and courses are most active.

Using Scales for Feedback, Rating, and Grading

In Moodle, you can use scales to rate or grade forums, assignments, quizzes, lessons, journals, and workshops. These scales can be used by anyone who is grading or evaluating a student's work. For example, if a workshop is being graded by other students, then the students use the scale selected by the teacher to grade that workshop. Being able to apply a scale to so many types of activities is a powerful way to make your courses more interactive and engaging.

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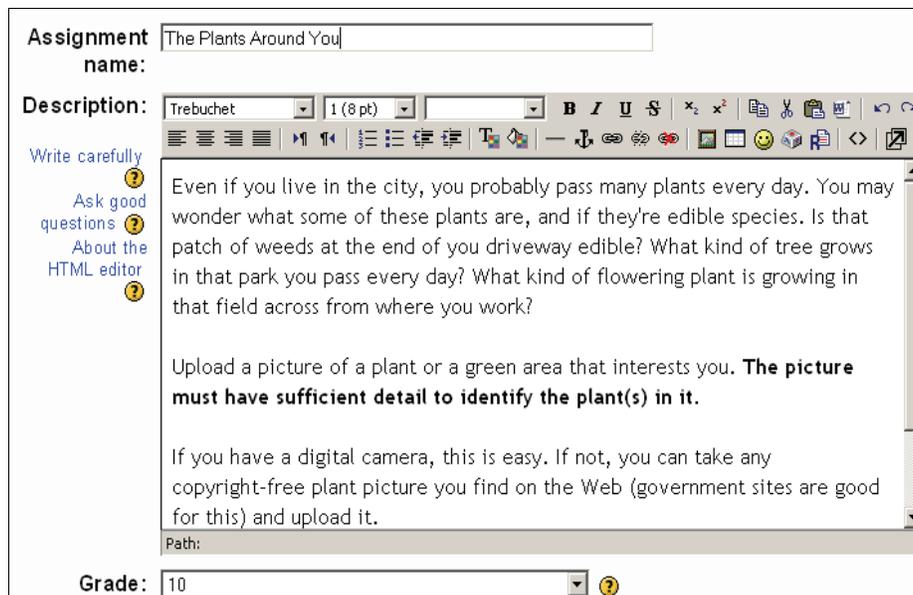
Moodle comes with two preexisting scales. One is called "Separate and Connected Ways of Knowing". This scale enables students to describe an item as connected to other knowledge in the course, or separate from the other knowledge. It isn't useful as a way to grade students, but instead is used to stimulate discussion about the item.

The other built-in scale that Moodle offers is numeric. You can assign a maximum number of points, from 1 to 100, to an item. Whoever is rating or grading the item selects a numeric grade from a drop-down list.

Moodle also enables you to create custom scales. This is covered in the subsequent subsection. But first, let's see how to apply a scale to an activity, and how to use that scale to grade a student's submission.

Applying a Scale to an Activity

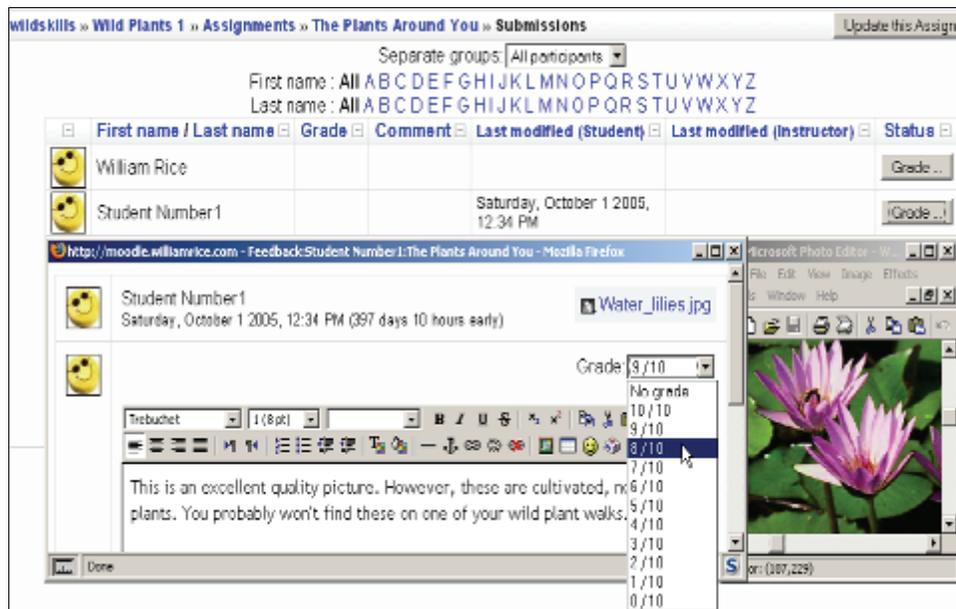
In the next screenshot, I've added a grading scale to a journal activity. I could have selected No Grade, Separate and Connected Ways of Knowing, or any number from 1 to 100. I chose to give this journal entry a maximum point value of 10:



The screenshot shows the Moodle assignment editor interface. At the top, the "Assignment name:" field contains "The Plants Around You". Below it, the "Description:" field is active, showing a rich text editor with the text: "Even if you live in the city, you probably pass many plants every day. You may wonder what some of these plants are, and if they're edible species. Is that patch of weeds at the end of you driveway edible? What kind of tree grows in that park you pass every day? What kind of flowering plant is growing in that field across from where you work?". Below the text, there is a bolded instruction: "Upload a picture of a plant or a green area that interests you. **The picture must have sufficient detail to identify the plant(s) in it.**". Further down, it says: "If you have a digital camera, this is easy. If not, you can take any copyright-free plant picture you find on the Web (government sites are good for this) and upload it." At the bottom of the description field, there is a "Path:" label. To the left of the description field, there are several help links: "Write carefully", "Ask good questions", and "About the HTML editor". At the bottom of the editor, the "Grade:" field is set to "10".

When a teacher views this journal assignment, the teacher clicks the Grade button to display a pop-up window where the teacher can view the uploaded file, write a comment, and select the numeric grade:

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If No Grade were selected for this assignment, only the comments would be available. The drop-down list of grades would not appear.

Establishing Custom Scales

The site administrator can create custom grading scales that are available to all teachers. A teacher can also create a custom scale to be used in the course in which it is created. A custom scale consists of a list of choices that you enter in an ascending order.

For example, you can create a scale for students to rate forum posts that reads: 1-Does not apply to our discussion topic, 2-Partially applies to our discussion topic, 3-Mostly applies to our discussion topic, 4-Totally on target for our discussion topic:

To reach the Scales page, select Scales from the Administration block. Then click the Add a new scale button. That will display a window like the one shown in the figure.

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The Teacher Forum

Each course can have a Forum for the teachers in that course. This is especially useful when several teachers collaborate on a course. The link for the Teacher forum appears in the Administration block, so it is not visible to students because that block does not display for students.

If you are the course creator or a teacher in the course, when you enter the Teacher forum you see several links in the upper right corner:

The line Everyone can choose to be subscribed means that right now, all teachers in this course can choose to be subscribed to the Forum or not. Subscribers receive email notices when someone posts to the Forum. Clicking on this link forces all teachers of this course

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to be subscribed to the Forum. It is one of Moodle's quirks that not only can the course creator force all the teachers to be subscribed, but so can any teacher of this course.

The links for Show/edit current subscribers and Unsubscribe from this forum do exactly what they say.

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9

Extending and Administering Moodle

Assignments, forums, glossaries, lessons, quizzes, surveys, and other course features are all made possible by modules. These standard modules are installed with Moodle. You can also install modules that you get from the official <http://www.moodle.org/> site, and from other sites.

Add-On Modules

New modules are constantly being developed. To keep abreast of the latest developments, take an occasional look at the Modules and plugins page, on <http://www.moodle.org/> where you get most modules. And even if you're not a programmer, contributing feedback and documentation to the modules in progress is a great help in their development.

Getting Modules

The following screenshot shows you the Modules and plugins page for modules from <http://download.moodle.org/modules/>. The Assignment module is standard, so it is distributed with Moodle, at the moment. The Appointment module is contributed to the Moodle project, so it must be downloaded and installed separately. The status contrib indicates the module is relatively mature. It is not included in the standard distribution because it works only in Moodle version 1.3.5, as you can see from the third column. Clicking discussion for any of these modules takes you to the official Moodle forum for that module.

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Module	Size	Downloads	Information	Status
Assignment	45KB	Latest 7030 1.5.x 759 1.4.x 3256 1.3.x 836	Assignments allow the teacher to specify a task that requires students to prepare digital content (any format) and submit it by uploading it to the server. (discussion) <ul style="list-style-type: none"> • Maintainer: <i>Martin Dougiamas</i> • Last modified: <i>Sunday, 2 October 2005, 10:07 AM</i> (Changelog) (CVS) • Latest version currently requires: <i>Moodle 1.5 dev (2005031000)</i> 	standard
Appointment	8.7KB	1.3.5 6700	This is a simple module that allows appointments to be made for a given week or topic. (discussion) <ul style="list-style-type: none"> • Maintainer: <i>Ben Pirt</i> • Last modified: <i>Thursday, 12 August 2004, 03:56 PM</i> 	contrib
Book	99.5KB	1.4.3 11163	Makes it easy to create multi-page resources with a book-like format. This module works very well - the only reason it isn't standard yet is that it will be converted to be a Multipage resource type. (discussion) <ul style="list-style-type: none"> • Maintainer: <i>Petr Skoda</i> • Last modified: <i>Sunday, 28 August 2005, 10:06 AM</i> 	development

Installing Modules

In the following screenshot, you can see the /mod directory in the Moodle installation. Under that directory is a subdirectory for each module:

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FILE MANAGER							
Location: /www/moodle/moodle/mod							
Select	Type	Permission	User	Group	Size	Date	Filename
« BACK							
<input type="checkbox"/>		drwxr-xr-x	williamr	williamr	4096	Sep 09 22:03	..
<input type="checkbox"/>		drwxr-xr-x	williamr	williamr	4096	Sep 29 22:05	assignment
<input type="checkbox"/>		drwxr-xr-x	williamr	williamr	4096	Sep 29 22:05	chat
<input type="checkbox"/>		drwxr-xr-x	williamr	williamr	4096	Aug 17 22:05	choice
<input type="checkbox"/>		drwxr-xr-x	williamr	williamr	4096	Sep 21 22:06	forum
<input type="checkbox"/>		drwxr-xr-x	williamr	williamr	4096	Sep 20 22:03	glossary
<input type="checkbox"/>		drwxr-xr-x	williamr	williamr	4096	Sep 29 22:05	hotpot
<input type="checkbox"/>		drwxr-xr-x	williamr	williamr	4096	Jul 12 22:17	journal
<input type="checkbox"/>		drwxr-xr-x	williamr	williamr	4096	Jul 12 22:17	label
<input type="checkbox"/>		drwxr-xr-x	williamr	williamr	4096	Sep 29 22:05	lesson
<input type="checkbox"/>		drwxr-xr-x	williamr	williamr	4096	Sep 29 22:05	quiz
<input type="checkbox"/>		drwxr-xr-x	williamr	williamr	4096	Sep 05 22:05	resource
<input type="checkbox"/>		drwxr-xr-x	williamr	williamr	4096	Sep 29 22:05	scorm
<input type="checkbox"/>		drwxr-xr-x	williamr	williamr	4096	Jul 12 22:18	survey
<input type="checkbox"/>		drwxr-xr-x	williamr	williamr	4096	Aug 10 22:01	wiki
<input type="checkbox"/>		drwxr-xr-x	williamr	williamr	4096	Sep 23 22:05	workshop
<input type="checkbox"/>		-rw-r--r--	williamr	williamr	0	Jan 22 2005	index.html
<input type="checkbox"/>		-rw-r--r--	williamr	williamr	1178	Feb 12 2004	README.txt

Installing a new module is a simple process:

1. Download the module from <http://www.moodle.org/>, or whichever site supplies you with the module.
2. Copy the module files into the /mod directory, so that the module now lives in its own subdirectory.
3. Make sure all students and teachers are logged out of the site.
4. Log in to your site as the administrator, and go to the Admin page.
5. Select Maintenance Mode. While in this mode, only administrators can log in and use the site.
6. Moodle will search for new modules. When it finds one, it displays a message saying that it is building new module tables. At this point, it is adding tables to the database to accommodate the data that the new module will generate.
7. Click the Continue button to return to the Administration page.
8. Select the link to disable Maintenance Mode.
9. Select the link for Modules. You will see a list of installed modules. The one that you installed should be on that list.

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Managing Modules

The main tasks for managing modules are hiding/showing them, changing their settings, and deleting them. All of these tasks are accomplished from the Administration | Configuration | Modules page:

Activity module	Activities	Version	Hide/Show	Delete	Settings
Assignment	1	2005060100		Delete	Settings
Chat	2	2005031000		Delete	Settings
Choice	1	2005041500		Delete	
Forum	17	2005042600			Settings
Glossary	0	2005041900		Delete	Settings
Hot Potatoes Quiz	0	2005031419		Delete	
Journal	1	2005041100		Delete	
Label	5	2004111200		Delete	
Lesson	1	2005060900		Delete	
Questionnaire	0	2005062701		Delete	
Quiz	2	2005060301		Delete	Settings
Resource	11	2005041100		Delete	Settings
SCORM	0	2005052300		Delete	Settings
Survey	7	2005031600		Delete	
Wiki	1	2005031000		Delete	
Workshop	1	2005041200		Delete	

An open eye icon indicates the module is available. A closed eye icon indicates the module is installed but hidden, so course creators cannot use that module or activities created with it. Click the eye icon to open and close it.

Clicking **Delete** will delete the module's settings, and everything created with the module, from your site's database. However, it will not delete the module code from the `/mod` directory. If you do not delete the module's directory from `/mod`, the next time you access the Administration page, the module will reinstall itself.

Notice that not every module has a **Settings** link. If a module does have settings, then what you choose on that page will affect all activities created with the module.

You might need to determine if you have the latest version of the module installed. To do this, download the latest version from <http://www.moodle.org/> or wherever you obtain the module. Usually, the module will be in a ZIP archive. Unzip the `readme.txt` file, and look for the version number at the top of that file. Compare it to the version you have installed to determine if you're using the latest.

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Creative Usage of Backup and Restore

Moodle enables you to back up and restore the entire site, an individual course, and components within a course. The obvious use for this is disaster recovery. However, you can also make more creative use of this capability. For example, you can:

- Back up a course, and then restore it as a new course, thus creating an exact duplicate
- Back up a component of one course, and then restore that component to a different course
- Back up your entire site, and then restore it to your local PC or another web server, and use the backup as a development environment

This section covers backing up and restoring the entire site, individual courses, and the components within a course.

What Gets Backed Up?

When Moodle creates a backup of your site, it backs up each course individually. The only difference between a site-wide and course backup is that the site-wide backup automatically includes every course, saving you the time of backing up each course one at a time. The following screenshot shows the result of a site-wide backup:

Remote Site	Modified	Size
moodle/		
lib	9/30/2005 5:20 PM	
moodle	9/30/2005 5:03 PM	
moodledata	10/20/2005 4:43 PM	
1	10/19/2005 6:51 PM	
4	10/1/2005 5:25 PM	
cache	10/20/2005 3:35 PM	
sessions	10/21/2005 2:53 PM	
temp	10/20/2005 4:43 PM	
users	9/30/2005 5:23 PM	
backup-bow_drill-20051020-1143.zip	10/20/2005 4:43 PM	3KB
backup-debris_huts-20051020-1143.zip	10/20/2005 4:43 PM	3KB
backup-deer-20051020-1143.zip	10/20/2005 4:43 PM	3KB
backup-desert_plants-20051020-1143.zip	10/20/2005 4:43 PM	2KB
backup-discussion-20051020-1143.zip	10/20/2005 4:43 PM	3KB
backup-freepics-20051020-1143.zip	10/20/2005 4:43 PM	4KB
backup-on_the_beach-20051020-1143.zip	10/20/2005 4:43 PM	3KB
backup-tracking_basics-20051020-1143.zip	10/20/2005 4:43 PM	3KB
backup-water_s_edge-20051020-1143.zip	10/20/2005 4:43 PM	3KB
backup-wild_plants_1-20051020-1143.zip	10/20/2005 4:43 PM	12KB
backup-wildskills-20051020-1143.zip	10/20/2005 4:43 PM	7KB

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Notice that the name of each backup file includes the name of the course and the date/time of the backup. The last file `backup-wildskills-20051020-1143.zip` is the Front Page of the site. This is another example of how the Front Page of your site is essentially just another course.

Each of these `.zip` files contains an `.xml` file. The `.xml` file includes all of the information in the course: all of the web pages, forums and their entries, assignments, etc. It also contains the graphics and uploaded files that are part of the course. Where are those graphics and uploaded files stored? Take a look at the following screenshot:

Remote Site	Modified	Size
moodle/		
lib	9/30/2005 5:20 PM	
moodle	9/30/2005 5:03 PM	
moodledata	10/20/2005 4:43 PM	
1	10/19/2005 6:51 PM	
4	10/1/2005 5:25 PM	
moddata	10/3/2005 2:24 PM	
assignment	10/1/2005 5:25 PM	
1	10/1/2005 5:33 PM	
1	10/1/2005 5:25 PM	
5	10/1/2005 5:34 PM	
Water_lilies.jpg	10/1/2005 5:34 PM	82KB
forum	10/3/2005 2:24 PM	
cache	10/20/2005 3:35 PM	
sessions	10/21/2005 2:53 PM	
temp	10/20/2005 4:43 PM	
users	9/30/2005 5:23 PM	
backup-bow_drill-20051020-1143.zip	10/20/2005 4:43 PM	3KB
backup-debris_huts-20051020-1143.zip	10/20/2005 4:43 PM	3KB
backup-deer-20051020-1143.zip	10/20/2005 4:43 PM	3KB
backup-desert_plants-20051020-1143.zip	10/20/2005 4:43 PM	2KB
backup-discussion-20051020-1143.zip	10/20/2005 4:43 PM	3KB
backup-freepics-20051020-1143.zip	10/20/2005 4:43 PM	4KB
backup-on_the_beach-20051020-1143.zip	10/20/2005 4:43 PM	3KB
backup-tracking_basics-20051020-1143.zip	10/20/2005 4:43 PM	3KB
backup-water_s_edge-20051020-1143.zip	10/20/2005 4:43 PM	3KB
backup-wild_plants_1-20051020-1143.zip	10/20/2005 4:43 PM	12KB
backup-wildskills-20051020-1143.zip	10/20/2005 4:43 PM	7KB

As you can see, graphics are stored in the `moodledata` directory, which is specified in the file `config.php` by the variable `$CFG->dataroot = '/home/williamr/www/moodle/moodledata'`; . For course number 4, the files are in a folder called `moodledata/4`.

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