



Lotus software



Administering IBM® Lotus® Learning Management System

Student Guide

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One Rogers Street
Cambridge, MA 02142

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IBM offers the widest range of server platforms for Lotus Domino, including the Intel processor-based Netfinity server family. With Netfinity servers, solutions ranging from simple e-mail to unified messaging to Web site hosting and collaborative applications such as distance learning and knowledge management are confidently executed. Both the Quality Assurance Engineering and Curriculum Development departments, within Lotus' education line of business, utilize Netfinity servers to develop and test the company's education offerings. Domino's functionality combined with the IBM mark of reliability on the Netfinity product family differentiates Lotus from its competition. With more than 70% of the world's data residing on IBM systems, and with the innovative software products and services from Lotus software, IBM and Lotus are taking connectivity to a new level in all aspects of business — from document management to e-business.

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Course Description

- Course Description
- Learning Processes and Conventions

Course Description

Target audience

This course is designed for product administrators who will use the IBM® Lotus® Learning Management System to manage users, content, resources, and course scheduling and reporting.

Summary description

Administering IBM® Lotus® Learning Management System is designed to present the critical tasks that are performed by the Learning Management System (LMS) administrator to manage users, content, resources, and course scheduling and reporting.

Course format and duration

This course is designed to be delivered by an instructor in a classroom and in an e-learning environment.

- **Instructor-led, classroom based:** The instructor presents course materials to students in a classroom or meeting room. The instructor demonstrates product administration tasks. The classroom may also be configured to allow students access to the live application where they can complete the tasks with the guidance of the instructor and student materials.
- **Instructor-led, e-learning:** The instructor uses the tools of the e-learning environment to present course materials and demonstrate administrator tasks to students in a live, online session.

Course Description...(continued)

Topics

The course presents the following topics:

- Learning Management technology components
- The user interface
- Rostering users
- Creating and assigning user profiles
- Managing training rooms
- Assigning instructors
- Assigning and tracking vendor-based instructors
- Managing access to the Course Catalog
- Adding, modifying, and removing courses from the Course Catalog.
- Scheduling a course offering
- Creating course curricula
- Creating certificate curricula
- Enrolling students in courses
- Using auto-enrollment profiles
- Defining an enrollment approval cycle
- Overriding enrollment restrictions
- Compiling reports
- Managing automatic notification events
- Configuring the deployment settings
- Creating and displaying announcements

Course Description...*(continued)*

Recommended agenda

Day 1

The following table shows the recommended agenda for Day 1.

Time	Lessons or Topics
15 minutes	Introductions
1 hour, 15 minutes	<i>Module A: Introducing LMS</i>
30 minutes	Break
1 hour	<i>Module B: Managing Users</i>
1 hour	Lunch
1 hour	<i>Module B: Managing Users (continued)</i>
30 minutes	Break
2 hours	<i>Module C: Managing Resources</i>

Day 2

The following table shows the recommended agenda for Day 2.

Time	Lessons or Topics
30 minutes	Welcome and review
2 hours, 30 minutes	<i>Module D: Managing Courses</i> and 30 minute break
1 hour	Lunch
1 hour, 30 minutes	<i>Module E: Managing Enrollment and Results</i>
30 minutes	Break
45 minutes	<i>Module F: Managing Reports</i>
	Break
45 minutes	<i>Module G: Managing Settings</i>

Learning Processes and Conventions

Icon Quick Reference

The following are brief descriptions of each of the learning process icons used in this course.



Assessment

Using detailed directions, students "learn by doing" on their own.



Case Study

Exercises for discovery and exploration in advanced technical course that focus on problem solving. These have no right answer. The solution is a set of pros and cons and a recommended answer.

Exercises

Problem-solving learning processes in which students are given a set of criteria that they use to develop a working solution.

There are two types of exercises: online and paper-based. The following two items show the icons that would accompany each.



Online Exercise Icon

Students complete the exercise using the computer.



Paper-based Exercise Icon

Students complete the exercise using paper and pencil.

Icon Quick Reference...*(continued)*



Guided Practice

Student-centered learning process that allows students to learn by performing a task. Guided Practices can be instructor-led or self-paced.



Procedure

Generic step-by-step instructions that explain how to perform a task. These are always presented in a table format.



Review

Reiterates main concepts and can be used to gain feedback, assess learning, review critical material, or to transition from one unit to another.

Learning Conventions

Conventions are rules that govern how to display specific types of information.

The following are learning conventions that may be used within this courseware.



Caution

Cautions are short, descriptive paragraphs meant to warn of potential pitfalls or areas where students could experience problems during class or back on the job.

Note: Notes may appear in the Student Guide and can be used to note differences in content.

Tip: Tips provide additional guidance, or a hint, for students about a topic or task.



Introducing LMS

- Lesson 1** **Introducing the IBM Lotus Learning Management System**
- Lesson 2** **The User Interface**
- Lesson 3** **LMS Components**



Introducing the IBM Lotus Learning Management System

The IBM Lotus Learning Management System (LMS) is a scalable platform for managing classroom-based and e-learning activities, resources, curricula, and catalogs across an enterprise. The LMS supports industry standards for course development and delivery and provides a simple authoring tool for creation of online courseware.

Lesson topics

This lesson presents the following topics:

- Overview of the LMS and supported functions
- SCORM and AICC standards

Learning Management System

The IBM Lotus Learning Management System (LMS) provides the features and functions to support enterprise-wide training management and delivery.

Supported features and functions

The IBM Lotus Learning Management System is designed to support an organization's delivery and management of training and training data.

The IBM Lotus Learning Management System supports the following tasks:

- Register users.
- Manage enrollment.
- Create courses that conform to industry standards.
- Present the Course Catalog.
- Provide easy navigation to courseware.
- Provide easy navigation within the course.
- Enforce course prerequisites.
- Track student progress within a curriculum.
- Track student's completion of learning objectives.
- Display data on courses, enrollment, progress, and grades.
- Compile reports.
- Manage delivery resources.
- Manage security of data.
- Distribute self-paced courseware.

Learning Management System...*(continued)*

SCORM and AICC

Sharable Content Object Reference Model (SCORM) is a set of standards, adopted by the defense industry, that define a Web-based learning content aggregation model and run-time environment for learning objects.

SCORM is an XML-based framework for sharing content among different learning management systems. SCORM-compliant content can be:

- Moved from one learning management system to another
- Reused for other courses because the content is modular
- Searched by any SCORM-compliant learning management system

The IBM Lotus Learning Management System supports the SCORM 1.2 standard. Courses developed in SCORM 1.2 can be imported directly into LMS using the Command Line Import Program (CLIMP).

Another standard that is supported is the **Aircraft Industry Computer-Based Instruction Consortium (AICC)** standard for online course development. Courses that are AICC compliant can be imported into LMS using the Application Authoring Tool.



The User Interface

The IBM Lotus Learning Management System provides features and functions for several types of users. Each user sees the interface that is appropriate to the user role they have been assigned. For example, the instructor has access to the functional modules that are needed to teach a course and view student rosters and progress data.

Lesson topics

This lesson presents the following topics:

- Anonymous interface
- Authenticated student interface
- Manager interface
- Instructor interface
- Administrator interface

Anonymous Users

The Learning Management System allows users to enter the site without logging on. The administrator can revoke this anonymous access.

The figure below shows the Home module, as it displays for anonymous users.



LMS functions and modules

In the upper right corner of the user's screen are the following choices:

- Help – Context sensitive online Help
- Preferences – Personal display preferences, including:
 - Time zone
 - Language used in the LMS display
 - Tool tips
 - Records per page
 - Calendar type and format
- About – LMS build number and date

Home module

The following are available to the anonymous user:

- **Orientation:** Link to text-based, online Help.
- **Knowledge Search:** Link to configured IBM® Lotus® Discovery Server.
- **Help Desk:** Launches simple e-mail interface in which the user enters a question or problem description, which can be sent to a specified support person.

Student Catalog

Anonymous users can search and display courses that are available to them.

Authenticated Users

Users who are **rostered** in the Learning Management Module (LMM) can log in. The administrator rosters a user by adding the user name to the LMS database. Rostered user activity is tracked.

The LMM authenticates the user, comparing the login User Name and Password with those stored in the LDAP directory. Like the anonymous user, the authenticated user sees the Home and Student Catalog modules. However, the authenticated user has more options in the Home module.

The following figure shows the student's Home module.

The screenshot shows the IBM Lotus Learning Management System interface. At the top, the user is identified as Samuel Abroz, with links for Log Out, Help, Preferences, and About. The main navigation includes Home and Student Catalog. The Home module is displayed, featuring a sidebar with sections: At a Glance (Calendar, My Profiles, Notifications, Approvals), My Courses (Enrolled Courses, Curriculums, Certificates, Completed Courses), and Resources (Progress Report, Orientation, Knowledge Search, Help Desk). The main content area is titled 'At a Glance' and contains a welcome message, an announcement about new courses, a table for 'This Week's Activities' (currently showing 'No schedule'), and a 'Recommended Courses' section with one entry: 'Security in the workplace(HR 122)'.

Course name	Activity	Start Date	End Date	Start Time	End Time	Room
No schedule						

Course name	Description
Security in the workplace(HR 122)	This course presents the recommended security guidelines. Students learn how to secure their workstation and to protect the corporate intellectual property.

Authenticated Users...*(continued)*

Home module

The navigation pane contains several sections.

At a Glance:

- Calendar: Entries for scheduled learning events.
- My Profiles: Selected to customize the Recommended Course display.
- Notifications: Automatic messages sent to a user when certain triggering events occur such as course enrollment and course cancellation.
- Offline Learning Client: Download the client for continued course work while the computer is disconnected from the Internet.

My Courses:

- Enrolled Courses: Links used to launch courses
- Curriculum: Descriptions of courses in the curriculum with links to enrollment
- Certificate: A type of curriculum
- Completed courses: Courses, curricula, and certificates that have been completed.

Course Tools:

- Progress Report: Enrollment lists with detailed results for course activities, courses, curricula, and certificates.
- Orientation
- Knowledge Search
- Help Desk

Student Catalog

Authenticated users have access to courses and course catalogs that are not available to anonymous users.

Managers Interface

Managers are members of the organization who supervise other people. A manager is assigned in the LDAP directory. When a user is rostered in the LMS, the user's manager is automatically rostered. This is true, regardless of the organizational level of the manager.

Home module

In addition to the student options on the navigation pane, use the Home module to view and respond to requests for enrollment approval. Some courses may require manager approval before students can enroll in the course. The approval request is routed to the manager's Home module.

Student Catalog module

Managers are also students. They can view the Student Catalog and enroll in courses that allow self-enrollment.

Reports module

Managers compile reports to track student progress, and view a list of courses in which their direct reports are enrolled.

Instructor Interface

The instructor uses additional LMS tools to view and modify course enrollment and progress results, and to create and modify sessions in the IBM® Lotus® LearningSpace® – Virtual Classroom.

Home module

In addition to the student options on the navigation pane, instructors use the Home module to:

- View and modify live sessions.
- View courses I am teaching.

Student Catalog module

Instructors can also view and enroll in courses using the Student Catalog.

Course Management module

Instructors use the tools in the Course Management module to view progress data and final results. Some progress data is automatically tracked by the LMS; however, in some instances the instructor must manually enter progress and results data.

Reports module

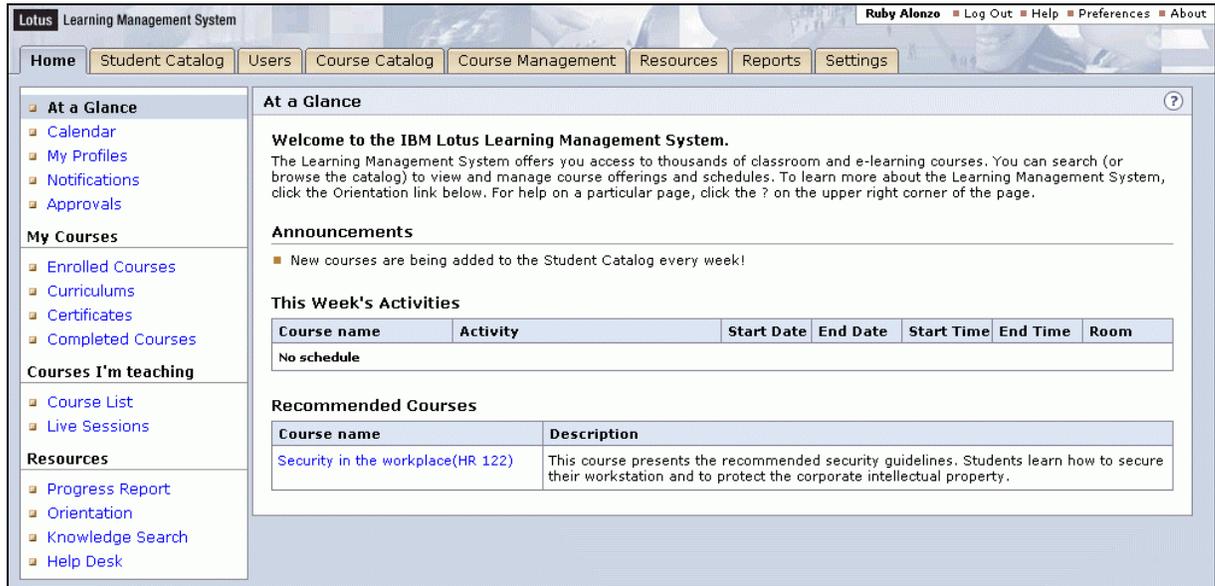
The instructor compiles reports to view:

- Individual student and group progress
- Teaching schedule
- Class roster

Administrator Interface

The administrator role provides permissions to view all the modules and functions of the LMS.

The following figure shows the administrator interface.



Users module

Administrators use the tools of the Users module to:

- Add and remove users from the LMS roster.
- Create and assign user and system profiles.
- Manage access and assign access roles to users.

Course Catalog

Administrators use the tools of the Course Catalog module to:

- Create and register Course Masters.
- Create and manage curricula and certificate programs.
- Manage the Course Catalog.
- Assign instructors to courses.
- Schedule course offerings.
- Schedule offering resources.

Administrator Interface...*(continued)*

Course Management

Administrators use the tools of the Course Management module to:

- Manage enrollment.
- View and override enrollment restrictions (approvals, wait-list).
- View results.

Resources

Administrators use the tools of the Resources module to:

- Manage physical training spaces such as classrooms, auditoriums, meeting rooms, and labs.
- Manage instructors.
- Manage vendor information.

Reports

Administrators use the tools of the Reports module to compile information and reports, and to schedule automatic compilation of reports.

Settings

Administrators use the tools of the Settings module to manage the LMS configuration, manage system settings, and create and distribute system announcements.



LMS Components

The robust functionality of the Learning Management System is supported by several flexible components. Additional functionality can be added by configuring optional components.

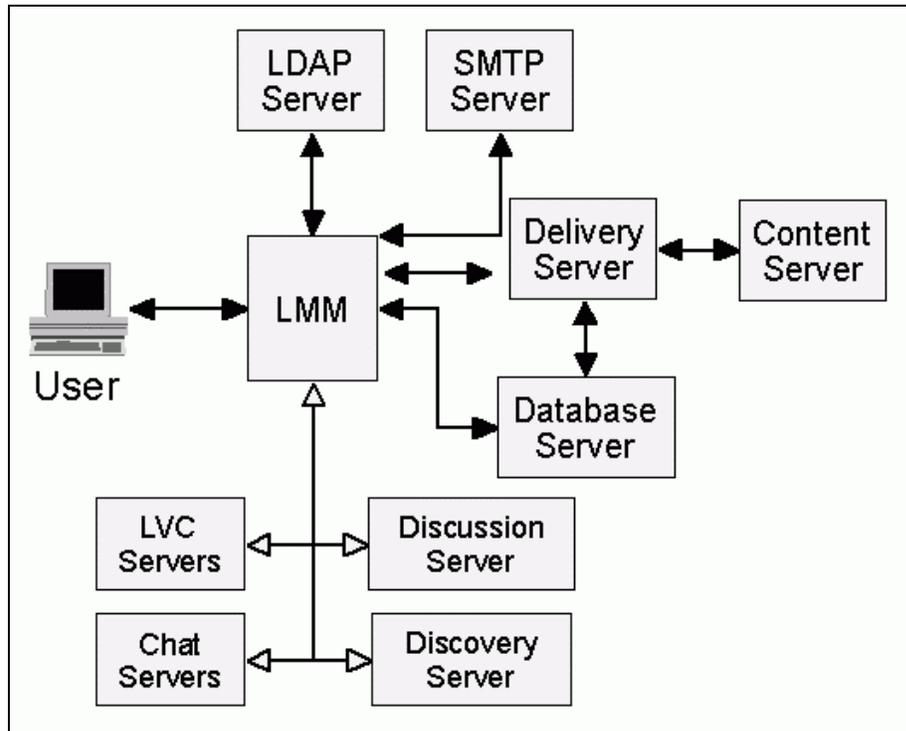
Lesson topics

This lesson presents the following topics:

- Data flow
- LMS components
- Other IBM Product Components

Data Flow

The following figure shows the composite flow of data among the LMS components.



LMS Components

The Learning Management System as a scalable application that is comprised of several components, which are installed on multiple servers. Some LMS components can be clustered for maximized performance.

Learning Management Module (LMM)

The Learning Management Module (LMM) is the central component of the LMS configuration. It provides the interface for managing the configuration, tracking and accessing data, and launching other LMS components.

Delivery Server (DS)

The Delivery Server stores the online course manifest. When students attend an online course, the Delivery Server displays the course navigation from which course content is launched. The Delivery Server also maintains enrollment lists and progress data and updates this data with the LMM on a regular basis.

In large enterprises, the administrator may cluster several Delivery Servers to balance the server load and reduce network traffic.

Relational Database Management System (RDBMS)

The database server manages the databases used by the LMM and DS. A third database stores audit data generated by events that occur in the LMM, for example enrollment or course status changes. These three databases can reside on the same RDBMS or on separate database servers. The database schema used for the LMS databases is applied to existing databases at installation.

LMS Components...*(continued)*

Lightweight Directory Access Protocol (LDAP)directory server

LDAP is an industry standard for enterprise directories. The LDAP directory contains user and user group data and is used to authenticate all LMS users. When users log in to the LMM, the User Name and Password they enter is authenticated with the LDAP directory.

The Learning Management System supports the following LDAP compliant products:

- IBM® Directory Server 4.1 (included on the LMS CD)
- IBM® SecureWay® 3.2
- IBM® Lotus® Domino™ Release 5 and later
- Sun™ ONE Directory Server (formerly iPlanet™ Directory Server)
- Microsoft® Active Directory®

Content Server

The content server is an HTTP server that stores and serves the online course files. Online courseware is delivered in a frameset. The Delivery Server manages the course structure and navigation, and the content is launched from the Content Server.

In large enterprises, with high demand for online courses, multiple content servers can be clustered.

LMS Components...*(continued)*

Authoring tool

The authoring tool is a client-based course creation tool that can be used to create standards-compliant courseware. Using the authoring tool, users develop Web-based courseware that complies with the **Sharable Content Object Reference Model (SCORM)**, version 1.2.

In addition to authoring courseware, the authoring tool is used to import and modify courses for delivery in the LMS. Both SCORM- and AICC-compliant courseware can be imported into the authoring tool. The authoring tool packages the course manifest and content files and uploads them to the FTP server as an unregistered master. The unregistered master can then be registered in the LMS.

The authoring tool is installed on an FTP or HTTP server that is accessible to the course developer. The course developers download the tool for local use.

Command Line Import Utility (CLIMP)

Another method used to import courses is the Command Line Import Utility (CLIMP). CLIMP is used to import courses that use the SCORM 1.2 standard. CLIMP can be used to import only SCORM 1.2 compliant courseware. Other courses must be imported via the authoring tool.

FTP server

The FTP server is an intermediary server that stores unregistered course masters that are uploaded from either the authoring tool or CLIMP. The administrator or catalog manager retrieves the courseware when registering the course master.

LMS Components...*(continued)*

SMTP server

The SMTP server supports e-mail notification from the administrator to users and supports e-mail sent from the user to the Help Desk.

Offline Learning Client

The Offline Learning Client is a type of delivery server. It allows users to download courses to their local desktop where they can continue to work in the courseware while disconnected from the LMS.

JReports Designer

The IBM Lotus learning Management System provides templates to run over twenty types of reports including reports on enrollment, instructor utilization, and rosters. LMS uses JReports Designer as the report engine. Users can also create additional templates using the StyleReport engine, which can be downloaded from Infonet Software.

Other IBM Product Components

In addition to the components that are installed with the LMS, you can install and configure collaborative applications that provide additional learning platforms. When configuring these products, you must enable Single Sign On (SSO) on all servers. SSO allows Web users to authenticate once and access other servers in the DNS domain without having to reauthenticate. All servers must be in the same DNS domain and use the same LDAP Directory.

IBM Lotus LearningSpace – Virtual Classroom

LMS supports the IBM Lotus LearningSpace – Virtual Classroom, V1.01 using the IBM Lotus LVC-LMS Connector, which is included with the LMS product. Using the Lotus LearningSpace – Virtual Classroom, students and instructors can meet in live, online sessions where they use the features of the virtual classroom to share presentations and applications. Live sessions can be used to augment existing courses or provide the main delivery strategy for an entire course.

Discussion server

The IBM Lotus Domino server (Release 5.0.10 or later) can be configured to support asynchronous online discussion. A discussion database can be created to support a single course offering or all offerings of a specified course, curriculum, or certificate. Other Web-based database applications can also be configured.

Discovery Server

The IBM Lotus Discovery Server (2.0 or later) can be configured to provide a searchable knowledge base of users and information. When configured, a link in the Home module connects users to the Discovery Server.

Chat server

The IBM Lotus Sametime server can be configured to provide instant messaging and awareness capabilities to users.

