IBM Workplace Collaborative Learning 2.6

- Install and configure IBM Workplace Collaborative Learning 2.6
- Manage course offerings, skills, and resources
- Generate performance and resource reports

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Note: Before using this information and the product it supports, read the information in “Notices” on page ix.

First Edition (July 2006)

This edition applies to Release 2.6 of IBM Workplace Collaborative Learning.
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Preface

IBM® Workplace™ Collaborative Learning™ is an enhanced IBM Workplace product and part of the integrated collaborative environment delivered by IBM Workplace Collaboration Services. It provides learning services that help organizations manage their training programs more efficiently and integrates learning resources on the desktop. Integration with other Workplace Collaboration Services capabilities delivers blended learning experiences and provides students with enhanced tools such as course discussion areas, document sharing, web conferencing, and chat rooms.

This IBM Redbook serves as a comprehensive and in-depth guide to IBM Workplace Collaborative Learning, discussing how to install, configure and effectively manage learning modules, resources and skills within your IBM Workplace Collaborative Environment. It provides detail on how to effectively manage skills within the system, and how to leverage built-in reporting capabilities. Finally, it provides a realistic scenario to demonstrate typical usage pattern for students using the IBM Workplace Collaboration Services version 2.6 user interface.

The team that wrote this redbook

This Redbook was produced by a team of specialists from around the world working with the International Technical Support Organization (ITSO), Cambridge, Massachusetts, USA Center.

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Introduction to Workplace Collaborative Learning

This chapter introduces Workplace strategy and discusses its implications for both the end user and the IT department within an organization. After outlining the Workplace strategy and the releases available, we introduce the IBM Workplace Collaboration Services version 2.6 platform. We then discuss how the Learning component integrates with IBM Workplace Collaboration Services and provide an overview of the Learning component architecture. We also look at the key advantages and benefits that can be anticipated when IBM Workplace Collaboration Services is deployed in a corporate environment.
1.1 The IBM Workplace strategy

The principles of the IBM On Demand Business strategy requires end-to-end integration of business processes, and insists that such integration be achieved with maximum flexibility.

For end users, On Demand Business requires new ways of behaving and interacting. The old approach of providing users with PCs and an assortment of largely unintegrated tools does not work. Despite significant investments over the years in desktop computing power and software, user productivity has improved only marginally. A new paradigm is required.

IBM Workplace strategy enables such a paradigm shift. For the user, it provides a new level of integration between all aspects of work: transactional, informational, and collaborative. It supports users in linking together the applications, information, and people to get the job done. And it introduces the concept of activity-based computing as an alternative and much-improved approach to the current situation. Activity-based computing means structuring users’ activities based on the real business tasks they perform, as opposed to the traditional approach that is structured around IT applications and tools. In support of this, users will have personalized and distinct contexts within which specific tasks can be collected and controlled. Such contexts allow the user to draw together the people, information, tools, and tasks needed to complete an activity. As a result, the user can focus in a personally controlled way on what must be done, rather than how to do it. The inherent complexity associated with such actions are masked to the end user, as they simply interact with the consistent, interconnected, and integrated environment available through IBM Workplace. For the individual user, the key benefits of the IBM Workplace approach are the simplification and rationalization of an increasingly complex work environment.

For the IT department, IBM Workplace solutions significantly reduce the total cost of ownership of end-user computing by combining the strengths of a server-managed, browser-based approach with those of a rich client environment. The software model used by IBM Workplace products requires you to develop applications as components. A component is the basic building block of an IBM Workplace software application and encapsulates a business concept or process. Utilizing these components, your applications become adaptable. You can combine components in different ways to build solutions to complex problems and can use the same component in any number of solutions or applications.
1.1.1 The IBM Workplace product family

IBM Workplace, shown in Figure 1-1, is a family of products, technologies and solutions that transforms the way people work. The product families include IBM Lotus Notes and IBM Lotus Domino, IBM WebSphere Portal, IBM WebSphere Everyplace® software, and Workplace products such as IBM Workplace Collaboration Services. IBM Workplace technologies and solutions include IBM Workplace Managed Client™, IBM Workplace for Business Controls and Reporting, IBM Workplace for Business Strategy Execution and IBM Workplace for Branch Banking software. For the full list of IBM Workplace offerings see:

http://www.ibm.com/software/workplace/

![IBM Workplace product offerings](image)

In business terms, IBM Workplace products cover a rich set of collaborative work functions, such as real-time and team collaboration, e-mail, calendaring and scheduling, collaborative learning, as well as document and Web content management. These business functions are delivered in an integrated
platform-independent technology environment, based on standards such as Java 2 Platform, Enterprise Edition (J2EE), Eclipse and Web services. Both function and content are distributed and server-managed, helping to ease deployment, increase security, and enable both connected and disconnected modes of operation.

1.2 IBM Workplace Collaboration Services

IBM Workplace Collaboration Services is a single product that provides a full range of integrated ready-to-use communication and collaboration tools. With the flexibility to deploy any mix of capabilities, it provides a ready-made foundation to build customized role-based Workplace environments that provide the tools and information people need to do their work more efficiently.

Workplace Collaboration Services includes the following major components in Table 1-1.

Table 1-1 Workplace Collaboration Services components

<table>
<thead>
<tr>
<th>Component</th>
<th>Functionality</th>
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<tbody>
<tr>
<td>IBM Workplace Team Collaboration™</td>
<td>IBM Workplace Team Collaboration provides users with the capability to participate in online meetings, create libraries, and interact with team members through online chats, threaded discussion forums, and document-sharing.</td>
</tr>
<tr>
<td>IBM Workplace Managed Client</td>
<td>The IBM Workplace Managed Client provides access to collaboration capabilities from their desktop, rather than from a browser.</td>
</tr>
<tr>
<td>IBM Workplace Collaborative Learning</td>
<td>IBM Workplace Collaborative Learning provides access to a scalable, flexible product for managing classroom-based and online learning activities, resources, curricula, and courseware catalogs. For more details on the features provided by Workplace Collaborative Learning, see 1.3, “IBM Workplace Collaborative Learning” on page 5</td>
</tr>
</tbody>
</table>
1.3 IBM Workplace Collaborative Learning

IBM Workplace Collaborative Learning is a platform for delivering both classroom-based and e-learning courses. With its browser-based administrative interface, you can organize, staff, and manage courses, track and report on student activities, and reserve resources.
1.3.1 Benefits of using Workplace Collaborative Learning

There are a number of benefits for an organization using IBM Workplace Collaboration Services as the primary platform for delivering training to users. These benefits include:

- Provides users with enhanced collaborative tools such as course discussion areas, document sharing, Web conferencing, and chat rooms. (Chapter 8, “Collaborative aspect of learning” on page 261)

- Helps the organization more efficiently meet ongoing training requirements and measure the results and effectiveness of students' learning activities. (Chapter 7, “Reporting” on page 233)

- Integrates with other Workplace Collaboration Service capabilities to deliver collaborative tools such as course collaboration spaces, e-mail and calendaring. (Chapter 8, “Collaborative aspect of learning” on page 261)

- Uses customer-supplied job profile information to deliver roles-based learning resources. (Chapter 6, “Introduction to Skills Management” on page 197)

- Automatically assigns learning activities as part of a personalized employee development plan so users can work towards closing their skills gaps. (Chapter 6, “Introduction to Skills Management” on page 197)

- Empowers users to self-manage their learning programs and access online learning in a just-in-time fashion. (5.4, “My Learning portlet” on page 160)

- Protects an organization's investments by supporting standards-based courseware.

- Tracks and reports on student learning activities to help manage regulatory compliance training requirements.

- Delivers a variety of learning experiences to groups of users, wherever they are located.

- Enables learning resources to be accessible at all times within the context of workers' day-to-day activities.

- Authoring tool creates customized courseware to deliver training on new products, business processes, regulations, and so on. (Appendix A., “Content creation with the Authoring and Assembly Tool” on page 303)

1.3.2 The Architecture of Workplace Collaborative Learning

As a component of Workplace Collaboration Services, Workplace Collaborative Learning is built with Java as an open standards platform. It shares a common base infrastructure with the other Workplace Collaboration Services components. This infrastructure consists of IBM WebSphere Application Server,
IBM WebSphere Portal Server, a HTTP server, an LDAP directory server and a relational database.

- **IBM WebSphere Application Server** is installed automatically with Workplace Collaboration Services. It provides the WebSphere administrative console, from which you can configure and administer both the Application Server and Workplace Collaboration Services products. WebSphere Application Server also provides the technology for Workplace Collaboration Services to be installed as part of a distributed Network Deployment.

- **IBM WebSphere Portal Server** is automatically installed with Workplace Collaboration Services and provides the infrastructure for the Workplace components. The installation of Portal Server through the install of IBM Workplace Collaboration Services will run in parallel with any previous installations of IBM WebSphere Portal Server.

- The **HTTP Server** handles all HTTP traffic. WebSphere Application Server includes an internal HTTP Server, but this is typically replaced by an external HTTP server in production environments to optimize the performance of request processing, and to reduce the load on the Application Server.

- The **LDAP Directory Server** server handles all authentication and user registry capabilities in the Workplace Collaboration Services infrastructure. Workplace Collaboration Services uses the integrated WebSphere Member Manager provided by WebSphere Portal as the interface to the directory server. This is backed typically by a corporate LDAP server in a production environment, although it can also be used standalone.

- The **Relational Database** provides data services to the IBM Workplace infrastructure, hosting the key databases. The default IBM Cloudscape™ Database Management System is replaced by a supported external Database Management System (for example IBM DB2® Universal Database™ Server, or Oracle or Microsoft® SQL Server) in production environments.

In addition to the base infrastructure, which is shared with all Workplace Collaboration Services components, Workplace Collaborative Learning uses three additional servers: A Learning Server, a Delivery Server, and a Content Server. These servers are installed during the installation of IBM Workplace Collaboration Services.

- The **Learning Server** contains the core Learning functionality that is rendered to users in the Learning portlets in Workplace Collaboration Services.

- The **Delivery Server** delivers online courses to users. It manages the sequencing of content within courses, tracks user progress, and reports this data back to the Learning Server.
The Content Server stores the content of online courses. While the Delivery Server manages the sequencing of course elements, the course files are delivered to the user from the content server.

You can see the architecture in Figure 1-2 on page 8.

1.4 How this Redbook is organized

The book is split into several logical areas.

Chapter 2, “Installing IBM Workplace Collaborative Learning 2.6” on page 11 covers the install related topics including how to perform post-installation configuration steps that should be carried out before the server is started.

Chapter 3, “Base configuration” on page 67 describes the steps to configure the IBM Workplace Collaborative Learning system after it has been installed. This configuration includes user management, Access Control Lists, notification setup and resource creation.

Chapter 4, “Creating and managing learning modules” on page 107 describes the processes involved with creating the various types of learning modules that students can take.
Chapter 5, “Using the IBM Workplace Collaboration Services Learning component” on page 155 describes the Learning component within the IBM Workplace Collaboration Services interface. This chapter introduces the features that the student will interact with during their usage of the Learning component.

Chapter 6, “Introduction to Skills Management” on page 197 describes the Skills Management feature. This chapter describes the usage of the feature by users in a number of different roles: system administrator, manager, HR manager and student.

Chapter 7, “Reporting” on page 233 describes the reporting feature in the IBM Workplace Collaborative Learning interface. This chapter briefly describes each of the reports available.

Chapter 8, “Collaborative aspect of learning” on page 261 describes two areas within the Learning component that interact with other IBM Workplace Collaboration Services components. The first component covered is the Course Collaboration Space component. The second component is the notifications and iCal feature.

Chapter 9, “Learning scenario” on page 285 gives a run through the product through an illustration of a typical student usage pattern. This chapter presents the reader with a flavor of the Learning component in IBM Workplace Collaboration Services 2.6.
Installing IBM Workplace Collaborative Learning 2.6

This chapter describes how to install IBM Workplace Collaborative Learning 2.6 and how to perform post-installation configuration steps that should be carried out before the server is started.
2.1 Introduction to IBM Workplace Collaborative Learning

IBM Workplace Collaborative Learning 2.6 is a component of IBM Workplace Collaboration Services 2.6 and is therefore installed using the IBM Workplace Collaboration Services 2.6 installer and the installation and primary configuration steps, such as configuring a connection to an LDAP server, transferring the built-in databases to an enterprise-level RDBMS, and configuring a connection to an external HTTP server are the same steps as are carried out for IBM Workplace Collaboration Services in general.

Because the aim of this chapter is to describe how to install and configure IBM Workplace Collaborative Learning, we discuss the IBM Workplace Collaboration Services installer but the instructions to carry out the LDAP and RDBMS configuration procedures are neither specific to IBM Workplace Collaborative Learning, nor necessary to get the system running and so are not covered here. However, do note that certain functionality is somewhat limited in the absence of an LDAP server or enterprise-level RDBMS. As a result, we do not recommend that you put a system into production use without configuring these. You can read the full details of these procedures in the IBM Workplace Collaboration Services 2.6 Information Center.

Configuration of an external HTTP server, while also common to all components of IBM Workplace Collaboration Services, is more IBM Workplace Collaborative Learning-specific than anything else so it is covered in some detail here. The Information Center is still the definitive guide on this procedure and, in particular, provides details of configuration differences among different HTTP servers.

2.2 Installation

Our clients who are familiar with deploying IBM Workplace Collaborative Learning e-learning product no doubt realize that there are quite a lot of steps to getting a WebSphere application up and running. You must set up WebSphere Application Server environment variables and referenceables, create and configure data sources, create the database tables using SQL scripts, install the application EARs and so on. The IBM Workplace Collaboration Services installer performs this for all the components of Workplace and, requiring a minimum of information from the user, installs what is, apart from a few site-specific configuration steps, a complete and fully operational system that runs out-of-the-box.
2.2.1 Running the installer

Using the IBM Workplace Collaboration Services installer is fairly straightforward. Locate the WCSServer directory within your installation media and enter the following command:

- From a Microsoft Windows® prompt:
  
  `install.bat`

- From a UNIX/Linux prompt:

  `./install.sh`

Following are screen captures showing the main input required.

Licensing

At the component licensing screen, shown in Figure 2-1, you select the IBM Workplace Collaboration Services components for which you have purchased licenses.

![IBM Workplace Collaboration Services Component Licensing](image)

In fact, all components of IBM Workplace Collaboration Services are installed and all are available to the administrative user, but all other system users will have access only to those components you select here. Regardless of which components you select here, it is always possible to add or remove component licenses afterwards using the WebSphere Application Server Admin Console.

To operate correctly, IBM Workplace Collaborative Learning requires functionality from two of the other components: IBM Workplace Team Collaboration and IBM Workplace Messaging. However, if you have only purchased a license for IBM Workplace Collaborative Learning, it is not necessary to select those other components because, as mentioned above, all
components are installed anyway and the functionality required from those other two components will be borrowed and made available to IBM Workplace Collaborative Learning users.

**Installation Directory**
In in the dialog box in Figure 2-2, type the installation directory. We chose C:\IBM\Workplace.

![Figure 2-2  Installation Directory](image)

The installation directory is the top level directory under which all IBM Workplace Collaboration Services files will be placed. Note that the disk partition on which this directory resides must have at least 7.5 GB of free space available. The installed product does not necessarily require this much space (though it might require more if you plan to stay with the built-in databases) but the installer will not run with any less because it needs space for temporary work, extraction of archives, and so on.

Throughout the rest of this chapter, we refer to this directory as <WCSRoot>.

**Deployment Topology**
There are two options for deployment topology, as shown in Figure 2-3.

![Figure 2-3  Deployment Topology Type](image)

- **Single-server** refers to a complete IBM Workplace Collaboration Services system running on one machine while
- The **Network Deployment** option is used for installing nodes in a cluster.

In general, this chapter refers to setting up a Single-server topology but, where necessary, reference is made to anything that is specific to a clustered environment.
Hostname

The hostname field, shown in Figure 2-4 should default to the name of the machine on which you are installing the components, but you can correct this here if necessary.

![Hostname](image)

**Administrative User**

At the screen shown in Figure 2-5, you provide the user name and password for the IBM Workplace Collaboration Services administrator. Because the system is installed without any connection to an LDAP server or any other type of external user registry, this user does not have to exist anywhere already and can be anything you want.

![Administrative User](image)

Note, however, that IBM Workplace Collaborative Learning uses its own database tables in conjunction with the rest of IBM Workplace Collaboration Services and the user you enter here will be entered in these tables as the IBM Workplace Collaborative Learning administrator. Later, if you configure a connection to an LDAP server, access to the system will only be permitted by users in the LDAP directory. However, the user you specify here will remain in the IBM Workplace Collaborative Learning database tables which means that, if that user name does not exist on the LDAP server, you will no longer be able to log into IBM Workplace Collaborative Learning as an administrator.
As a slight variation on the above, if the user you specify here does exist on the LDAP server but, when configuring the LDAP connection, you specify a different LDAP user as the IBM Workplace Collaboration Services administrator, you will now have two different administrators for IBM Workplace Collaboration Services and IBM Workplace Collaborative Learning—the user you specify during installation will be the IBM Workplace Collaborative Learning administrator and the user you specify during LDAP configuration will be the IBM Workplace Collaboration Services administrator.

2.2.2 Starting the system

After the installer completes, your system can be started, without doing any other configuration, in order to verify that the installation was successful. Change to the <WCSRoot>/PortalServer/rootscripts directory and enter the following command to bring up the server:

- From Microsoft Windows:
  ```
  startWorkplaceServices.bat
  ```

- From Unix or Linux:
  ```
  ./startWorkplaceServices.sh
  ```

You should now be able to access the following URLs from a Web browser (replacing <server_name> with the real DNS name of your system) and log in at each one using the administrative user name and password you specified during installation:

- http://<server_name>:9091/admin  (the Admin Console)
- http://<server_name>:9081/lwp/workplace  (the Workplace portal)
- http://<server_name>:9081/lms-lmm  (the IBM Workplace Collaborative Learning admin UI)

To stop the system again, enter the following command:

- From Microsoft Windows:
  ```
  stopWorkplaceServices.bat
  ```

- From Unix or Linux:
  ```
  ./stopWorkplaceServices.sh
  ```

2.3 Connecting to an external HTTP server

IBM Workplace Collaboration Services installs with a built-in HTTP server running on port 9081 (which is why, so far, you have been using :9081 in the URLs). This HTTP server, like the Cloudscape database server, is only intended
for pilot or demo installations and is not considered sufficient for enterprise use. This section discusses the steps to enable the use of an external HTTP server. *External* here means installed and running separately from IBM Workplace Collaboration Services. This external HTTP server can be either local or remote to the IBM Workplace Collaboration Services server machine and, for performance reasons, the remote option is recommended. However, the procedures for enabling both topologies are very similar.

WebSphere Application Server, on which IBM Workplace Collaboration Services runs, provides for the use of an external HTTP server by means of a plug-in that is loaded by the HTTP server and which can determine whether an incoming request to the HTTP server should be handled by the HTTP server itself or passed along to the WebSphere Application Server.

The HTTP server reads its configuration file when it starts and this tells it to load the plug-in. The plug-in itself reads another configuration file when it is loaded and it is this file that provides the necessary routing information.

Connecting IBM Workplace Collaboration Services to an external HTTP server involves these three steps:

1. Configure the HTTP server to locate and load the plug-in.
2. Configure IBM Workplace Collaboration Services to work with the external HTTP server.
3. Generate the plug-in configuration file.

### 2.3.1 Configuring the HTTP server

The HTTP server must know where to find both the plug-in binary and the plug-in’s configuration file.

Different HTTP servers use different plug-in binaries and a selection of them are installed by the WebSphere Application Server in the `<WCSRoot>/AppServer/bin` directory. An exception is IBM HTTP Server (IHS) 6 which provides its own plug-in binary in a directory specified during its installation.

The plug-in configuration file is called `plugin-cfg.xml` and, when generated, is written into the `<WCSRoot>/AppServer/config/cells/` directory on the IBM Workplace Collaboration Services machine (or, in the case of a clustered environment, the equivalent directory on the Deployment Manager machine). It can be placed anywhere you want it to be afterwards as long as the HTTP server’s configuration reflects this. In fact, in the case of a remote HTTP server, you must copy both the plug-in binary and its configuration file to the remote machine so that the HTTP server will be able to load the plug-in.
An example configuration for an IBM HTTP Server is shown here. The configuration file for IHS is \(<\text{IHSRoot}/\text{conf}/\text{httpd.conf}\) where \(<\text{IHSRoot}>>\) is the directory under which you installed your HTTP server. This file is edited to include the following two lines:

\[
\text{LoadModule was_ap20_module /path/to/plugin/binary/mod_was_ap20_http.so}
\]
\[
\text{WebSpherePluginConfig /path/to/plugin/config/plugin-cfg.xml}
\]

The first line is a directive to load the plugin which must be available to the HTTP server machine at the location specified. The second line tells the HTTP server where to find the configuration file for the plugin.

Note that the name of the plugin binary differs for different HTTP servers and that the extension is \(*.so\) for UNIX® or Linux and \(*.dll\) for Windows. Full details of how to configure the different HTTP servers are contained in the IBM Workplace Collaboration Services 2.6 Information Center.

### 2.3.2 Configuring IBM Workplace Collaboration Services for an HTTP server

Configuring IBM Workplace Collaboration Services to use an HTTP server involves first editing two properties files and then running a command to change the URLs and various other settings. Some background is necessary first to explain the options for some of the properties.

IBM Workplace Collaborative Learning courses are sent to the server using the CLIMP tool (see Chapter 3, “Base configuration” on page 67) where they are accepted into a directory known as the \(\text{packages}\) directory. This is known as \(\text{importing}\) a course. After it is stored on the server, a course master is created in the database, from which individual course entries can then be made. When a course entry is created, the course content is copied to a location, known as the \(\text{content directory}\), where it can be accessed and served up by the HTTP server. For this reason, in IBM Workplace Collaborative Learning terms, the HTTP server is also often referred to as the \(\text{content server}\). Transferring the extracted course content from the packages directory to the content server is known as \(\text{deploying}\) a course.

There are two ways in which the extracted course contents can be moved from the packages directory to the content directory: FileSystem and FTP. The FileSystem option is the recommended way when the content directory resides on the same machine as the IBM Workplace Collaboration Services server and the FTP option is recommended when the content directory resides on a remote machine. It is, of course, possible to use FTP with a local content directory and, with a network share, to use FileSystem with a remote content directory.
The two properties files that must be edited are:

- `<WCSRoot>/PortalServer/config/wpconfig.properties`
- `<WCSRoot>/WorkplaceServer/config/database/dbbuild.properties`

1. Edit wpconfig.properties and change the following values:
   - **WpsHostName=Default**
     
     WpsHostName is the hostname of the machine on which you installed IBM Workplace Collaboration Services. This must be the fully qualified hostname of the machine on which you installed your HTTP server (which might or might not be the same).
     
     An example would be `WpsHostName=httpserver.yourco.com`
   
   - **WpsHostPort=9081**
     
     The default is 9081. This must be the port on which your external HTTP server listens. By default, this will be port 80 and, if that is the case, you can simply leave this property blank. Otherwise, specify the actual port number.

2. Edit the dbbuild.properties file and change the following values:
   
   - **lmmserver_url=**
     
     The default value is http://<server_name>:9081
     
     This value must contain the fully qualified hostname of your HTTP server and the http port number you specified for WpsHostPort in wpconfig.properties above (blank if using the default, 80). An example would be:
     
     `lmmserver_url=http://httpserver.yourco.com`
   
   - **lmscontent_base_url=**
     
     The default value is http://<server_name>:9081/lms-ds/content
     
     This is the URL by which the internal HTTP server accesses the default, internal content directory and should be changed to the URL your new HTTP server will use to access your new content directory. An example for your system would be:
     
     `lmscontent_base_url=http://httpserver.yourco.com/content`
   
   - **dsserver_url=**
     
     The default value is http://<server_name>:9081
     
     This needs to contain the fully qualified hostname of your HTTP server and the http port number you specified for WpsHostPort in wpconfig.properties above (blank if using the default, 80). An example for your system would be:
     
     `dsserver_url=http://httpserver.yourco.com`
- lmscontent_servers0=
  The default value is:
  CS00,1,<WCSRoot>/AppServer/installedApps/<node>/LWP_LMS_DS.ear/dsWeb.war/content

  There are two different syntaxes for this property, one for FTP course deployment and one for FileSystem course deployment. The default, shown here is for FileSystem.

  - The syntax for FileSystem course deployment is:
    CSxx,1,<content_dir>

    An example on your system might be:
    lmscontent_servers0=CS00,1,<IHSRoot>/htdocs/en_US/content

  - The syntax for FTP course deployment is:
    CSxx,0,[<content_dir>],[<ftp_host>],[<ftp_user>],[<ftp_pass>]

    Examples in your system might be:
    lmscontent_servers0=CS00,0,/content,ftpserver.yourco.com,ftpuser,ftppassword
    lmscontent_servers0=CS00,0,,ftpserver.yourco.com,ftpuser,ftppassword

    See the following note box for an explanation.
**Note:** CSxx is the identifier for the content server. There can be up to 99 content servers (CS00-CS99) and new ones are added by adding new lmscontent_servers[0-99]= properties to this file. Multiple content servers means multiple HTTP servers which, in turn, requires load-balancing software to be set up that will accept all requests and distribute them among the HTTP servers. This is beyond the scope of this book and a single content server will suffice in most cases.

- "1" and "0" are the course deployment types. 1 stands for FileSystem, 0 stands for FTP.
- For FileSystem course deployment, <content_directory> must be a locally accessible path to the IBM Workplace Collaboration Services server machine which means that, if using FileSystem course deployment with a remote content server, this must refer to a network share, not the path on the content server.
- For FTP course deployment, <content_directory> is optional. Note the two commas in the second FTP example where this property has been left out. If specified, it refers to a directory accessible by the FTP server and must be a path locally accessible to the FTP server machine, not the IBM Workplace Collaboration Services server machine. It can be either a full path or one relative to the FTP user's home directory (the FTP root). If it is not specified, the FTP root is used.
- In a clustered environment, your content directory should always be a directory that can be accessed by all nodes by the exact same path name because that name will be stored in the database which is common to all nodes. This means that, if you are using FileSystem course deployment to a remote content server via mapped/mounted drives, the mapping/mount-points should be identical on all nodes in the cluster.

- LWPDBAdminPassword=
- LWPDBAppUserPassword=

If you have not yet performed the transfer of data from Cloudscape to an enterprise-level RDBMS, these passwords can be any non-blank string. If you have performed the transfer, they need to be the correct passwords for your database.
After these changes have been made, open a command prompt and change to the `<WCSRoot>/PortalServer/config` directory. From there, run the following command:

- **Microsoft Windows**
  
  `WPSconfig.bat lwp-httpserver-config > httpConfig.log`

- **(UNIX/Linux)**

  `./WPSconfig.bat lwp-httpserver-config > httpConfig.log`

When the command finishes, check that the log file reports `BUILD SUCCESSFUL`.

### 2.3.3 Generating the plugin configuration

To generate the plugin configuration file, log into the Admin Console as the admin user and navigate to **Environment → Update Web Server Plugin**. Then click **OK**. The file will now be written to its default location and you can copy it from there to the location you specified when you configured the HTTP server. Generation of the plugin configuration should always be the last step in enabling external HTTP for IBM Workplace Collaboration Services.

You should now be able to start the IBM Workplace Collaboration Services servers and start the HTTP server (if this was already running when you generated the plugin configuration, you will need to restart it) and access IBM Workplace Collaboration Services with the following URLs:

- `http://<http_server_name>/lwp/workplace`
- `http://<http_server_name>/lms-lmm`
- `http://<IBM Workplace Collaboration Services_server_name>:9091/admin`

Note that the URL for the Admin Console does not change as this is not served by the external HTTP server.

### 2.4 Xvfb: Running IBM Workplace Collaborative Learning reports on UNIX and Linux

**Note:** This section does not apply to Microsoft Windows platforms.

In order to generate user reports, IBM Workplace Collaborative Learning 2.6 employs a third-party Java reporting engine from JInfonet called **JReport**. This software uses graphics routines to perform its work and, on UNIX/Linux operating systems, this implies the need for an extra software component called **Xvfb** (the X Virtual Framebuffer).
While Windows has graphics rendering capabilities built into the operating system kernel, UNIX/Linux systems leave this work to user software, most often the X Window System of which Xvfb is a part. Under the X Window System, a server (generally referred to as an \textit{X server}) runs which accepts requests from clients (any program that requires graphics capabilities) and then operates the graphics hardware (card and monitor) on behalf of those client programs. Any graphics routines called by a program running on UNIX/Linux will require an X server to handle them even if the results will not be visible and, normally, this requires that the aforementioned graphics hardware be present on the machine. However, since IBM Workplace Collaboration Services is designed to run on server machines which most often do not have any screen directly attached, and since the results of JReport's work are not displayed locally but are instead sent to a client web browser, it is necessary to employ a "dummy" X server that can render graphics in memory without the need for graphics hardware.

Xvfb is just that and, although all other components of IBM Workplace Collaboration Services, as well as the rest of IBM Workplace Collaborative Learning, will function properly on UNIX/Linux without it, the reporting feature of IBM Workplace Collaborative Learning will not.

\section*{2.4.1 Obtaining Xvfb}

As with UNIX and Linux themselves, the X Window System is available in several distributions: some commercial, some open source. In the majority of cases, Xvfb should be contained as part of the X Window System software on the installation media for your operating system. In the case that it is not, the first port of call should always be your operating system vendor. Failing that, open source versions of the X Window System are available from XFree86 (http://www.xfree86.org) and X.Org (http://www.x.org) who, as well as providing the software in source code form, can provide binaries precompiled for your operating system. It is strongly recommended that you obtain Xvfb from the same distribution as the rest of the X software included with your operating system (which, in the case of Linux and AIX® is almost always XFree86) and that the version number matches up with that of the X software you already have.

\section*{2.4.2 Running Xvfb}

All X servers accept a display number argument at startup because multiple X servers can run simultaneously, each operating a different display. Any program wishing to use a running X server must have, in its environment, the DISPLAY variable set to the display being operated by the X server it wishes to utilize. So, before starting IBM Workplace Collaboration Services/IBM Workplace Collaborative Learning on a UNIX/Linux machine, you must ensure two things:

$\begin{itemize}
  \item There is an instance of Xvfb running.
\end{itemize}$
The DISPLAY variable is set correctly in the same shell from which you will start IBM Workplace Collaboration Services.

Xvfb accepts many command line arguments which are beyond the scope of this book but the only mandatory one is the display. The display argument is specified in the form :<display_number>. An example of how to run Xvfb therefore, looks similar to this:

Xvfb :1 &

This example starts Xvfb as a background process on display number 1 of the local machine. We used display number 1, but any currently unused display can be used so long as the DISPLAY environment variable of the shell from which you will start IBM Workplace Collaboration Services is set to the same one. The maximum number of available displays can vary between implementations of X, but is always in the tens of thousands so there is no need to give too much concern to choosing one as long as it is not already in use.

Although not a requirement, it might be desirable to arrange that Xvfb should start automatically at operating system boot time. An example of how to do this is provided in the IBM Workplace Collaboration Services 2.6 Information Center under the section Installation->Single-server deployment->Phase 7: Completing setup of Workplace Collaboration Services components->AIX, Linux and Solaris: Enabling reporting.

Following this model then, to start IBM Workplace Collaboration Services, run the following commands (from the same shell as each other):

export DISPLAY=`hostname`:1
cd /<WCSRoot>/PortalServer/rootscripts
./startWorkplaceServices.sh

Some points to note about this command are:

- The DISPLAY variable is set using similar syntax to the display argument to Xvfb (:<display_number>), but it takes an optional <hostname> part as well because it is possible to start X clients that should connect to X servers running on remote machines. In the previous example, `hostname` will substitute the output of the hostname command (which will be the name of the local machine) into the command line. If the hostname part is omitted, it will always default to the local host. However we included it in this example for consistency with other IBM Workplace Collaborative Learning documentation.

- The export command, as well as setting the variable for the current shell, makes it available to all subsequent shells that are started from this one (child shells). The command to start IBM Workplace Collaboration Services will start a new shell of its own which will inherit this variable from the current shell. The command to export a shell variable to subsequent child shells
varies between different shell types. If you are not using a Bourne-compatible shell such as sh or bash, check your documentation for the correct way to export a variable.

When operating IBM Workplace Collaborative Learning in a clustered environment, Xvfb must be running and the DISPLAY variable exported on all nodes in the cluster (at least all UNIX/Linux hosted nodes) except for the Deployment Manager node.

If, after you start IBM Workplace Collaboration Services, you discover either that Xvfb is not running or that the DISPLAY variable was not exported, you must stop IBM Workplace Collaboration Services, rectify the error and restart start Workplace Collaborative Learning again.

### 2.5 Installing Online Help and the Offline Client

Both the Online Help and the Offline Client are configured through the IBM Workplace Collaborative Learning Admin UI. If you have not enabled an external HTTP server, the URL for this is:


**Note:** If the HTTP server used to deliver the help files and offline client binaries is the same as the server used for content delivery, there might be a need to copy the help files and client binaries to several locations if a reverse proxy is used, as described 2.3.1, “Configuring the HTTP server” on page 17.

To configure the online help and the Offline Client, log in as an administrative user and navigate to **Settings** → **LMM Server** → **General Settings** → **General**.

Here you can see the following screen in Figure 2-6 on page 26.
After installing the server, the IBM Workplace Collaborative Learning help files are located in a zip archive:

```
<WCSRoot>/WorkplaceServer/Learning/help/lms-help.zip
```

This archive should be extracted to a location where an HTTP server can serve the files from and then the appropriate URL for that location entered in the box shown above. The HTTP server can be the one you have configured for your IBM Workplace Collaboration Services system or any other HTTP server you like.

After you have extracted the files to the appropriate location, enter the URL for that location in the box marked URL of the Help System, as shown in Figure 2-6.

### Offline Client

The Offline Learning Client executable is located in the LMSClient directory on your installation media and is not installed during IBM Workplace Collaboration Services installation. As with the help system, copy this file to a location from where it can be served by an HTTP server.
After you have put the file in the appropriate location, enter the URL for that location in the box marked URL of Offline Learning Client software, as shown in Figure 2-6 on page 26. When a value has been entered for this setting, the Offline Learning Client button appears in users' My Learning portlets, as shown in Figure 2-7.

![My Learning](image)

**Figure 2-7 Offline Client download button**

### 2.6 IBM Workplace Collaborative Learning Settings

After installing IBM Workplace Collaborative Learning and configuring connections to external servers such as LDAP, HTTP and RDBMS, there are certain settings you might want to configure before putting the system into production. There are three places where you can adjust settings for IBM Workplace Collaborative Learning and some of the settings can be changed in more than one place. The three places are:

- IBM Workplace Collaborative Learning Admin UI
- The dbbuild.properties file
- Settings XML files.

Any settings entered in the UI are committed to the database tables as are any settings changed in dbbuild.properties. There might be a slight delay before the settings take effect, however. This delay corresponds to the interval between checks on the database settings. Because these settings are in the database, they normally take effect without the need for a restart. Settings in the settings XML files are read at application startup and changes to these will thus require a restart of the applications before taking effect. Some of the settings in the settings XML files are also configurable through either the UI or the dbbuild.properties file but, where this is the case, properties on the database take precedence at runtime.
This section covers settings in the dbbuild.properties and settings XML files. Settings that can be changed from the UI are dealt with later in the book. The sections that follow dealing with the dbbuild.properties and settings XML files cover all settings that are considered to be user-configurable.

Note: Any properties you see in any of these files that are not covered here should not be changed, unless otherwise advised by an IBM support representative.

2.6.1 The dbbuild.properties file

As noted earlier, any settings changed through the dbbuild.properties file are saved to the database. To achieve this, a command must be run to read the properties from this file and update the database tables accordingly. The dbbuild.properties file, as noted in 2.3, “Connecting to an external HTTP server” on page 16, is located in the <WCSRoot>/WorkplaceServer/config/database directory. Settings that can be modified through this file are:

- lmmserver_coursePackages_dir=
  The default value is <WCSRoot>/WorkplaceServer/Learning/lms_courses
  This is the course packages directory into which courses are imported as described in 2.3, “Connecting to an external HTTP server” on page 16. The directory does not need to exist before use because it will be created automatically the first time a course is imported. In a clustered environment, this directory needs to be commonly accessible by all nodes, such as a network share, with all of them using the exact same path name.

- lmmserver_juru_path=
  The default value is <WCSRoot>/WorkplaceServer/Learning/lms_juru
  This is the directory for the Juru index. Juru is the search engine used to perform course catalog searches and its search index resides in this directory. The directory should be created automatically in a single server environment but not in a cluster, so it is a good idea to ensure that the directory exists when changing this setting. At first server startup, the Juru index initializes and will fail to do so if this directory is not completely empty. This means that if Juru fails to initialize, on UNIX/Linux machines in particular, you should check for the presence of dot files, or hidden files which might not show up in a directory listing. In a clustered environment, this directory must be commonly accessible by all nodes, for example a network share, with all of them using the exact same path name.

- dsserver_admin_emailTo=
  The default value is (blank).
This is the e-mail address that notification mails from the Delivery Server are sent to if you require them. You will see an error in the system log files during server startup if this property is left blank, but it can be ignored if you know that you have not supplied a value here.

- dsserver_admin_emailFrom=
  The default is (blank).

This is the e-mail address from which notification mails from the Delivery Server are sent. You will see an error in the system log files during server startup if this property is left blank. However, it can be ignored if you know that you have not supplied a value here.

As with enabling an external HTTP server, you must ensure that the two password properties shown following this paragraph are correct before running the command to apply the changes to the database. Again, if you have not yet transferred data from the Cloudscape databases to an enterprise-level RDBMS, these passwords can be any nonblank string. Otherwise, they must be correct for your database:

LWPDBAdminPassword=
LWPDBAppUserPassword=

Now, to apply the changes, open a command prompt, change to the <WCSRooT>/WorkplaceServer/config directory and run the following command:

- (Windows)
  LWPdbconfig.bat updateSettings > updateSettings.log
- (UNIX/Linux)
  ./LWPdbconfig.sh updateSettings > updateSettings.log

When the command finishes, check that the log file states BUILD SUCCESSFUL.

You might be wondering why, if you have to run the above command to commit changes in this file to the database, do you not have to run it when configuring an external HTTP server connection which also entails editing this file? The answer is that the command you run for that procedure calls this one as part of its work.

### 2.6.2 The settings XML files

The IBM Workplace Collaborative Learning component of IBM Workplace Collaboration Services comprises a number of applications. The two primary applications are LWP_LMS_LMM and LWP_LMS_DS and both of these have settings XML files.
From a starting point of `<WCSRoot>/AppServer/installedApps/<node>/`, the locations of the settings XML files are as follows:

LWP_LMS_LMM.ear/lmmWeb.war/WEB-INF/classes/settings.xml
LWP_LMS_DS.ear/dsWeb.war/WEB-INF/classes/ds-settings.xml

In general, a setting that is present in both files should always have the same value in each. Following are some commonly modified settings including the XML tags within which they are found and the files in which they are contained. Note that all values should be enclosed in quotation marks, as in this example:

```xml
property="value"
```

**User settings**

The format for user settings is set up as in Example 2-1.

**Example 2-1  User settings**

```xml
<user
    automaticRostering=
    deferIsManagerLookup=
    partitioning=>
</user>
```

The files are named:

LWP_LMS_LMM.ear/lmmWeb.war/WEB-INF/classes/settings.xml
LWP_LMS_DS.ear/dsWeb.war/WEB-INF/classes/ds-settings.xml

Following are the user settings you can customize:

**automaticRostering**

This enables or disables the automatic rostering feature. If set to `enabled`, automatic rostering is turned on and is controlled by matching strings set in the UI. If set to `disabled`, automatic rostering is turned off and does not occur, regardless of any matching strings you have set. The default value is `enabled`.

**deferIsManagerLookup**

Certain routines within the IBM Workplace Collaborative Learning code require knowledge of whether or not the current user is a manager. This involves a user registry look up and can sometimes prevent logins due to excessive searching on the LDAP directory. There is no hard and fast rule about when to enable or disable this, but the default value of `disabled` works fine in most situations.

Setting this to `enabled` runs the manager lookup process in the background after the user has logged in, rather than running it at login time and should not have any negative effect on functionality. The best way to approach this setting is that
if you are not having any problem logging in, leave it alone. If you find that you are being prevented from logging in, possibly also seeing an error similar to the one shown in Figure 2-8, try setting this property to enabled.

![Workplace Collaborative Learning Application Error]

**Workplace Collaborative Learning Application Error**

2006-02-17 05:32:57 com.ibm.workplace.olearn.user.UserSystemBusinessException: CLQAH00002R: Unable to find authenticated user due to

Figure 2-8  Error message

**partitioning**

This sets the level of partition checking to employ when partitions are in use. The values are disabled, loose, and strict, with loose being the default. A more thorough explanation of this setting is given in 3.1.3, “Partitioning” on page 79.

**Reporter settings**

The reporter settings that you can customize for logging purposes. The format is:

```xml
<reporter
    logFile=
    enableLogging=
 />
```

The file is LWP_LMS_LMM.ear/ImmWeb.war/WEB-INF/classes/settings.xml. There are two values to set within it:

- **logFile**
  This value is simply the name of the file to which the JReport reporting engine logs.

- **enableLogging**
  This turns JReport logging on and off. The values are yes and no, with no being the default.

**Notification settings**

The syntax for notification settings is displayed in Example 2-2.

*Example 2-2  Notification settings*

```xml
<notification ...

courses
```
courseCompleteEmail=
courseCompleteInbox=

The file is located in this path:
LWP_LMS_LMM.ear/lmmWeb.war/WEB-INF/classes/settings.xml

courseCompleteEmail
This value enables or disables the sending of notification mails to a student's e-mail address on completion of a course. Values are yes and no, with yes being the default.

courseCompleteInbox
This value enables or disables the sending of notification messages to a student's IBM Workplace Collaborative Learning Inbox on completion of a course. Values are yes and no, with yes being the default.

All other settings within the <notification... /> tags are configurable through the UI. Because UI settings are stored in the database and will override the settings in the XML files, there is no point in changing them here.

Tasks settings
IBM Workplace Collaborative Learning uses a task scheduler to run a number of background tasks periodically. These tasks perform various administrative functions such as cleaning up temporary and unused database entries, sending information between components, and so on. All tasks are defined within the <taskscheduler... /> tags in the XML files, as in Example 2-3.

Example 2-3   Taskscheduler syntax

```xml
<taskscheduler...
   <task name=...
   />
   <task name=...
   />
   <task name=...
   />
   ...

</taskscheduler>
```

Each task can accept several parameters, some of which are considered user-configurable and some of which we do not recommend changing. You can see in the settings XML files that not all parameters are specified for each task.
Where a possible parameter is missing, the default value will be used. The parameters that are considered user-configurable are:

- `period`
- `seconds`
- `minutes`
- `hours`

These parameters specify the time interval at which the task runs. Each task can only use one of the above parameters at a time as they all specify different units of time. The "period" interval specifies milliseconds and the rest are obvious. All of these are stored internally in variables of type long, which means there is almost no realistic limit to the values you can specify.

**overlaps**

This value specifies the maximum number of new instances of a task that can be started while an existing instance is still running. For example, if you were to specify a time interval of 1 second and the previous instance of the task had not completed before that second was up, you might not want another instance of the task to start until the existing one was finished. Setting the overlaps parameter to 0 would achieve this. Setting it to 1, for example, would allow at most one extra instance to run (two in total) should the need arise. Obviously, if each instance of a task completes within its specified time interval, then no overlapping will occur so that, no matter what value is specified here, only 1 instance will run at a time. The default value of this parameter is 0.

**responsivenessTimeout**

This specifies, in seconds, the amount of time to wait before a task is considered unresponsive and is, therefore, aborted until the next iteration of the time interval. The default value of this parameter is 30, with anything less than 1 meaning no timeout (infinity).

The parameters that are not considered to be user-configurable (unless otherwise instructed) are:

- `name`
- `ownerId`
- `taskId`
- `args`
The "args" parameter is generally used by developers to assist in debugging and is not specified for most tasks by default. Note, however, that one task does specify this parameter and it may be desirable to change it depending on circumstances. More detail is given in the description of the Section, "<task name="remoteapi.progress.NewSendProgressTask.1"" on page 36.

The tasks are written as follows:

<task name="reporter.ReportSchedulerTask.1"
/><br>

The files are located in this path:
LWP_LMS_LMM.ear/lmmWeb.war/WEB-INF/classes/settings.xml<br>

This task runs any IBM Workplace Collaborative Learning database reports that have been scheduled to run periodically.

<task name="reporter.CleanupOutputFiles.1"
/><br>

Files:
LWP_LMS_LMM.ear/lmmWeb.war/WEB-INF/classes/settings.xml<br>

This task removes any temporary files created by the reporting engine during report generation.

<task name="module.EnrollmentCheckTask.1"
/><br>

Files:
LWP_LMS_LMM.ear/lmmWeb.war/WEB-INF/classes/settings.xml<br>

A course can have a minimum enrollment number and also an enrollment period set. For such courses, this task will check to see if the enrollment period has expired and, if it has, will check to see if the minimum number of enrollments have been made. If the minimum number of enrollments has not been met after the enrollment period is up, the course will be cancelled and notifications sent to any students who did enrol.

<task name="module.CertificateCheckTask.1"
/>
This task checks to see if a certification is due to expire within any of the three time periods that can be set for this in the IBM Workplace Collaborative Learning Admin UI. As each of the three time periods expires, a warning message, "Certificate Program Ends Soon" will be sent to enrolled students. Students thus receive three warnings, at configurable intervals, when certificate programs are due to end.

<task name="module.ApprovalRequestCheckTask.1" />

For courses that require approval by a manager or anyone else for either enrollment or unenrollment, this task will send a notification to the approver if they have not yet approved the course. Notifications will be sent first when the request is made, then once a week until either the course expires or approval is granted.

<task name="module.OfferingsMigrationTask.1" />

This task moves migrated course offerings to the Offerings Catalog root.

<task name="manager.ArchiveMgr.1" />

This task queries the database for enrollments that have been archived and then notifies the Delivery Server of these enrollments.

<task name="search.juru.CheckForUpdatesTask.1" />
This is a task to allow single nodes in a cluster to update the Juru Search Index.

```
<task name="remoteapi.progress.NewSendProgressTask.1"
      args="debug;maxrecords=100"
/>
```

Files:
LWP_LMS_DS.ear/dsWeb.war/WEB-INF/classes/ds-settings.xml

The IBM Workplace Collaborative Learning Delivery Server keeps a table of student progress records to send to the LMM application from which the data can be viewed. This task processes that table and sends the data. Note that this task uses the "args" parameter by default and that one of the options to this parameter is "maxrecords=100". This is the maximum number of progress records to send, if available, to the LMM on each iteration of the task. You can change this number depending on your circumstances, database load, and so on.

```
<task name="settings.SettingsManager.1"
/>
```

Files:
LWP_LMS_LMM.ear/lmmWeb.war/WEB-INF/classes/settings.xml
LWP_LMS_DS.ear/dsWeb.war/WEB-INF/classes/ds-settings.xml

IBM Workplace Collaborative Learning settings are stored in the Settings Manager at application startup. This task is used to notify the Settings Manager of any changes to the settings that occur while the system is running. As mentioned previously, changes to settings in the settings XML files require a restart of the system. The Settings Manager reads settings stored in the database.

```
<task name="user.UserMgmtCacheMgr.1"
/>
```

Files:
LWP_LMS_LMM.ear/lmmWeb.war/WEB-INF/classes/settings.xml
LWP_LMS_DS.ear/dsWeb.war/WEB-INF/classes/ds-settings.xml

This task removes expired entries from the User Management Cache tables that have built up from user searches and are no longer needed.

```
<task name="remoteapi.ProcessSendCommandQueueTask.1"
/>
```

Files:
LWP_LMS_LMM.ear/lmmWeb.war/WEB-INF/classes/settings.xml
LWP_LMS_DS.ear/dsWeb.war/WEB-INF/classes/ds-settings.xml

The Send Command Queue contains directives to send information between the
LMM and DS applications and this task wakes up the queue worker thread to
process the contents of the queue.

<task name="db.cache.Cache:customizations.1"
/>

Files:
LWP_LMS_LMM.ear/lmmWeb.war/WEB-INF/classes/settings.xml
LWP_LMS_DS.ear/dsWeb.war/WEB-INF/classes/ds-settings.xml

This task refreshes the database cache, removing any stale entries.

<task name="manager.TransactionInfoMgr.1"
/>

Files:

 Entries in the TRANSACTION_INFO and associated database tables are
required while transactions are active but are no longer needed after transaction
completion. This task removes old entries from these tables.

**LDAP settings**
The syntax for LDAP settings is displayed in Example 2-4.

*Example 2-4  LDAP settings*

```xml
<ldap... >
   <dnQualifiers first="cn" middle="ou" last="o"/>
   <users
      loginKey=
         >
   </users>
</ldap>
```

Files:
LWP_LMS_LMM.ear/lmmWeb.war/WEB-INF/classes/settings.xml
LWP_LMS_DS.ear/dsWeb.war/WEB-INF/classes/ds-settings.xml

**dnQualifiers**
This specifies the prefixes to use when converting a hierarchical-style matching
string to an LDAP-style matching string. For example, using the default settings
shown above, if a matching string was specified in hierarchical form as "John
Doe/Springfield/Acme", it would be converted internally to "cn=John
Doe,ou=Springfield,o=Acme". The value of "first" is applied to the first element,
the value of "last" to the last element and the value of "middle" to all elements in between. This setting is covered in more detail in 3.2.1, “Matching strings” on page 84.

**loginKey**

IBM Workplace Collaborative Learning defines a number of user attributes which it maintains separately from the rest of IBM Workplace Collaboration Services and one of these--the one specified in this property--is used as the lookup value for user records in the database at login time in order to determine if they are a new user or an existing one. The IBM Workplace Collaborative Learning attributes are populated with values from the active user registry and the attribute specified here must be one that contains a unique value for every user in the user registry.

This setting is mentioned here just for completeness of the discussion on the settings XML files. More detail on how to use it is contained in 2.7, “IBM Workplace Collaborative Learning, WMM and LDAP” on page 38.

### 2.7 IBM Workplace Collaborative Learning, WMM and LDAP

This section discusses how these three activities function together.

#### 2.7.1 User attributes

As mentioned in 2.6.2, “The settings XML files” on page 29, IBM Workplace Collaborative Learning maintains its own set of user attributes independently of the rest of IBM Workplace Collaboration Services. Their values are populated from the user registry with a set of mappings with the attributes defined in the user registry. When we speak of the *user registry*, we mean one of two things:

- In the default out-of-the-box IBM Workplace Collaboration Services setup, the user registry is the WebSphere Member Manager (WMM)
- While, after performing a connection to an LDAP server, the user registry is a combination of LDAP server and WMM.

WMM defines a set of attributes that roughly equate with what are normally found on most LDAP servers. It also defines a set of custom attributes that are not usually found on most LDAP servers. When the user registry is WMM alone, all of these attributes are maintained by WMM in its database tables. When an LDAP server is in use, the set of attributes defined on the LDAP server are passed to WMM, whenever requested, via a set of mappings between its
attributes and those on the LDAP server. The remaining set of WMM attributes then becomes a "lookaside" registry containing additional user attributes not found on the LDAP server and which are still stored in the WMM database tables.

This way, regardless of whether or not the IBM Workplace Collaboration Services system is configured to use LDAP, the applications running within it can always access the WMM custom attributes and the rest of the attributes are always obtained via WMM whether they are defined within WMM itself or defined externally on the LDAP server.

### 2.7.2 WMM user attributes

WMM user attributes are defined in the definitions file, `<WCSRoot>/PortalServer/wmm/wmmAttributes.xml`. In this file, you can see each attribute defined as in Example 2-5.

**Example 2-5  WMM user attributes to define**

```
<attribute wmmAttributeName="...
    applicableMemberTypes="...
    dataType="...
    valueLength="...
    multiValued="..."/>
```

Mappings between these attributes and their LDAP server counterparts are defined in the mappings file, `<WCSRoot>/PortalServer/wmm/wmmLDAPServerAttributes.xml`, as in Example 2-6.

**Example 2-6  LDAP mappings**

```
<attributeMap wmmAttributeName="...
    pluginAttributeName="...
    applicableMemberTypes="...
    dataType="...
    valueLength="...
    multiValued="..."/>
```

Each attributeMap element in the mappings file corresponds to an attribute element in the definitions file using their common property, wmmAttributeName. Each attributeMap element in the mappings file also has a pluginAttributeName property and this contains the name of an attribute on the LDAP server. Notice that not all attributes defined in the definitions file are mapped to LDAP attributes in the mappings file. The ones that are not now form the lookaside database mentioned earlier.
2.7.3 IBM Workplace Collaborative Learning user attributes

The IBM Workplace Collaborative Learning-defined user attributes are defined and mapped to WMM attributes in the LDAP settings section of all four settings XML files as shown below.

- Attribute definitions are written as in Example 2-7.

Example 2-7  Workplace Collaborative Learning attributes

```xml
<ldap...>
  <users...>
    <attributes>
      <attribute name="..." type="..."/>
      <attribute name="..." type="..."/>
      ...
    </attributes>
  </users>
</ldap>
```

- IBM Workplace Collaborative Learning to WMM attribute mappings syntax is displayed in Example 2-8.

Example 2-8  IBM Workplace Collaborative Learning to WMM

```xml
<ldap...>
  <users...>
    <commonschema>
      <mapping name="..." wmmAttribute="..."/>
      <mapping name="..." wmmAttribute="..."/>
      ...
    </commonschema>
  </users>
</ldap>
```

Each mapping element in the `<commonschema... />` section corresponds to an attribute element in the `<attributes... />` section using their common property, name. Each mapping element in the `<commonschema... />` section also has a `wmmAttribute` property that corresponds to one of the WMM attributes defined in the WMM attribute definitions file, `<WCSRoot>/PortalServer/wmm/wmmAttributes.xml`.

The values of these attributes are stored in the LWPLMS.USR database table. When a user logs into IBM Workplace Collaborative Learning, a lookup is performed on this database table to determine whether the user is new (in which case a new entry will be made in the table for them) or has logged in before (in which case their data will be used for tracking purposes). As mentioned in 2.6.2,
“The settings XML files” on page 29, one of the attributes is designated as the loginKey. It is against this attribute that users are looked up when logging in.

If the value of the user's attribute that is referenced by loginKey is already contained in the corresponding column in the database table, then the user is treated as an already existing user and any of that user's other attributes, apart from the one referenced by loginKey, that might have changed since their last login will be updated in the database. If no match is made, a new user record will be written to the table. For completeness, here is the loginKey definition, as found in all four of the settings XML files, again:

```xml
<ldap...>
    <users
        loginKey="...">
    ...
    </users>
</ldap>
```

The LWPLMS.USR database table has columns corresponding to most, but not all, of the IBM Workplace Collaborative Learning attributes. The value of loginKey must be the name property of one of the mapping elements in the <commonschema... /> section of the settings XML files. However, as noted, not all of these are represented in the database table so it must also be one of the ones that is. Assuming a default set of IBM Workplace Collaborative Learning → WMM mappings, a preliminary list of possible values for loginKey would thus derive as the following:

"BusinessCategory"
"CommonName"
"DepartmentNumber"
"Description"
"DisplayName"
"EmailAddress"
"EmployeeNumber"
"EmployeeType"
"FirstName"
"Initials"
"LanguageLocale"
"LastName"
"LdapId"
"Manager"
"Organization"
"OrganizationalUnit"
"Title"
"UserId"

This list should then be further reduced to include only those attributes that will return a unique value for every user.
2.7.4 Changing the value of the loginKey property

Now that the background has been explained, you might be wondering why you would need to change this property at all? The common reason for specifying a different attribute here is that the one currently in use is subject to change. When this is the case, if an existing user logs in and their loginKey attribute has changed, they will be treated as a new user. Their existing record in the LWPLMS.USR table will remain, but will be redundant. A new record will be created for them and all existing course progress and other tracking data for them will be lost.

The default value of loginKey is LdapId which maps to the uid attribute on the LDAP server. Following are two scenarios based on a user’s uid LDAP attribute having changed due to them, for example, getting married.

In the first scenario, we assume that the organization keeps a unique (and never-changing) employeeNumber attribute in the LDAP server for every user. The following steps would need to be taken to change the loginKey value to that attribute:

1. Edit all four of the settings XML files and change the value of loginKey to read EmployeeNumber. The IBM Workplace Collaborative Learning attribute, EmployeeNumber, maps to the WMM attribute, employeeNumber, which in turn maps to the LDAP attribute, employeeNumber.
3. In the User ID Map field, change the part after the colon to the name of the new user attribute as it appears on the LDAP server. For example, if the value here is *:uid, change it to *:employeeNumber. The LDAP attribute that is ultimately mapped to by the IBM Workplace Collaborative Learning attribute specified in loginKey must always be the same one that is specified in this field.
4. Restart the server.

In the second scenario, we assume that the organization keeps a unique (and never-changing) employeeID attribute in the LDAP server for every user. Some LDAP servers such as MS Active Directory®, have this as one of their standard attributes but it is not mapped in WMM by default. In this case, the steps are mostly similar to the above but we also need to create a new WMM attribute and map it to both the LDAP attribute and an appropriate IBM Workplace Collaborative Learning attribute:

1. Edit <WCSRoot>/PortalServer/wmm/wmmAttributes.xml and add a new attribute. Because of the other properties these attributes have, apart from
just their name, it is best to use a similar existing entry as a template if possible. The best candidate in this case would be to copy the employeeNumber entry and give the new attribute a different name. Set the wmmAttributeName property to, for example, custEmployeeID. The new entry looks like this:

```
<attribute wmmAttributeName="custEmployeeID"

    applicableMemberTypes="Person"

    dataType="String"

    valueLength="20"

    multiValued="false"/>
```

2. Edit <WCSRoot/PortalServer/wmm/wmLDAPServerAttributes.xml and add a new mapping. Again, and for the same reason, we use a similar existing entry as a template and copy the employeeNumber mapping. Set the wmmAttributeName property to custEmployeeID and set the pluginAttributeName to employeeID which is the name of the attribute as it appears on the LDAP server. The new entry looks similar to Example 2-9.

Example 2-9   Adding mapping to wmmLDAPServerAttributes.xml

```
<attributeMap wmmAttributeName="custEmployeeID"

    pluginAttributeName="employeeID"

    applicableMemberTypes="Person"

    dataType="String"

    valueLength="20"

    multiValued="false"/>
```

3. In all four of the settings XML files, change the IWCL → WMM mapping for the EmployeeNumber attribute. Change its wmmAttribute property to read custEmployeeID so that it now maps to the newly created WMM attribute instead. It should look similar to this:

```
<mapping name="EmployeeNumber"

    wmmAttribute="custEmployeeID"

/>    
```

Note that it is not possible to create a new IBM Workplace Collaborative Learning attribute and use this for the new mapping because there will be no corresponding column for it in the database table.

4. In all four of the settings XML files, change the value of loginKey to read EmployeeNumber. The IBM Workplace Collaborative Learning attribute, EmployeeNumber, maps to the new WMM attribute, custEmployeeID, which in turn maps to the LDAP attribute, employeeID.

5. Go to the WebSphere Application Server Admin Console at http://<server_name>:9091/admin and navigate to Security → User Registries → LDAP → Advanced LDAP Settings.
6. In the User ID Map field, change the part after the colon to the name of the new user attribute as it appears on the LDAP server. In other words, if the value here is *:uid, change it to *:employeeID. The LDAP attribute that is ultimately mapped to by the IBM Workplace Collaborative Learning attribute specified in loginKey must always be the same one that is specified in this field.

7. Restart the server.

### 2.7.5 The WMM Search Bases

One last thing to mention about WMM is its search bases. If you open up the file, `<WCSRoot>/PortalServer/shared/app/wmm/wmm.xml`, and search for `supportedLdapEntryTypes`, you will see four consecutive lines beginning as in Example 2-10.

**Example 2-10  SupportedLdapEntryTypes lines**

```xml
<supportedLdapEntryTypes>
  <supportedLdapEntryType name="Person"...>
  <supportedLdapEntryType name="Group"...>
  <supportedLdapEntryType name="Organization"...>
  <supportedLdapEntryType name="OrganizationalUnit"...>
</supportedLdapEntryTypes>
```

Each of these lines contains a property, `searchBases=`, that specifies the starting point on the LDAP directory from which searches should be performed for the specified LDAP entry types (Person, Group, and so on). It is possible to expand the scope of the WMM search bases in cases where users outside of the default scope need to log into the server.

In the WebSphere Application Server Admin Console, you can see the value of the Base Distinguished Name property by navigating to **Security → User Registries → LDAP**. Essentially, you can set the WMM search bases to whatever is required but, at the time of writing, it was found that extending the scope of the WMM search bases beyond what was specified for Base Distinguished Name in the WebSphere Application Server Admin Console resulted in an error while logging into the IBM Workplace Collaborative Learning Admin UI. This was one case where it was necessary to enable the `deferIsManagerLookup` setting, as described in 2.6.2, “The settings XML files” on page 29.
2.8 Learning Client Tools installation

The IBM Workplace Collaborative Learning Client Tools are available with IBM Workplace Collaboration Services. This toolkit includes an install program that copies a set of utilities to the client machine. Also included is a separate installation program that will install an online course authoring application called AAT (Assembly and Authoring Tool) and an installation of application called OLC (Offline Learning Client). With the OLC, a student can take courses offline.

The utilities install toolkit can be installed and run on various client platforms, including LINUX, AIX, Solaris™ and Windows. The installation comes with specific .exe and .sh files to install the client tools on these platforms.

**Note:** These tools are not intended to run on an i5/OS®.

In Table 2-1 is a list of the tools available on Learning Client CD and their uses. These tools can be very helpful in performing different tasks on Workplace Collaborative Learning.

<table>
<thead>
<tr>
<th>Items</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAT</td>
<td>This tool is used when creating your content (courses) that can be imported and used in Workplace Collaborative Learning. This tool also imports to Workplace Collaborative Learning.</td>
</tr>
<tr>
<td>OLC</td>
<td>This tool allows a user to take courses (that allow offline use) offline.</td>
</tr>
<tr>
<td>Climp</td>
<td>This tool is used to import courses to Workplace Collaborative Learning.</td>
</tr>
<tr>
<td>Archive</td>
<td>This tool archives progress and enrollment data that is no longer needed on the system.</td>
</tr>
<tr>
<td>Restore</td>
<td>This tool restores progress data back onto system that may have been deleted.</td>
</tr>
<tr>
<td>Roster</td>
<td>This tool allows rostering of users on the system, in bulk.</td>
</tr>
<tr>
<td>Skills Import</td>
<td>This tool imports skills dictionaries (xml format) onto WCS.</td>
</tr>
</tbody>
</table>

2.8.1 Installing Learning Client Tools

The Learning client tools installer is shipped on CD with the IBM Workplace Collaborative Services. This CD includes, a folder containing AAT (Authoring and Assembly Tool) installation, a folder containing OLC (Offline Learning Client) install and additional executables to install the client utilities onto different
platforms: linlearning.sh (for Linux), winlearning.exe (for Windows), aixlearning.sh (for AIX) and solearning.sh (for Solaris).

**Note:** The Learning Client Tools Installer requires a Java run-time environment (JRE™) on the workstation. This is a prerequisite for running the utilities. If a JRE is not on the workstation, it will be automatically installed on the workstation so that the Learning Client Tool installation completes successfully.

To begin the installation, locate the .exe or .sh file contained on the CD to suit your client OS. Double-click the executable file (for windows) or run the command `./<name of file>.sh` (for UNIX/LINUX) and this will begin the installation process.

1. You are prompted to enter the language for the installation. Select an appropriate language, then select **OK**.

2. At the Welcome screen select **Next**.

3. Read software licence and accept it if you agree to the terms of use, and select **Next**.

4. In this screen you are prompted to enter a directory for the Learning Client to install to, as seen in Figure 2-9. You can accept the default install directory or change to a different directory.

**Note:** Make sure you remember this directory, because this is where the utilities will be available to run.

Select **Next** you are finished.
5. In the next screen, select both features to install: **Learning Content Import and Rostering utilities** and **Offline Learning Client**, as seen in Figure 2-10 on page 48. Learning Content Import includes the utilities available: Climp, skills import, archive and restore. All of these are explained in 2.8, “Learning Client Tools installation” on page 45. The Offline Client will allow courses to be taken offline and can be installed here or can be made available on the server to be installed by other users. This is explained in “OLC: Offline Learning Client” on page 52.

**Note:** Offline Learning Client can only be installed on windows client OS
6. If you selected to install Offline Learning Client then you will be prompted in the next screen to enter the servername, e.g. http://servername/lms-lmm, that you wish to communicate with offline client, as seen in Figure 2-11 on page 48. Leave the default port number and select **Next**.
7. Summary information is presented in next screen. This identifies the location to where the client will be installed, the features that will be installed and the size of product when it is installed. Select **Next** and this will start the installation. When complete, select **Finish**.

When installation has completed, the client tools should be available on your local system. If you accepted the default install directory during installation, the tools will be available in this directory. A folder called *utils* will have been created during the installation. Within this folder (inside the LearningClient folder), there should be three folders: java, lib, bin. Within the bin folder, the utilities can be found: roster, climp, skills import, archive, restore. It is from this directory that you will run these utilities.

Also, notice that (on Windows) several executable items are created under your programs group of the start menu, entitled LWP Learning Client. This relates to stopping & starting the Offline Client, if this option was installed. There will also be an uninstall executable, to uninstall the Learning Client Tools.

### 2.8.2 Tools Available

The following tools are available.

**AAT: Authoring and Assembly Tool**

This is used by course developers to create course content. This includes:

- Creation of SCORM (Sharable Content Object Reference Model) course packages
- Importation of these SCORM packages to Workplace Collaborative Learning server
- Tracking frameset for use in tracking course progress

The Learning Client CD includes an install for the AAT within the folder ‘Authoring’. To start the install, select `setup.exe` file. This will start off the installation process as follows:

1. First screen to appear will be ‘Choose Setup Language’. Choose a language of your choice and select **Next**.
2. It will now prepare to setup and will be presented with welcome screen as seen in Figure 2-12. Select **Next**.
3. Next to appear is Licence Agreement screen. Read this and if you agree, select Yes.

4. The next screen is a customer information screen as seen in Figure 2-13 on page 50. Fill in your name and your company name and select Next.
5. Next you are prompted to enter a destination location for the installation as seen in Figure 2-14. Accept the default or select **Browse** and choose your own destination location. When you are finished, select **Next**.

![Figure 2-14 Location destination to install the AAT files](image)

6. You can see a review of settings before it starts the installation. Check that these are correct then select **Next**.

7. The setup status opens, as you can see in Figure 2-15. When it is finished installing, a confirmation screen opens. Select **Finish**.

![Figure 2-15 Status screen showing progress of the install](image)
On your start menu programs, you should see new menu items: **IBM → IBM Workplace Collaborative Learning Authoring Tool**. Select these options to launch the AAT tool.

How to use the AAT is explained fully in Appendix A, “Content creation with the Authoring and Assembly Tool” on page 303.

**OLC: Offline Learning Client**

This is used by students to download and work with courses offline. This client tool runs on Windows workstations only. Use of the OLC is optional and need not be deployed for any or all students. If you allow use of OLC, the course must be configured at the time when you create the offering, see Chapter 4, “Creating and managing learning modules” on page 107 for details.

You can install the OLC when you install the Learning Client Tools. This installs the OLC onto your own machine, but if you would like to be available from workplace UI for other users to install and run on their own machines, you must place it into a directory accessible to the http server. Refer to 2.5, “Installing Online Help and the Offline Client” on page 25 for more details.

Point Workplace Collaborative Learning to this directory to enable students to download and install this tool. To do this, follow these steps:

1. Go to the **Settings** tab.
2. Select **LMM Server**.
3. Select **General Settings**.
4. Go to the Offline Learning Client section as seen in Figure 2-16 and enter `<HTTPServerdirppath>/duc/OfflineClientWin32.exe` in the URL of the Offline Learning Client field. This should point to the path in your Web server where you have put the OfflineClientWin32.exe package.
5. Enter the version of the Offline Learning Client that is being deployed in the Version field, 2.6, for our purposes.

![Offline Learning Client](Figure 2-16) Offline Learning Client settings within Workplace Collaborative Learning
**Downloading the Offline Learning Client**

After you have deployed the Offline Learning Client, any user can download the Client onto his local environment (machine). After the download, run the installation of the package.

During the installation you are prompted for some input. One of the installation screens asks you for the Workplace Collaborative Learning Server information. Type in the URL of your Workplace Collaborative Learning server, as seen in Figure 2-17 on page 53.

![Offline Learning Client installation details](image)

**Using the Offline Learning Client**

After you have installed it, you now can start the Offline Learning Client by selecting:

**Start → Programs → IBM Lotus → Offline Learning Client → Start / Stop**

Starting the Client will take some time, as several services will start in the background and course information must be downloaded. The first time, you are prompted for your user ID and password. Afterwards, whenever you start the Client again, you have to use the same username and password you entered the first time you logged in. The reason is that the Client is configured for a single user ID. This means that your workstation is dedicated to that Offline Learning Client with this user ID.
The functions of the Offline Learning Client are listed and described in Table 2-2.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Update Course Data</td>
<td>Connect to server and retrieve list of enrolled courses, status, content size and offering information.</td>
</tr>
<tr>
<td>Take Offline</td>
<td>Downloads the course content and marks the course as offline on the server.</td>
</tr>
<tr>
<td>Send Data</td>
<td>Uploads any progress data pending for the selected courses to Workplace Collaborative Learning.</td>
</tr>
<tr>
<td>Put Online</td>
<td>Upload any pending progress data and mark the file as online both on the OLC and Workplace Collaborative Learning so the course can be continued online (if not completed).</td>
</tr>
<tr>
<td>Import Course from a File</td>
<td>After updating course data but before taking offline used to import the course content from the file system (for low bandwidth connections).</td>
</tr>
<tr>
<td>Import Anonymous Courses</td>
<td>If the course is marked as allowing anonymous use then the user can import from the file system and it will appear in the list of enrolled courses but progress will not be sent to the Workplace Collaborative Learning.</td>
</tr>
<tr>
<td>Launch Course</td>
<td>Display the Delivery component and allow the user to take the course.</td>
</tr>
</tbody>
</table>

**Note:** Workplace Collaborative Learning does not support having multiple Offline Clients installed for multiple users on the same machine.

**CLIMP: Command Line Import Utility**

This is another client tool that is used also to import SCORM packages directly to the Collaborative Learning Server.

**Installing CLIMP**

The Command Line Import Utility can be installed from the Learning Client Installer, an additional program that comes with the Workplace product. This will install a LearningClient folder that includes a utils folder. The 'bin', 'java' and 'lib' folders are contained within this utils folder. These are all needed to run CLIMP.
Within the bin folder, the climp.bat/climp.sh is located here. This is where we will run the utility.

**Setting up CLIMP.properties file**

We need to create a *.properties file within the CLIMP utility to import your SCORM packages to your Workplace Collaborative Learning server. This will make using CLIMP easier because you can specify this file when running the CLIMP command. Here we enter details of the FTP server and also admin username and password of the Workplace Collaborative Learning server. Ensure also that the FTP server is accessible.

In the properties file there are five parameters that need values. These are:

- **cmp** - IBM Workplace Collaborative Learning administrators password
- **cmu** - IBM Workplace Collaborative Learning administrators username
- **ftp** - The URL for the ftp server
- **ftpu** - ftp server username
- **ftpp** - ftp server password

Here is an example of a properties file:

```
cmp=password
cmu=admin
ftp=myftpserver.ibm.com
ftpu=ftpusername
ftpp=ftppassword
```

Save the climp.properties file in the bin directory along with CLIMP.bat

**Running CLIMP**

Open a command line window and go to the bin directory on your machine where you have installed the learning client, such as

```
cd c:\programfiles\ibm\learningclient\utils\bin
```

When running climp, we use this command (on Windows client machine):

```
climp -cm http://<fully qualified servername>/lms-lmm/import -d -p climp.properties -u -e <email address> c:\<course package name.zip>
```

To run the utility on UNIX platform change climp to ./climp.sh in the previous command.

Explanations of parameters used in command:

- **-cm** - URL of Content Manager server to receive the course package files.
- **-d** - Enables the course for disconnected use (disabled by default).
- `p` - Properties file containing command-line options. The properties file uses command-line parameter names without the '-' prefix, for example, `ftp=ftp.xyz.com`

- `u` - Uploads course package files to specified FTP server and imports them from there. If this option is not specified, the Content Manager imports the file from the specified FTP server (that is, it assumes the files have already been uploaded), or from the file system if no FTP server is specified.

- `e` - Comma-delimited list of e-mail addresses to receive import status notifications.

At the end of the command, you specify the course-name and directory where the package resides e.g. `c:\temp\LS5_Doc\LMSTestPackage01.zip`

In order for this command to send an email as a notification that the course package has been imported, you must ensure that e-mail settings are setup in Workplace Collaborative Learning. (See Chapter 3, Section 3.3 (XREF) for this)

If your course import using CLIMP has been successful, you might see a message confirming this or if the 'Processing arguments / options ...' message succeeds with no failures. To check that the course has imported successfully to Workplace Collaborative Learning, follow these steps:

1. Log in to Workplace Collaborative Learning as an administrator user.
2. Select the Course Catalog tab.
3. Select Register Master to register new course as master.
4. Choose Course Master as type you wish to register.
5. The course should appear as an unregistered master in this column, which you can now register and begin to use.

## 2.8.3 Rostering utility

The roster utility allows the Learning administrator to roster large numbers of people as described by the entries in a text file. This file is generated manually by the Learning administrator and allows the administrator to specify sets of people that are contained in WMM. You can specify sets of people that share a common attribute, groups of people, or sets of people in a certain part of the WMM hierarchy. The utility uses Web Services to communicate with a server running the Learning Management Module (LMM) and assumes that the LMM is configured to use WMM and both are online. The utility seeds the roster in the SQL database from the information obtained from WMM using the input text file to specify which people should be rostered. It is invoked as follows:
Usage: roster parameters

roster -lms http://<fully qualified servername>/lms-lmm/anon-api -u <admin name> -p <admin password> -f c:\<rosterfile.txt>

The command line parameters used by roster utility are as follows:

- **-lms**: Path to the Web API Resource for basic authentication on the Learning Server (e.g. http://<servername>/lms-lmm)
- **-u**: Name of the Learning Administrator (e.g. lmsadmin). This is a required parameter.
- **-p**: Password of the Learning Administrator. This is a required parameter.
- **-f**: Directory and name of the text file (such as c:\rosterbyattribute.txt). This is a required parameter.
- **-e**: Encoding of the text file (e.g. 8859_1). Optional

The text file specified by the -f option must be formatted using the following custom syntax. Choose one of these formats for the file:

- **attribute**: attribute_name=attribute_value
- **group**: group_name
- **directory**: directory_path

where attribute_name is the name of an attribute recognized by Learning (FirstName, LastName, DepartmentNumber, and so on) and attribute_value is the value to use when searching for people in WMM (wildcards are allowed), group_name is the name of a group in WMM, and directory_path is the name of a valid path in the WMM hierarchy.

The group_name and directory_path parameters adhere to the matching string conventions supported in Learning. The utility processes each entry in the text file separately. It searches for the people in WMM that matches the attribute, is a member of the group, or is within the specified hierarchy and creates an entry for each one in the Learning roster.

A simple example of what could be contained in your text file is shown below:

- **attribute**: LastName=Smith
- **attribute**: FirstName=B*
- **group**: DeptManagers/Groups/IBM
- **group**: cn=ChicagoSales,ou=Groups,o=IBM
- **directory**: */Cambridge/IBM

In this example, people whose last name is Smith are rostered; as are people whose first name begins with a 'B'. In addition, all the members of the DeptManagers and ChicagoSales groups are rostered; as are all people in the Cambridge branch of the IBM WMM hierarchy.
The command should complete successfully and the identified user(s) should be rostered into Workplace Collaborative Learning.

2.8.4 Skills Import Utility

The Skills Import Utility is used to import a skills dictionary to your IBM Workplace Collaboration Services Server.

A skills dictionary is a collection of jobs, skills, and rating scales. You create these items and you then proceed to associate users with jobs, enroll users in courses, create learning plans, and review user performance. This is described further in Chapter 6, “Introduction to Skills Management” on page 197 of this book.

You can create your own Skills dictionary or you can import a Skills dictionary with a command line based on an XML file. You obtain this XML file from vendor, (Third party software), companies that create a dictionary & populate it with information relevant to their business. You can view a Job, Skill, Rating Scale or Proficiency Level using an XML file as well as through Workplace. Skills dictionaries can be bought from a vendor company. Dictionaries are provided for different industry sectors.

To import Skills, Jobs, and Proficiency sets and levels from a Skills XML file to your Workplace Collaborative Learning server, you can use the importSkills utility.

Run the batch file ImportSkills using the following command line, and ensure the skills dictionary is saved locally on same machine as the utility. The command to run is as follows:

```
importSkills "C:\<sample XML file name>.xml"
http://<servername>/lms-lmm/anon-api <server admin username> <server admin password>
```

2.8.5 Archiving & Restore Utility

The archive utility lets an administrator user archive obsolete course data (progress data) and student record data (enrollment data) from the system. This is archived either to a database table or to an xml file, as explained later in the section.

The restore utility can then be used to restore any archived data that would you would like back on system again.
You perform the archiving and retrieval functions by executing batch files from the command line. One file handles archiving, and the other handles data retrieval.

The batch files call Java applications that are external to the Workplace Collaborative Learning. They can be run on any machine that can connect to the database server but should probably be run on a machine other than ones used to host a Workplace Collaborative Learning component (Learning Server or Delivery Server) in order to avoid impacting performance of the learning system. The applications are simple command line utilities that make a single attempt to either archive or restore data based on an options file. Each archive attempt uses the archive criteria in effect (as specified in an options file) to determine what should be archived.

The application parses the options files for the options to use during the archive and is furthered explained later in the section. Essentially, there are two major sections of the option files: connections and archive/restore. The connections section specify the database connection information needed to access each database during the archive attempt. The archive and restore sections specifies the options to use while archiving and retrieving data. These options are explained further in the sections that follow.

Things that you must have setup before you attempt to archive or restore data:

- **Database clients:** If you are archiving DB2 data, you will need a DB2 client with connectivity to the remote database by cataloging databases (commands to catalog shown below). Same goes for Oracle. If you do not want to install the entire client, you can just install the JDBC™ driver software (db2java.zip for DB2, classes12.zip for Oracle).

- **JRE 1.3.1 or higher is required.** After you have the JRE or JVM™ installed, you must add the archiving utility to your classpath. A way around this is to set your classpath variables in archive.bat. This is shown later in the section.

**Cataloging DB'**

If you are using DB2 backend, you are required to have a DB2 client with connectivity to the remote database by cataloging the databases. To do this, run the following commands from a db2 command window:

- db2 catalog tcpip node <nodename> remote <fulldnsnodename> server <port>
- db2 catalog database <dbname> at node <nodename>

**Note:** You can only restore progress data back onto the system on which the archive was created.
Changes to files
When the learning client utilities are installed to your local machine do the following to setup files for archive and restore:

1. Go to your utils directory on your local machine and select the bin subfolder here.

2. Make changes to archive.bat and restore.bat.
   a. In archive.bat, set classpath variables in relation to your JRE install e.g.
      ```
      set PATH=c:\jdk1.3.1_11\bin;c:\jdk1.3.1_11\jre\bin;%PATH%;
      ```
   b. Do the same for restore.bat

3. Make changes to archive-options.xml and restore-options.xml (these files should be placed in the utils/bin dir). To see examples of the structure of these files, see.

In the options file, set your connection details to relate to your database. These connection details are included in Table 2-3 on page 60.

Table 2-3 Connection details required

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection Name</td>
<td>Currently only one kind of connection supported for this and that is the default database. So the connection name = default.</td>
</tr>
<tr>
<td>Type</td>
<td>This is type of connection used to access the database. Currently, only ‘basic’ which corresponds to a simple JDBC connection is supported.</td>
</tr>
<tr>
<td>Vendor</td>
<td>This is the brand of database being used. Example: DB2, MS SQL Server, Oracle</td>
</tr>
<tr>
<td>Driver</td>
<td>This is the JDBC Driver name. Example for DB2: COM.ibm.db2.jdbc.app.DB2Driver</td>
</tr>
<tr>
<td>url</td>
<td>This is the JDBC url. Example for DB2: jdbc:db2:&lt;database alias&gt;</td>
</tr>
<tr>
<td>username</td>
<td>This is the username that you use to access the database contents.</td>
</tr>
<tr>
<td>password</td>
<td>This is the password of username above.</td>
</tr>
</tbody>
</table>

Note: In the archive-options.xml file, you can only enable one option at a time to be archived: progress data OR enrollment data.
These can then be archived to either a database table or to xml file or both. You need to specify a directory for the xml file to go, so setup a directory on you local machine for these to be stored and point to these directories in the archive-options.xml file. Also in this file, you will need to specify expirationDays, amount of days after the courses has expired. See Table 2-4 for more details on information needed for the archive-options file.

**Table 2-4  Archive information needed**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Name</td>
<td>This identifies the kind of data (either ‘progress’ or ‘enrollment’).</td>
</tr>
<tr>
<td>State</td>
<td>This determines whether the archive of that kind of data is enabled or disabled. Specify either ‘enabled’ or ‘disabled’</td>
</tr>
<tr>
<td>Type</td>
<td>This determines whether the data will be backed up (‘backup’) or simply deleted (‘purge’).</td>
</tr>
<tr>
<td>expirationDays</td>
<td>This determines how much time must pass before the data should be archived. ‘1’ = one day after the expiry date set on the course.</td>
</tr>
<tr>
<td>toTable</td>
<td>This determines whether the data is archived to the appropriate mirror table in the database. Example: progress data from the ‘Progress’ table to ‘Progress_A’ table. Specify ‘yes’ or ‘no’</td>
</tr>
<tr>
<td>toXML</td>
<td>This determines whether data is archived to an XML file. Specify ‘yes’ or ‘no’.</td>
</tr>
<tr>
<td>xmlLocation</td>
<td>This specifies the directory where the XML archive files are created. It must contain a file path appropriate for the operating system and end with appropriate separation character (e.g. ‘\’ for Windows). Example: ‘d:\archive\enrollment\’</td>
</tr>
</tbody>
</table>

In **restore-options.xml**, set up your connection details the same as the archive-options file. Restore will only work with progress data, so no other options to enable. See Table 2-5 for restore information required in restore-options file.

**Table 2-5  Restore information required**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Name</td>
<td>This identifies the kind of data (either ‘progress’ or ‘enrollment’).</td>
</tr>
</tbody>
</table>
Archiving Process

For all courses registered in Workplace Collaborative Learning, ensure there is an expiry date (passed the current date) and also start date/end date when registering scheduled offerings otherwise data will not archive. To see more on scheduling offerings, see Chapter 4, “Creating and managing learning modules” on page 107 of this book.

For virtual courses, you can only set the expiry date.

Archiving Progress Data

Before the archiving utility tries to archive progress data, the archive options are examined to determine whether the data should be saved to XML files. If so, the full file name of the XML file is determined and either created or opened (if it already exists). This full file name is calculated using the following information:

- The value of the toXML attribute (for example, c:\archive\progress\)
- The appended file prefix "prg."
- The appended current date in "yyyy.mm.dd" format (for example, 2005.06.21)
- The appended file extension ".xml"

For example, the resulting full file name using the information above is c:\archive\progress\prg.2005.06.21.xml. Thus, a unique progress archive file is used for each date the application is run to archive progress data.

After the output file is opened, archiving proceeds according to the following rules:

- The catalog entry expire date column and the expiration days archive option are used to trigger the archive of progress data corresponding to enrollments associated with the catalog entries. If a catalog entry does not have an expire date defined, then data associated with it will never be archived.
- The offering end date column and the expiration days archive option are used to trigger the archive of progress data corresponding to enrollments associated with the offerings. If an offering does not have an end date defined, then data associated with it will never be archived.
- Enrollments related to catalog entries are processed before enrollments related to offerings.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>This determines whether to enable the restore of progress data or not. Specify either 'enabled' or 'disabled'</td>
</tr>
</tbody>
</table>
Enrollment records are not moved to mirror tables or output to XML: only progress data corresponding to these enrollment records are moved to mirror tables and output to XML.

Enrollment records are updated to reflect their archive state. Once an enrollment is marked as archived none of the progress data associated with it is archived again.

The mirror tables have the same schema as the tables they mimic. An entire record is moved to the mirror table when it is archived.

All progress data relating to an enrollment is archived as a separate transaction. Therefore, either all progress data relating to an enrollment is archived or no progress data relating to the enrollment is archived. If a transaction is rolled back, then no partial XML information is written to disk. Essentially, there is a separate transaction for each enrollment.

All progress data archived to XML is done so using a containment approach based on the SQL database schema dependencies. Therefore, <progress> tags can contain <trackingRemark> tags and <attempt> tags in addition to the progress data, and<attempt> tags can contain <interaction> tags in addition to the attempt data.

The generated XML uses the SQL database table names and field names to derive the XML tag names. XML tags generated from column names are contained within the corresponding XML tags generated for their table names.

Archiving Enrollment Data

Before the archiving utility tries to archive progress data, the archive options are examined to determine whether the data should be saved to XML files. If so, the XML file will be created as described above.

Again, once the output file is opened, archiving proceeds according to the following rules:

The catalog entry expire date column and the expiration days archive option are used to trigger the archive of course enrollment data corresponding to the catalog entries. If a catalog entry does not have an expire date defined then data associated with it will never be archived.

The offering end date column and the expiration days archive option are used to trigger the archive of course enrollment data corresponding to the offerings. If an offering does not have an end date defined then data associated it will never be archived.

Only approval request, enrollable attendee, and enrollable approver data is archived for catalog entries.

Only approval request, equipment request, and wait listed user data is archived for offerings.
Course enrollment data can only be archived to XML. There are no mirror tables defined for this kind of data. The data is deleted from the database and cannot be restored using the restore utility.

Course enrollment data related to catalog entries are processed before course enrollment data related to offerings.

All course enrollment data relating to a catalog entry or offering is archived as a separate transaction. Therefore, either all course enrollment data relating to a catalog entry or offering is archived or none of it is archived. If a transaction is rolled back then no partial XML information is written to disk. Essentially, there is a separate transaction for each catalog entry or offering.

All course enrollment data archived to XML is done so using a containment based approach based on the SQL database schema dependencies. Therefore, <booking> tags can contain <equipmentRequest> tags in addition to the booking data, and <enrollableHelper> tags can contain <enrollableAttendee> and <enrollableApprover> tags in addition to the enrollable helper data.

The tables with the _A suffix (a.k.a. archive suffix) are meant to contain data that has been archived. Data that is "archived" is moved from its original table to its archive table (primarily in order to improve performance) and also written to XML if specified in the archive settings. Data is only deleted if the user manually drops it from the archive tables.

After the archive process has finished, a data log is produced logging results of the archive. This log is placed into a newly created folder called ClientLogs in the ‘utils’ folder from the install of the Learning Client Tools.

**Restore Process**

Once the retrieval options file is processed, the database connection information is used to set up and initialize the connection factory that will be used by the application's persistence manager. Once the connection factory is set up and initialized, the configuration file is processed. The configuration file contains a section for logging that is similar to logging used by the Workplace Collaborative Learning components. By default, it is set up to display info to only the application and database logs but can also be configured to log trace and debug level information.

After the retrieval options file and configuration file have been processed, the retrieval application attempts to process each input file specified on the command line. It opens each file using a SAX parser and processes each element using a state machine to keep track of the current location within the parse process.
The parser creates events each time the beginning, end, or internal data of XML tag is encountered. These events are used to track the state of the parse. The state changes each time a <progress>, <trackingRemark>, <attempt>, or <interaction> tag is encountered. Data in other tags is buffered as name-value pairs until either a </progress>, </trackingRemark>, </attempt>, or </interaction> tag is encountered and the buffered data is restored to the appropriate database table. The following special cases also exist to account for the containment hierarchy of the data:

- Any <attempt> or <trackingRemark> tag forces the restore of any currently buffered progress data.
- Any <interaction> tag forces the restore of any currently buffered <attempt> data.

Each progress record with its contained data is handled as a separate database transaction. Many database queries take into account data that exists in both the original table and its archive table since archived data must still be available for certain reporting operations. Therefore, the restore utility just parses data that has been written to XML and puts it in the appropriate archive table. You would really only use the restore utility if you archived data and then manually deleted it.
Base configuration

This chapter describes the steps to configure the IBM Workplace Collaborative Learning system after it has been installed. This configuration includes user management, Access Control Lists, notification setup and resource creation. Finally we look at creating and maintaining announcements.
3.1 User management

As noted in Chapter 2, “Installing IBM Workplace Collaborative Learning 2.6” on page 11, IBM Workplace Collaborative Learning is somewhat unique among IBM Workplace Collaboration Services components in that support for users is not solely the responsibility of the system-wide user registry (which is either WMM alone or LDAP/WMM, depending on your configuration). Although IBM Workplace Collaborative Learning does utilize the user registry as the primary container of user and group information, the IBM Workplace Collaborative Learning database tables must contain a reference to each person in the user registry that is using this component in order to maintain the relationships between that person and the other entities in the database.

The database table (LWPLMS.USR) that keeps the list of these people using the system is known as the roster. The process of creating a record in this table that corresponds to a person in the user registry is known as rostering.

Before you roster any users, you should create roles in the system that map to roles within your organization and assign appropriate permissions to these.

3.1.1 Roles and permissions

IBM Workplace Collaborative Learning uses configurable roles to control what a user can and cannot do in the system. A role comprises a set of permissions assigned to a user that govern their access to different parts of the system. A user may have more than one role, but every user rostered in the system is assigned at least one. The default roles can be viewed by doing the following:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the Users tab.
2. Beneath the Roles section, select the Manage Roles link.

Figure 3-1 on page 69 shows the seven default roles available after installation of IBM Workplace Collaboration Services 2.6. These default roles correspond to the types of users who typically work with the system: Administrator, Manager, Instructor, Student, Anonymous, HR Manager and Course Manager. If these default roles work for your organization, you can use them as they are, otherwise you can create new ones. Even if you decide to use the default roles, you can still edit the permissions associated with them, if required. The procedure to change roles and permissions is covered in “Custom roles and permissions” on page 73 later in this section.

Roles may be assigned automatically, using matching strings, or they may be explicitly assigned on a per-user basis. Newly rostered users by default are assigned the Student role.
When you add users to the system, you match them to a role that represents the tasks and functions they need to perform in the system. Users with multiple roles receive the total of all permissions allowed by those individual roles. For example, if you explicitly assign the role Instructor to a user, they will have all the permissions associated with both the Student (automatically assigned) and the Instructor (explicitly assigned) roles.

**Role assignment**

An administrative user can assign roles to other users in the system in two ways:

- By locating existing rostered users and explicitly assigning them a role or roles.
- By specifying a matching string that characterizes users to be automatically assigned a given role.
Assigning roles explicitly

By explicitly assigning roles, you associate a role with one or more users that you select by searching through the IBM Workplace Collaborative Learning interface.

Follow these steps to assign a role explicitly:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the Users tab.
2. Select the Manage Users link.
3. Enter search criteria in the User Search page to choose the user or set of users to whom you want to assign a role or roles, and then select the Search button.
4. Select the user or users you want from the result set, and then select the Continue button.
5. Select the Assign Roles tab.
6. Select a role or roles to assign to the selected users by selecting the appropriate check boxes, as seen in Figure 3-2. Select Save.

Figure 3-2 Assigning roles explicitly
**Automatic assignment by matching string**

Follow these steps to set up automatic role assignment:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the **Users** tab.
2. Select the **Manage Automatic Assignments** link.
3. Select the name of the role you want to assign to users.
4. Select the **Add Automatic Assignment** button, as seen in Figure 3-3, to add matching type and matching string for the users that are to have this role.

![Figure 3-3 Add, Edit or Remove Automatic Role Assignments](image)

5. Select the **Matching Type** drop-down box. Here you can select from:
   - **Group**, a group defined in the user repository
   - **Name**, a user defined in the user repository
   - **Attribute**, any user repository-defined attribute, for example DepartmentNumber, if that attribute is utilized.

6. In the Matching String field, type a matching string that identifies the user or users of that type. Example: `Attribute (type), UserId=*_s (matching string)`. See 3.2.1, “Matching strings” on page 84 for more information about Matching Strings.

7. When all of the matching strings and types have been added for the appropriate role, click **Add**. This populates the Automatic Role Assignment table for the role you are currently working on (Student in the example in Figure 3-3).

---

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You can edit existing automatic role assignments by selecting an assignment from the table and then clicking the Edit button as in Figure 3-3. You can remove the automatic role assignment if it is no longer needed in your organization by selecting the assignment from the table and then clicking the Remove button, also seen in Figure 3-3.

Permissions
Each role defines a set of permissions in the IBM Workplace Collaborative Learning interface. Permissions are not assigned to individuals, but to the roles defined in the system (either default roles or ones that you have created) and they determine which parts of the user interface a user with a particular role can access. You must set permissions to allow users to view the parts of the IBM Workplace Collaborative Learning interface they require to perform various tasks.

IBM Workplace Collaborative Learning provides a default set of permissions for each of the seven roles that are defined in the system by default (Administrator, Instructor, Manager, HR Manager, Course Manager, Student and Anonymous). You can view the permissions associated with each role as follows:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the Users tab.
2. Select the Manage Roles link.
3. Select a role name to view the permissions associated with each role.
4. Select the various permission headings from the drop-down list box to view all permissions assigned to each area.

For every tab in the IBM Workplace Collaborative Learning interface there is a set of permissions you can specify. See Table 3-1 for details on the permissions.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Permissions</td>
<td>The Home permissions control the management and use of the features under the Home tab.</td>
</tr>
<tr>
<td>Student Catalog Permissions</td>
<td>The Student Catalog permissions control the use of the features under the Student Catalog tab.</td>
</tr>
<tr>
<td>Course Catalog Permissions</td>
<td>The Course Catalog permissions control the management and use of the features under the Course Catalog.</td>
</tr>
<tr>
<td>User Management Permissions</td>
<td>The User Management permissions control the management and use of the features under the Users tab.</td>
</tr>
</tbody>
</table>
You can choose to leave the default settings or modify them. You can also create new roles with a set of permissions you define yourself. To create new roles, see Custom Roles and Permissions.

**Custom roles and permissions**

If the default roles defined in IBM Workplace Collaborative Learning do not fit those used your organization, you can create new roles with the custom permissions you need. You can create as many additional roles as are appropriate to your organization.

To review, or add to, the list of roles, open the Manage Roles section of the Users tab. From here, you can either add a role to the list or select a role name to view or set its permissions.

The procedure to add a new role to the system is as follows:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the **Users** tab.
2. Select the **Manage Roles** link. You will initially see the seven default roles displayed in the table here.
3. Select the **Add Role** button and enter the role name and, optionally, a description, as seen in Figure 3-4.
4. Click **Save**. You will see the new role listed along with the default roles once saved. Should you choose to remove this newly defined role, select the **Delete** link in the table next to the role. There is no warning that it will be deleted, so be sure you want to perform this action.

5. If you would like to edit this role again, simply select the newly created role to access the permissions assigned.

6. Make the appropriate permission choices for the role you are editing and click **Save**.

![Add Role](image)

*Figure 3-4 Adding information for a new role*

The procedure to change permissions of an existing role on the system is as follows:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the **Users** tab.

2. Select the **Manage Roles** link. You will initially see the seven default roles displayed in the table here.

3. Select the role name link and you will be presented with all the permissions that apply to this role already.

4. To add or delete permissions from this role, select or deselect the check box beside each permission you require for that role.

5. When finished editing the role, click **Save**.

To summarize:

- The system ships with default roles that are ready to use.
- Roles are additive. If a user has more than one role, they receive all the permissions associated with each role.
- Roles can be explicitly granted.
- You can assign multiple roles to a user, even roles with different sets of permissions.
Selecting a permission for one role overrides a deselected setting for that permission in another role.

Before you authenticate with IBM Workplace Collaborative Learning you have permissions associated with the “Anonymous” role. When you log in with an authenticated account, you receive the permissions associated with the roles assigned to the authenticated account.

As an anonymous user on the system, the Home and Student Catalog modules are displayed by default. You can only view courses in the student catalog that have been made available to anonymous users. If online courses are available for anonymous users they can enroll on these and take them.

3.1.2 Rostering

IBM Workplace Collaboration Services utilizes a user repository where user information is stored. This is typically a Lightweight Directory Access Protocol (LDAP) server. With one exception, any user who wants to use IBM Workplace Collaborative Learning must be defined in this user repository. The process of adding users to IBM Workplace Collaborative Learning from the user repository is called rostering. Rostered users can then log into IBM Workplace Collaborative Learning and perform tasks that their assigned roles allow them to perform.

The one exception to having to roster users is with anonymous user access. As mentioned previously, before you authenticate with IBM Workplace Collaborative Learning, you can access part of the interface as an anonymous user. In this case, the user is not rostered and the functionality available to anonymous users is limited.

There are three ways to roster people in IBM Workplace Collaborative Learning. These are:

- Automatic rostering
- Manual rostering
- Bulk rostering

**Automatic rostering**

This allows users to be implicitly rostered when they first successfully authenticate with the system. Automatic rostering is enabled by default for a standard IBM Workplace Collaboration Services configuration.

When a person in the user repository logs in to either the IBM Workplace Collaborative Learning interface or the Learning portlets within the IBM Workplace Collaboration Services interface for the first time, the user
management functionality detects that there is no entry for the person in the roster and creates an entry. The user logging in does not realize that they are being rostered, this happens in the background.

By default, there are no automatic rostering criteria defined which effectively allows anyone in the user registry to log in. There is an option to set automatic rostering criteria by selecting the **Roster Users** link within the **Users** tab. If you select the **Configure automatic rostering using matching strings** link, then you can specify which users are automatically rostered on first login by using matching strings in the same manner as described in the Role Assignment section. Any user not matching the criteria defined will then be prevented from logging into the system.

**Manual rostering**

Manual rostering allows an administrator to decide which people are included in the roster. Using the IBM Workplace Collaborative Learning interface, the administrator searches for people in the user repository and explicitly rosters them. Manual rostering can be performed on both users and groups defined in the user registry.

The procedure for manually rostering users is as follows:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the **Users** tab.
2. Select the **Roster Users** link.
3. Select the **Roster One or More Users** link to access the User Search page as shown in Figure 3-5.
4. The user search will accept wildcard (*) characters in the search fields. Enter an appropriate search pattern that will find the user(s) you wish to roster and then click the **Search** button as shown in Figure 3-5. This will generate a list of matches in the Search Results box, the results may be restricted, depending on setting for maximum search results returned.

5. Select the desired entries from the Search Results box, then click either the **Add Selected** button or the **Add All** button to the right of the search results. Once selected, you can choose to find more users and add them to the list to be rostered.

6. After selecting all of the users that you want to roster, click **Continue**.

You can see a message confirming that you have successfully rostered the selected users.

The procedure for rostering a group is as follows:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the **Users** tab.

2. Select the **Roster Users** link

3. Select **Roster One or More Groups or Organizations** to access the Group Search page shown in Figure 3-6.
4. Enter the appropriate search criteria and click **Search**. This displays a list of groups that match the criteria.

5. Select one or more groups from the result set and click either **Add Selected** or **Add All**. The group names are displayed in the Selected Items box.

6. Click **Continue** to roster the users that are members of the groups that you selected.

You will see a message confirming that you have successfully rostered the users.

**Bulk rostering**

This allows administrators to roster large numbers of users by running a command-line utility, rather than by manually searching and rostering through the IBM Collaborative Learning interface. This is typically done when the system is first installed and the administrator must populate the system with user information. The manual rostering features available through the IBM Workplace Collaborative Learning interface are primarily designed for use with relatively small user sets. Bulk rostering can be a better choice where the number of users to be rostered is in the hundreds or greater.
The utility that performs bulk rostering tasks is described in 2.8.3, “Rostering utility” on page 56. Versions of the utility available are for the Windows, Linux, Solaris and AIX platforms.

### 3.1.3 Partitioning

Partitioning offers the ability to segregate users in such a way that the users in one logical division (organization, organizational unit, department, and so on) will have no visibility of the users in another.

#### Types of partitioning

In IBM Workplace Collaborative Learning there are two primary ways to partition users. You can create a partition based on the hierarchical structure of the user registry or else based on the values of a user’s attributes.

**Partitioning by directory context**

A typical user registry is arranged in a hierarchical structure. A directory context partition will specify a branch of a directory tree. For example:

```
cn=HR,ou=lotus, o=ibm,dc=com
```

By default, searches on the user registry are carried out from the root of the registry (or at least the root as seen by the IBM Workplace Collaboration Services system which is the WMM search base, described in 2.7.5, “The WMM Search Bases” on page 44). Users assigned to a partition would have the directory context on which the partition is defined as the starting point of any user search. For example, a user in the “cn=HR,ou=Lotus,o=ibm,dc=com” partition will be restricted to searching for users that are within this branch of the directory tree.

**Partitioning by user attribute**

Partitioning a user by attribute involves segmenting users based on a user attribute value. For instance, you could partition a user to see only those people whose "Department Number" attribute is set to the value "Sales".

#### Administering partitions

To work with partitions, you need to have a role that contains the Manage Partitions permission which will allow you to see the partitioning interface in IBM Workplace Collaborative Learning. A user may be assigned multiple attribute based partitions but only one directory based partition. Partition assignments are additive so, if a user is assigned to more than one partition, then when the user carries out a search, it will be conducted in each partition to which that user is assigned.
**Creating and managing partitions**

When assigning partitions the user has two paths through the IBM Workplace Collaborative Learning interface that they can follow. The Manage Attribute-Based Partitions by User and Manage Directory-Based partition by User links will show you partitions assigned to a particular user. The Manage Attribute-Based Partitions by Partition and Manage Directory-Based partition by Partition links will show all partitions on the system.

From the page shown in Figure 3-7, an administrator can select a partition to work with or add additional partitions to the system.

The process for managing partitions by partition is very similar to that for managing partitions by user except that managing partitions by user requires you to select one or more users first. Creating a new partition when managing by user will automatically assign the selected users to that partition. Editing an existing partition when managing by user will mean the changes apply to all users in that partition, just as though you had edited the partition when managing by partition, but going this route means you can search for the partition using the names of users you know are already in it as opposed to searching by partition name.

The following examples describe how to manage attribute-based and directory-based partitions by partition. You can follow the same procedures to manage either type of partition by user but, as noted above, you must specify the users first in that case.

The process to create and manage attribute-based partitions by partition is as follows:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the **Users** tab.
2. Select the **Manage Partitions** link.
3. Select the **Manage Attribute-Based Partitions by Partition** link. This displays all of the attribute-based partitions already present on the system.

4. To create a partition, click the **Add** button.

5. The pop-up shown in Figure 3-8 on page 82, is displayed. In this pop-up window you must create the partition and search for users to assign to it. User searches are only carried out on rostered users (except, of course, when searching for users to roster). Required fields are marked by an asterisk (*).

   From the Attribute Name field, you may choose one of the following options:
   - Business Category
   - Common Name
   - Department Number
   - Description
   - Display Name
   - Email Address
   - Employee Type
   - First Name
   - Initials
   - Last Name
   - LDAP Identifier
   - Organization
   - Organizational Unit
   - Title

   These are IBM Workplace Collaborative Learning attribute names, as opposed to WMM attribute names, and they are defined and mapped to WMM attributes in the settings.xml files as described in 2.7.1, “User attributes” on page 38. These mappings can be changed if the defaults do not suit your organization but this should be done either by, or under the instruction of, an IBM support representative.

   Enter a description for the current partition, select an attribute by which to partition from the list and then assign a value to that attribute. You can specify to match values equal or not equal to the specified value using the Operator drop-down list. Next, assign the desired users to the partition.

6. When all the fields have been populated, click **Continue**.
You will now see the new partition listed in the table of attribute-based partitions, as seen in Figure 3-9 on page 82.

Selecting a partition in the table and clicking the **Edit** button allows you to modify the selected partition.
Selecting a partition in the table and clicking the **Delete** button will remove the selected partition.

The process to create and manage directory-based partitions by partition is as follows:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the **Users** tab.

2. Select the **Manage Partitions** link.

3. Select the **Manage Directory-Based Partitions by Partition** link. This displays all of the directory-based partitions already present on the system.

4. To create a partition, click the **Add** button.

5. In the pop-up window that opens, enter a description for the new partition and then a directory context,
   
   such as *cn=HR,ou=Lotus,o=ibm,dc=com*

   The new partition will appear in the table of directory-based partitions from where, again, you can select partitions and click the **Edit** or **Delete** buttons.

**Levels of Partitioning**

To safeguard user information, a partition check is implemented to ensure that a user cannot retrieve attributes that fall outside their partition. So for example if a user selected a link to view the details of a course and the instructor for the course was outside the user's partition, it might be desirable for an error message to be issued.

IBM Workplace Collaborative Learning 2.6 supports three levels of partition checking:

- **Disabled**
  
  No partition checking is performed. Users can search for and retrieve attributes for all users in the LDAP regardless of any partitions assigned to them.

- **Loose**
  
  Partitioning is performed on a user search limiting the results returned to those that were contained within the current user's partition. However no partition checking is done for the retrieval of user attributes. For example, if you attempted to view the details for a room and the room contact was outside your partition you would be able to see the contact's name.

- **Strict**
  
  Partitioning is performed on a user search and a check is also enforced when retrieving user attributes to ensure that the attribute value being returned is
within the current users partition. This is suitable for use when the users in the
different partitions share no common resources such as instructors, rooms,
courses, and so forth.

The partition level setting is specified in the files described in 2.6.2, “The settings
XML files” on page 29. The default setting is 'loose' which means users are
unlikely to run the risk of being confronted with a partition check exception.

3.2 Access Control Lists

In addition to controlling access to functionality through roles and permissions,
certain areas require the use of Access Control Lists (ACLs). ACLs are used to
control access to the masters and offerings folders, as well as to resources, such
as rooms and locations, since these are parts of the system that are, by default,
available to users with all roles.

ACLs associate one of three successive access levels to users or groups as
follows:

- Read access makes items visible to all users in the ACL.
- Write access adds to that the ability to add and edit items controlled by an
  ACL.
- Manage access further adds the ability to change the ACL for an item.

When assigning an access level, the scope of access, Immediate Children or
Descendants (All Children) is also specified. For example, a room is the
immediate child of a location so that a user in the ACL for a location who has
Immediate Children scope would also have the same level of access to all rooms
in that location. If rooms also had children (say, seats or cubicles) Descendants
scope would allow users in the ACL for the location to access these too.

3.2.1 Matching strings

Users are added to ACLs using matching strings which can can be specified in
three ways:

- By Attribute: Can be any attribute name (for example, departmentNumber) or
  an attribute name and its value (for example, departmentNumber=123).
- By Group: The name of a group defined in the user registry.
- By User: The user’s hierarchical name (for example, John
  Doe/Springfield/Acme) or distinguished name (for example, cn=John
  Doe,ou=Springfield,o=Acme).
When you match by attribute, you can specify IBM Workplace Collaborative Learning attribute names, WMM attribute names or LDAP attribute names (when LDAP is in use).

You can test attribute values for equality (=) or inequality (!=). You can also use one or more wild cards (*) to do pattern matching on a set of attribute values.

By Group and By User matching strings can be specified in either of two formats:
- As a qualified user repository distinguished name, such as:
  
  \texttt{cn=John Doe,ou=Springfield,o=Acme}

- As a hierarchical form, such as:

  
  \texttt{John Doe/Springfield/Acme}

  The IBM Workplace Collaborative Learning converts the hierarchical form internally to a user-repository distinguished name.

By default, IBM Workplace Collaborative Learning converts the hierarchical form by adding a \texttt{cn=} qualifier to the first part of the name, an \texttt{ou=} qualifier to all other parts of the name except the last, and an \texttt{o=} qualifier to the last part, removing the slashes ("/"). You can specify different qualifiers to be used for this conversion by changing the values for the \texttt{dnQualifiers} parameter in the LDAP section of the settings.xml files as described in 2.6.2, “The settings XML files” on page 29.

\textbf{Note}: The asterisk wildcard (*) can be used at the beginning of a By User matching string instead of the common name to match all users in a portion of the directory. You \textit{cannot} use a wildcard together with portions of a common name. For example, the following matching strings would not work:
- *Doe/Cambridge/IBM
- John*/Cambridge/IBM
- Jo*Doe/Cambridge/IBM

Also, you \textit{cannot} use a wildcard (*) in a “By Group” matching string search.

\section*{3.2.2 Resource Access Control List}

You can add, edit or delete entries in the Resource Access Control List from the Settings tab in the IBM Workplace Collaborative Learning interface. Adding entries to this area, you are managing the level of access that users have to create resources--locations, rooms and instructors.
The following procedure is used to set up an Access Control List entry on the root location folder:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the **Settings** tab.
2. Select the **LMM Server** link.
3. Select the **General Settings** link.
4. Select the **Location Access Control** tab.
5. To add a new access control entry, click the **Add** button. See Figure 3-10 for fields to be completed when adding an entry in the Access Control List.

   ![Figure 3-10](image)

   *Figure 3-10  Information required to add an access control*

6. In the Level drop-down list box select **Read**, **Write**, or **Manage**.
7. In the Scope drop-down list box, select **Immediate children** or **Descendants**. Selecting Immediate children allows specified users access to the root location folders immediate child folders only, while selecting Descendants allows users access to all child folders belonging to the root location folder.
8. In the Match Type drop-down list box, select the user repository ‘type’ to be searched. Select one of the following categories:
   - **User**, the user's name from the user repository directory
   - **Group**, a group defined in the user repository directory
   - **Attribute**, any user attribute, such as DepartmentNumber
9. In the Match String field, enter the string to be matched to the matching user repository type selected above. See more on Matching Strings in 3.2.1, “Matching strings” on page 84.
10. Click **Save**.
To edit an ACL entry, select the radio button beside the entry and click the Edit button. To remove an ACL entry, select the entry in the list and click the Delete button.

The following procedure is used to set up an Access Control List for a child location:

1. Select the Resources tab.
2. Select Manage Location or Manage Room.
3. Enter a string in one or more of the search fields, and select Search.
4. Select one or more names listed in the Search Results box and select Continue.
5. Select the Access Control tab.
6. The Access Control List passed to this location from its parent locations displays under Inherited Access Control and cannot be edited. See Figure 3-11 on page 87 for an illustration of this.

7. To add a new ACL entry, click the Add button and enter the details for the ACL entry in the same manner used when creating the ACL for the root Location folder previously.

### 3.2.3 Course Catalog Access Control Lists

You first define the ACL for the Masters Catalog folder, which is the root folder. You then define ACLs for its child folders, all child folders inherit the parent folder’s ACL and this behavior cannot be overridden but the parent ACL can be
added to in the child folder ACLs. For example, you may allow all administrators to manage the Masters Catalog folder (and its child folders) and then specify different access levels for other users on a folder-by-folder basis. The procedure for setting up the ACLs for the Masters Catalog and Offerings Catalog is identical to that for setting up Resource ACLs.

ACLs for Course Catalog folders are accessed by selecting the Course Catalog tab, selecting either the Manage Masters Catalog or the Manage Offerings Catalog links, clicking on the folder icon for the folder you wish to configure and then selecting the Access Control tab.

3.3 E-mail and notifications

A notification is a message about your IBM Workplace Collaborative Learning status, such as a course enrollment confirmation or cancellation. The IBM Workplace Collaborative Learning system sends notifications to you by e-mail and also lists them on the Notifications page within the Home tab in the IBM Workplace Collaborative Learning interface. You use the Settings tab within the IBM Workplace Collaborative Learning interface to configure notifications on the system.

Automatic Notifications

To configure automatic notifications, do the following:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the Settings tab.
2. Select the LMM Server link.
3. Select the Automatic Notifications link.
4. You will see five tabs, as shown in Figure 3-12 on page 89, and each contains a list of events that can trigger notifications. Each event has a pair of check boxes alongside it: E-mail and Learning Inbox. If the E-mail check box is selected, then an e-mail will be sent to that user’s e-mail address when the corresponding event is triggered. If the Learning Inbox is selected, then a notification will be displayed in the Notifications area on the Home tab in the IBM Workplace Collaborative Learning interface when the corresponding event is triggered. The events for which notifications can be generated are described in Table 3-2 on page 89.
5. Additionally on the General tab, as shown in Figure 3-12, you can set the “From” E-mail Address and “From” Common Name from which notification messages destined for users’ e-mail inboxes should be sent.
6. When fields are populated as appropriate to your environment, click **Save**.

**Important:** If you do not save your work before navigating to another page, then IBM Workplace Collaborative Learning discards the information you have entered.

![General Notification Settings page](image)

**Figure 3-12  General Notifications Settings page**

**Table 3-2  Events that trigger notifications**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General tab</strong></td>
<td></td>
</tr>
<tr>
<td>All Notifications in the System</td>
<td>Select to globally enable e-mail and Learning inbox notifications. If neither is selected, the individual notifications settings that follow will not be valid.</td>
</tr>
<tr>
<td>Pending Calendar Event</td>
<td>Notice to user or instructor that it is time for a scheduled activity listed on their calendar.</td>
</tr>
<tr>
<td>Report Completed</td>
<td>Notice to reporter that a requested report has been run with report file attached.</td>
</tr>
<tr>
<td>Room Set-up Required</td>
<td>Notice to room contact that room set-up is required for a physical learning event.</td>
</tr>
<tr>
<td>Item</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>“From” e-mail address to serve as system default</td>
<td>The default e-mail address used in the “From” field for all notifications, e.g. <a href="mailto:admin@yourcompany.com">admin@yourcompany.com</a></td>
</tr>
<tr>
<td>“From” common name to serve as system default</td>
<td>The default common name used in the “From” field for all notifications e.g. admin</td>
</tr>
<tr>
<td><strong>Enrollment tab</strong></td>
<td></td>
</tr>
<tr>
<td>Successful Enrollment</td>
<td>Notice to student of successful enrollment in a course.</td>
</tr>
<tr>
<td>Successful Unenrollment</td>
<td>Notice to student of successful unenrollment in a course.</td>
</tr>
<tr>
<td>Minimum number of students not satisfied</td>
<td>Notice to offerings manager that the minimum number of students required for a course has not been met.</td>
</tr>
<tr>
<td>Enrollment Denied</td>
<td>Notice to student that his request to enroll in a course was denied.</td>
</tr>
<tr>
<td>Request for approval: Enrollment</td>
<td>Notice to approver or manager that a request for enrollment is waiting for their approval.</td>
</tr>
<tr>
<td>Request for approval: Unenrollment</td>
<td>Notice to approver or manager that a request for unenrollment is waiting for their approval.</td>
</tr>
<tr>
<td><strong>Certificate tab</strong></td>
<td></td>
</tr>
<tr>
<td>Request for approval: Certificate Criteria</td>
<td>Notice to approver or manager that criteria for a new certificate program or a change to an existing certificate program are waiting for their approval.</td>
</tr>
<tr>
<td>Certificate program changed</td>
<td>Notice to students and instructors that a certificate program has been changed.</td>
</tr>
<tr>
<td>Certificate program completed</td>
<td>Notice to student that a certificate program has been completed.</td>
</tr>
<tr>
<td>Certificate program ends soon</td>
<td>Notice to student that the expiration date for completion of all requirements for a certificate program is near.</td>
</tr>
<tr>
<td>Certificate program expired</td>
<td>Notice to student that the expiration date for completion of all requirements for a certificate program has passed.</td>
</tr>
<tr>
<td>Certificate program cancelled</td>
<td>Notice to students, instructors and room contact that a certificate program has been cancelled.</td>
</tr>
</tbody>
</table>
E-Mail

The procedure to configure settings for e-mail is as follows:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the Settings tab.
2. Select the LMM Server link.
3. Select the General Settings link.
4. Select the E-mail tab.
5. Provide information here for the fields shown in Table 3-3 on page 92.
6. When fields are populated as appropriate to your environment, click **Save**.

**Table 3-3 Email settings to be specified for your system**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable e-mail in the LMM</td>
<td>Select the check box to allow all types of e-mail. The check box is selected by default.</td>
</tr>
<tr>
<td>SMTP server name</td>
<td>Enter the IP address or server name of the SMTP mail server. This can be the local Workplace SMTP server if you are running an IBM Workplace Collaboration Services system with a messaging license. Otherwise, it can be any SMTP server you know of that will route mails correctly to their destination. NOTE: See additional information below if you are using the local Workplace SMTP server.</td>
</tr>
<tr>
<td>Secondary SMTP server name</td>
<td>(Optional) Enter the IP address or server name of the SMTP server to which mail is sent when the primary mail server is unavailable.</td>
</tr>
<tr>
<td>Number of attempts to send an e-mail</td>
<td>Enter the maximum number of times the IBM Workplace Collaborative Learning server will attempt to connect to the SMTP server to transfer a mail message. Successful transfer to the SMTP server does not ensure successful delivery to the recipient. The default value for this field is 2 attempts.</td>
</tr>
<tr>
<td>Attempt time-out in seconds</td>
<td>Enter the number of seconds the IBM Workplace Collaborative Learning server will wait for a response from the SMTP server before canceling a connection attempt. The default value for this field is 10 seconds.</td>
</tr>
<tr>
<td>Number of threads sending e-mails</td>
<td>Enter the number of threads the IBM Workplace Collaborative Learning server will use for attempting connections to the SMTP server. Multiple threads are used to attempt delivery of multiple messages at the same time. The default value for this field is 1 thread.</td>
</tr>
</tbody>
</table>

**Note:** If you plan to use the local IBM Workplace Collaboration Services SMTP server to send mails from your IBM Workplace Collaborative Learning system, there is an extra configuration step required.

Log into the Admin Console at http://<server_name>:9091/admin and navigate to **IBM Workplace Software → Mail Cell-Wide Settings → Filters For SMTP Inbound Connections → Trusted**. In the Trusted IP addresses box, enter the IP address of your IBM Workplace Collaborative Learning server, as shown in
Figure 3-13 on page 93. This setting allows mails originating from the specified machine to be accepted by the IBM Workplace Collaboration Services SMTP server. If you are running a clustered environment, enter the IP addresses of all nodes separated by commas. A server restart will be necessary after making this change.

![Administrative Console](image)

*Figure 3-13  Admin Console, Mail Cell-Wide Settings*

**E-mail scheduler**

Some e-mail notifications are sent in batches at scheduled intervals. To configure the scheduling of batched notifications do the following:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the **Settings** tab.
2. Select the **LMM Server** link.
3. Select the **General Settings** link.
4. Select **E-mail Scheduler** tab.
5. Provide information here for the fields shown in Table 3-4.
6. When fields are populated as appropriate to your environment, click **Save**.

*Table 3-4  Email Scheduler settings to be specified for your system*

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum number of messages in each batch</td>
<td>Enter the maximum number of messages that the scheduler should collect from the IBM Workplace Collaborative Learning database when it runs. A larger batch means that more messages are collected at one time, resulting in fewer transactions with the database server. The default value for this field is 10 messages.</td>
</tr>
<tr>
<td>Scheduling period (in seconds)</td>
<td>Enter the number of seconds the e-mail scheduler waits between attempts to send batches of messages. The default value for this field is 3600 seconds.</td>
</tr>
<tr>
<td>Task Repeat period (in seconds)</td>
<td>Enter the number of seconds to wait before trying to re-send messages in the event of failure. The default value for this field is 3600 seconds.</td>
</tr>
</tbody>
</table>
Error e-mails
The system can be configured to send error messages to a specified e-mail address. To set this up, use the following procedure:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the Settings tab.
2. Select the LMM Server link.
3. Select the General Settings link.
4. Select Errors tab.
5. Enter the FROM address and the TO address for error e-mails.
6. Click Save.

3.4 Resources

A resource in IBM Workplace Collaborative Learning is one of the following:
- Location
- Room
- Instructor
- Vendor

Any user that has the permission to create resources can also manage these resources.

3.4.1 Locations

Locations are generally a business address for training rooms. Here you will enter name of location, address, contact name etc.

The procedure to create a new location resource is as follows:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the Resources tab.
2. Select the New Location link.
3. Enter the location information as seen in Figure 3-14. The only required field is the location name. Typically you will want to add full address information, directions to the room and location contact.

4. When the appropriate location details are provided, click Save.

5. Repeat the previous steps to create any other locations required.

You can also manage locations by selecting the Manage Location link within the Resource tab. From here you can update the information about any location that has been previously created.

![New Location](image)

**Figure 3-14  Creating a new location**

### 3.4.2 Rooms

A room is defined within the IBM Workplace Collaborative Learning system as a classroom, a conference room, an auditorium, or a lab. Classroom equipment associated with a room is considered an attribute of the room. Equipment can include computer workstations, monitors, overhead projectors, VCRs, and other teaching aids.
The procedure to create a new room resource is as follows:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the **Resources** tab.

2. Select the **New Room** link.

3. Complete the required information, as seen in Figure 3-15. The information you provide includes the room type, the capacity of the room, the available equipment, the room contact, and so forth.

   **Note:** You must use the **Find Location** button to select a predefined location before you can save the new room details.

4. When the appropriate room details are provided, click **Save**.

5. Repeat the previous steps to create any further rooms required in the system.

After the rooms are added, you might need to adjust the access control for each individual room, using the **Manage Room** link within the Resource tab. This link can also be used to update any room information. As seen in Figure 3-16 on page 97, there are four tabs available to edit and update information about a room and its bookings.
3.4.3 Instructors

Instructors have some limited administrative functionality within the IBM Workplace Collaborative Learning interface. In addition to being assigned to instruct students on various learning modules, the Instructor role allows them to perform actions such as create a new course offering, manage students’ enrollment and progress data and run a limited set of reports.

You can add instructors that are either internal to your organization (defined in your user repository) or external (not defined in the user repository). You can also add and manage information regarding instructors, including: name and location, schedules, vendor information, skills, zone information, or instructor group information.

The procedure to add an instructor resource is as follows:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the Resources tab.

2. Select the New Instructor link. You are presented with a screen allowing you to find a rostered user to be assigned as an instructor (Figure 3-17 on page 98).
Figure 3-17 Creating a new (internal) instructor

3. Click the **Find User** button on the right to select an Internal Instructor. To add an External Instructor, click the **Find Vendor** button.

4. The user search tool is used to select the rostered user to assign as an instructor.

5. To add skills, click **Add** to the right of the skills entry.

6. Select the appropriate skills from the drop-down list and click **Ok**.

7. To add zones, click **Add** to the right of the zones entry.

8. Select the appropriate zones from drop-down list and click **Ok**.

9. When you have defined parameters for the instructor, click **Save**.

You will be presented with a message confirming that your instructor has been successfully created.

You can manage existing instructors by selecting the **Manage Instructor** link within the **Resource** tab. Here, you use the user search tool to find an instructor, as seen in Figure 3-18 on page 99. This will update the previous instructor information that has been entered for that instructor.
Instructor skills

Skills relate to the skill sets that are associated with instructors. In order to assign appropriately qualified instructors to course offerings, IBM Workplace Collaborative Learning keeps a listing of skills that can be applied to instructors as they are configured in the system. Skills and Zones need to be in place before they can be applied to instructors.

Note: Instructor skills are in no way related to the Skills Management portlet within the IBM Workplace Collaboration Services interface.

The procedure to add instructor skills to the system is as follows:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the Resources tab.
2. Select the Manage Skills link.
3. On the Manage Skills page, click Add to enter a new skill, as shown in Figure 3-19 on page 100.
4. Enter the Skill Name and Skill Description and then click **OK**.

From this page, Instructor skills can be added, edited, and deleted. When finished, click **Done**.

**Instructor Zones**

Instructor zones are a way of defining what geographic area an instructor is available to teach in. Most organizations define zones that correspond to their physical locations.

The procedure to add an instructor zone is as follows:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the **Resources** tab.
2. Select the **Manage Zones** link.
3. In the Manage Zones page, click the **Add** button to enter a new zone, as shown in Figure 3-20 on page 101.
4. Enter the Zone Name and Description and click **Save**.

From this page, Zones can be added, edited, and deleted. When finished, click **Done**.

**Instructor Groups**

Instructor Groups are useful for associating instructors with similar skills and geographic locations (zones). This makes it easy to find multiple instructors with the same skill sets.

The procedure to create a new Instructor Group is as follows:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the **Resources** tab.

2. Select the **Manage Instructor Groups** link.

3. The Manage Instructor Groups screen is displayed, as seen in Figure 3-21 on page 102. Click the **Add** button to create the Instructor Group.
4. Enter an Instructor Group Name and Description and then click **Save**.

From this page, Instructor Groups can be added, edited and deleted. When finished, click **Done**.

### 3.4.4 Vendors (external instructors)

Vendors are resources that provide external instructors and rooms. A vendor may be a department within your company, or another company such as an educational agency.

The procedure to add a vendor is as follows:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the **Resources** tab
2. Select the **New Vendor** link. You will see all the information needed to create new vendor on system, as shown in Figure 3-22 on page 103.
3. Provide the Vendor information as appropriate. The only required field is Name.

4. Click the **Save** button when done.

A confirmation screen will display when it has successfully saved. Repeat the previous steps to enter other vendors in the system, as appropriate.

You can also manage vendors by clicking the **Manage Vendors** link within the **Resource** tab. This will allow you to update any previous vendor information that has been entered.

### 3.5 Setting up announcements

Announcements are general notices that are posted for multiple users to see. They are targeted at specific users or groups using matching strings. This section covers how an administrative user creates, edits, and deletes announcements through the IBM Workplace Collaborative Learning interface.
Creating announcements

Follow these steps to create an announcement:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the **Settings** tab.

2. Select the **Announcements** link, as shown in Figure 3-23.

3. In the Announcement Settings page, click the **Add** button.

4. In the pop-up window, fill in the relevant details, as described in Table 3-5.

Table 3-5  Information needed to create an announcement

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Announcement Text</td>
<td>Enter the text of the announcement that the users will see.</td>
</tr>
<tr>
<td>Matching Type</td>
<td>Enter the user repository type to be searched for the matching string specified. Select one of the three search options - attribute, group or name.</td>
</tr>
<tr>
<td>Matching String</td>
<td>Enter the matching string to be used to identify the user or users who will see the announcement. You can enter a substring that will be matched against the longer type, e.g. /ibm/ matches the person name /IBM/CAM/J Doe.</td>
</tr>
<tr>
<td>Language</td>
<td>Enter the language in which the announcement will be displayed. Targeted users must have the specified language set in their preferences in order to see the announcement.</td>
</tr>
</tbody>
</table>
5. After you have entered the relevant details, click **Save** to store the announcement.

**Note:** If you do not save your work before navigating to another page, any information you have entered will be lost.

Once saved, the announcement will appear in the announcements table (Figure 3-24).

![Figure 3-24  Announcement created in IBM Workplace Collaborative Learning.](image)

### Editing announcements

Follow these steps to edit an announcement:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the **Settings** tab.

2. Select the **Announcements** link.

3. In the Announcement Settings page, select the radio button beside an announcement that you wish to update and click the **Edit** button.

4. In the pop-up window, update the necessary fields and click **Save** to store the updated announcement.

### Deleting announcements

Follow these steps to delete an announcement:

1. While logged into the IBM Workplace Collaborative Learning interface as an administrative user, select the **Settings** tab.

2. Select the **Announcements** link.
3. In the Announcement Settings page, select the radio button beside an announcement and click the **Delete** button.
Creating and managing learning modules

In this chapter you are introduced to the processes involved in creating Learning modules through the IBM Workplace Collaborative Learning version 2.6 user interface. These modules that you create will appear in the Course Catalog, the modules that students will enroll in and take. The topics within this chapter follow on from both the configuration of the system, covered in Chapter 3, “Base configuration” on page 67 and the online course creation, covered in Appendix A, “Content creation with the Authoring and Assembly Tool” on page 303. Finally, you can see the functionality available in the IBM Workplace Collaborative Learning interface to manage these learning modules.
4.1 Introduction to creating learning modules

This functionality to create all types of learning modules is contained in the IBM Workplace Collaborative Learning interface. Figure 4-1 is an illustration of the Course Catalog area where we will create these modules. To be able to see this area of the IBM Workplace Collaborative Learning interface, you must be assigned a role that has access to this functionality. Roles are covered in 3.1.1, “Roles and permissions” on page 68.

As mentioned in Chapter 3, “Base configuration” on page 67, the course catalog consists of two distinct areas, the Masters Catalog and the Offerings Catalog (Figure 4-1). The creation of learning modules is a two step process. The first step is to create a learning module template in the Masters Catalog. The second step is to then create an item in the Offerings Catalog from this template in the Masters Catalog.

There are three distinct types of learning modules used in the Course Catalog: Courses, Curriculums, and Certificates. There are a number of variations of the Course type of learning module, these include classroom courses, online courses, Lotus Virtual Classroom (LVC) courses and blended courses. Essentially the main distinction between these various types of courses is the delivery medium - classroom training is a formal training session held in a classroom, while the other types have the some degree of web based training delivered through your computer. Section 4.1.1, “Types of learning modules” on page 109 covers the types of Learning Modules. The topics referred to in this introduction are covered in further detail within this chapter.

![Figure 4-1](image-url)
4.1.1 Types of learning modules

The three types of learning modules available when creating entries in the Masters and Offerings Catalog are Courses, Certificates, and Curriculums. A broad description of each of these types is covered in Table 4-1.

Table 4-1 Module types and a description of each

<table>
<thead>
<tr>
<th>Module Type</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course</td>
<td>A one-time learning event.</td>
</tr>
<tr>
<td>Certificate</td>
<td>A grouping of related courses, for which completion results in a credential.</td>
</tr>
<tr>
<td>Curriculum</td>
<td>A grouping of related courses into one module.</td>
</tr>
</tbody>
</table>

There are various types of learning modules within the Course type, Table 4-2 gives a brief description of these.

Table 4-2 Course types and a description of each

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom</td>
<td>The traditional instructor-led classroom training. Scheduled to be run at a particular time, date and in a particular location.</td>
</tr>
<tr>
<td>Online</td>
<td>Self-paced Web training, a user can take the course while connected to the Workplace server, or optionally in offline mode, if configured by Administrator.</td>
</tr>
<tr>
<td>Blended</td>
<td>Similar to online courses, but also contain a schedulable component.</td>
</tr>
<tr>
<td>LVC</td>
<td>Online courses that have components which interact with scheduled Lotus Virtual Classroom sessions.</td>
</tr>
</tbody>
</table>

In this chapter, we cover creating each of the module types in Table 4-1, as well as both the classroom and online course types mentioned in Table 4-2.

4.2 Overview of Course Catalog

In order to create a module that a student will be able to find and enroll in, a user will need to have access to the Course Catalog area of the IBM Workplace Collaborative Learning interface. Access to the Course Catalog is controlled through Roles, which is covered in 3.1.1, “Roles and permissions” on page 68.
The Course Catalog area of the IBM Workplace Collaborative Learning interface is similar to two directory structures, one area to save Masters and another area to save Offerings. In addition to a user having access to the Course Catalog functionality by assigning a relevant role, the user will need to have write access to the Access Control List (ACL) of Masters and Offerings catalog, in order to save modules to these directories. Chapter 3, “Base configuration” on page 67 covers the requirements for the ACLs on both the Masters and Offerings catalog. In order for students to be able to search for modules in Offerings catalog, they will need to have read access ACL entry on the Offerings catalog.

Any users that have write access to the Masters and Offerings catalog also have the ability to create subdirectories within each of these areas. This is done by selecting the **Create Folder** link. The organization of the directory structure within the Masters and Offerings catalog in a Workplace deployment is up to those setting up modules. However, before a system is set up in a production environment, it is advisable to spend some time preparing a structure that will result in ease of use for your needs looking forward in time. For example, if there were to be several hundred courses to be set up in the system, it might be advisable to set up directories based on topic or organizational unit. Figure 4-2 demonstrates a sample directory structure within the Masters catalog where modules are created in folders based on the training content.

![Figure 4-2 Masters Catalog directories sample, note the Create Folder link top left](image)

It is also advisable to mirror the directory structure between the Masters and Offerings catalog, this results in a more intuitive link between a particular module in each of the catalogs.

There can be multiple offerings created from a module master, but there must be at least one item in the Masters catalog before a user can create an offering.

There can be multiple scheduled offerings for classroom and blended courses. Essentially this means that the same course is run multiple times, possibly with different instructors and at a different location.
It should be noted that deleting a module from Masters catalog automatically deletes any modules in the Offerings catalog that are based on this Master module. This delete action will also withdraw students from those referenced learning modules in the Offerings catalog.

The same applies to deleting a module in the Offerings catalog, any scheduled offerings referenced from this offering (if the module is a classroom or blended course) are also deleted, and the students withdrawn from the module.

4.3 Setting up learning modules

This section covers the process involved in creating each of the various types of learning module. As mentioned in the previous section, you must first create a template in the Masters catalog and subsequently create an item in the Offerings catalog from the template.

4.3.1 Classroom and blended courses

Classroom courses are the traditional instructor led classroom training. They are scheduled to be run at a particular time, date and at a particular location. Blended courses are similar to classroom courses, except they have an additional scheduled Lotus Virtual Classroom component.

The next three sections cover creating the Master and Offering, then scheduling the offering. The steps in these sections apply to creating both classroom and blended course types. The extra steps to create a blended course are highlighted in the relevant section.

Create a classroom course master

Follow these steps to create a classroom or blended course master in the Masters catalog.

1. When in the Course Catalog area of the IBM Workplace Collaborative Learning interface, select Register Master, then select Continue. See Figure 4-3 on page 112 for the Register Master link in the Course Catalog.
2. Select the **Course Master** radio button, then select **Continue**. See figure 4-4 for this option.

3. Leave the focus on the **I want to create a new master** radio button and select **Continue**. See Figure 4-5 on page 113 for the new master option. Alternatively, if you have previously unregistered a classroom course master or saved a master as Draft in the Masters catalog, this template can be selected from the list of Unregistered Masters. The Unregistered Masters table will also contain any online course packages that have been imported into the system, this is covered in the section on Creating an Online Course Master.
4. In the Master Details page, complete the input fields as appropriate and select **Continue**. The Title and Course Number fields are mandatory (symbol ‘*’). Figure 4-6 displays a sample of the input fields available in the Master Details page of the IBM Workplace Collaborative Learning interface.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>Title for the course, mandatory.</td>
</tr>
</tbody>
</table>

**Table 4-3 Master Details page options for a classroom or blended course**
5. In the Course Prerequisites page, select **Add Prerequisite** if you want to add another module that must be taken before a user will be able to take the current course. After you have added prerequisite modules, you can choose to group these modules. Grouping in the current context means to specify that a certain number of modules out of the total number must be taken before enrolling in the current course. After you have added prerequisite modules as applicable, select **Continue**. See Figure 4-7 on page 115 for the contents of the Course Prerequisites page.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Description for the course, optional.</td>
</tr>
<tr>
<td>Course Number</td>
<td>Number assigned to the course, must be unique, mandatory.</td>
</tr>
<tr>
<td>Keywords</td>
<td>Any keywords that may be helpful to find course during a search, optional.</td>
</tr>
<tr>
<td>Language</td>
<td>Assign a content language for the course, optional.</td>
</tr>
<tr>
<td>Expiration Date</td>
<td>Date beyond which course expires, optional.</td>
</tr>
<tr>
<td>Can Be Scheduled</td>
<td>Selected automatically if classroom course.</td>
</tr>
<tr>
<td>Delivery Medium</td>
<td>Physical for classroom courses, virtual for online courses and blended for courses that have both classroom and online content.</td>
</tr>
<tr>
<td>Required Discussion</td>
<td>Select to require that a discussion component is to be used when setting up offering.</td>
</tr>
<tr>
<td>Requires Chat</td>
<td>Select to require that a chat server is to be used when setting up offering.</td>
</tr>
</tbody>
</table>
6. In the Course Schedule Outline page, you can choose to add a booking requirement or a virtual classroom block. See Figure 4-8 for the contents of the Course Schedule Outline page.

**Figure 4-7** Course prerequisites page for a classroom or blended course

**Figure 4-8** Course Schedule Outline page for a classroom or blended course
If you select **Add Booking Requirement** in this page, then you are adding information about the schedule requirements of the classroom or blended course. Essentially a booking requirement determines the resources required for the scheduled offering. This booking requirement feature is cover in more detail later in this section when covering Scheduling a Course Offering, see Table 4-6 on page 126.

If you select **Add Virtual Classroom Block**, then you are creating a blended course. A *blended course* combines a classroom course with a scheduled Lotus Virtual Classroom event. Figure 4-9 shows the dialog that displays when you select Add Virtual Classroom Block. In this dialog you specify the resource requirement for the Virtual Classroom component of the blended course.

![Create Requirement Block dialog](image)

**Figure 4-9  Add Virtual Classroom Block dialog**

Table 4-4 describes the fields available in this dialog.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration</td>
<td>Number of minutes the live Virtual Classroom session will be active for.</td>
</tr>
</tbody>
</table>

Table 4-4  *Fields available in the Add Virtual Classroom Block dialog*
The other options in the dialog (Moderated or Broadcast, Recorded, and so on) refer to Lotus Virtual Classroom settings. For more information about these see the IBM Redbook *Using the IBM Lotus Virtual Classroom: A Best Practices Guide to e-Learning*, SG24-6842.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule on Day</td>
<td>If the course spans a number of days, specify the day for which the current Virtual Classroom block will take place.</td>
</tr>
<tr>
<td>Instructor Count</td>
<td>Number of instructors required when the Virtual Classroom component is scheduled.</td>
</tr>
</tbody>
</table>

**Note:** When creating a blended course master in IBM Workplace Collaborative Services 2.6, only one single Lotus Virtual Classroom block may be added to the Course Schedule Outline.

After you have completed these optional features as required by the course you are setting up, select **Continue**.

7. In the Save Course page, browse through the Masters Catalog structure for a folder to save this Course Master, then select **Save**. Figure 4-10 on page 118 shows a folder selected to save the course master into.
You should see a page titled Course Confirmation when the Master has saved correctly. See Figure 4-11 for a sample course save confirmation.

If you need to make any updates to the master, you can do so by selecting the Course Catalog link, then Manage Masters Catalog, browse to the offering and selecting the icon. The Details page can be put into edit mode by selecting the Edit button. See Figure 4-12 on page 119 for the this option in the IBM Workplace Collaborative Learning interface.
Create a classroom or blended course offering
Once you have created a classroom or blended course master, follow these steps to create a classroom or blended course offering in the Offerings catalog.

1. When in the Course Catalog area of the IBM Workplace Collaborative Learning interface, select Register Course Entry. Figure 4-13 shows this link in the Course Catalog tab.

2. Select the Course radio button, then select Continue. This option is displayed in Figure 4-14 on page 120.
3. Browse to the item in the Masters catalog from which you want to create an offering, then select Continue. Alternatively, you can search for the course master if you know the keywords entered when creating the course master. See Figure 4-15 for an illustration of a course master selected from a subfolder within the Masters catalog in the Select a Master page.

Figure 4-15 Choosing a course master from the Masters catalog
4. In the Course Details page complete the input fields as appropriate for your particular offering, and then select Continue. In the Course Details page a number of the fields are pre-populated with values from the Master you have selected. These fields can be updated with the exception of the Course Number field, which is maintained from the value in the Course Master. As with the Master Details page, only the Title and Course Number fields are mandatory. See Figure 4-16 for a sample of the options available in the Course Details page.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td>The options for the Status field are Available, Draft and Inactive. If the status is set to Active, the course will be found in a catalog search. A user would use Draft status if they were working on creating an offering but is not available for students to enroll in. A course that is set to Inactive will again be taken out of the catalog search, and any enrollments in the course will be removed. This may be preferable for administrators to use instead of deleting the course, as it allows for the course to be reinstated in the course catalog without having to recreate the course.</td>
</tr>
<tr>
<td>Item</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Is For Credit</td>
<td>Only applicable to online course, this check box option is selected by default. If you deselect this option when creating an offering then no tracking data will be recorded when the course is launched, essentially the course will be previewed. This field is editable on master update.</td>
</tr>
<tr>
<td>Course Contact</td>
<td>A contact user for the course, will default to the user creating the offering if another user is not selected.</td>
</tr>
<tr>
<td>Enrollment Maximum</td>
<td>A value for the maximum number of users that are allowed to enroll in a course. A value of zero will signify an unlimited enrollment maximum. Typically the number of students that can enroll in a classroom course will be confined by the room in which the course will be run.</td>
</tr>
<tr>
<td>Enrollment Minimum</td>
<td>A value for the minimum number of students that need to enroll in order for the course to be run.</td>
</tr>
<tr>
<td>Allows Self-enrollment</td>
<td>Allows students to be able to enroll themselves in a course when they find it through a search. This setting is typically enabled. If this option is not enabled then a user with access to the Course Management area of the IBM Workplace Collaborative Learning interface will need to enroll students in a course.</td>
</tr>
<tr>
<td>Allows Self-unenrollment</td>
<td>Similar functionality to the previous item in the table, this functionality allows students to unenroll (or withdraw) themselves from a course in which they are currently enrolled. Again, this is typically enabled.</td>
</tr>
<tr>
<td>Requires Management Approval</td>
<td>If selected, manager must approve the current course through the IBM Workplace Collaborative Learning interface Home tab, Approvals section. The course will not appear in the student's Enrolled Courses view until the Approval Request is accepted by the student's manager. The Manager is one of the fields stored for a user when you roster them in the IBM Workplace Collaborative Learning interface.</td>
</tr>
<tr>
<td>Requires Approvers Approval</td>
<td>Similar to the functionality in the previous item in the table. If selected, the user creating the course can choose a user that will need to approve any enrollment or unenrollment requests from students.</td>
</tr>
<tr>
<td>Has Wait List</td>
<td>If selected, any users that try to enroll after the enrollment maximum has been exceeded will be added to a wait list. If students that have successfully enrolled subsequently unenroll, those on the wait list will be enrolled in their place.</td>
</tr>
</tbody>
</table>
5. In the Save Course page, browse through the Offerings catalog structure for a folder to save the classroom or blended course offering in to, then select **Save**. Figure 4-17 shows a folder selected to which save the course offering.

![Figure 4-17 Select a folder to save the offering in to](image)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requires Student on Can Attend List</td>
<td>Can set up an exclusive list of users that will be allowed to enroll in a course. Those users not in the list will not be able to enroll in the course.</td>
</tr>
<tr>
<td>Discussion Type</td>
<td>Option to create a discussion component linked to the current course. The discussion component can be either a Course Collaboration or a Domino Discussion database. Further options available based on option selected, see Section 8.1, “Course Collaboration Spaces” on page 262 for more information about this area.</td>
</tr>
<tr>
<td>Custom Fields</td>
<td>Person creating the offering can choose to add custom fields. These custom fields allow for increased flexibility in the information can be associated with the course offering.</td>
</tr>
</tbody>
</table>
You should see a page titled Course Confirmation when the offering has saved correctly. Figure 4-18 shows a sample save confirmation.

![Figure 4-18  Course offering save confirmation](image)

If you need to make any updates to the offering you can do so by selecting the **Course Catalog** link, then **Manage Offerings Catalog**, browse to the offering and selecting the icon. The Course Details page can be put into edit mode by selecting the **Edit** button.

**Schedule the classroom or blended course**

When you schedule a classroom offering you are adding date, time and resource information for that particular offering. When you schedule a blended course offering you add the same details as when scheduling a classroom course, as well as providing details of the Virtual Classroom component schedule. Follow these steps to schedule either a classroom or blended course offering.

1. When in the Course Catalog area of the IBM Workplace Collaborative Learning interface, select **Manage Offerings** and browse to the offering that you wish to create a scheduled offering for. Figure 4-19 shows this link in the **Course Catalog** tab.

![Figure 4-19  Manage Offerings link in the Course Catalog tab](image)
2. Select the **course icon** beside the course name to display the Course Details for this course. Figure 4-20 shows the icon link for a classroom course that you select to display the Course Details page.

![Figure 4-20 Classroom course icon to select to display the Course Details page](image)

3. Select **Scheduled Offerings** to display the list of scheduled offerings for this course. Figure 4-21 shows the Scheduled Offerings link from the Course Details page.

![Figure 4-21 Scheduled Offerings link from the Course Details page](image)
If the course has not been scheduled, there will not be entries listed in the table here. Figure 4-22 shows the Scheduled Offerings page for a course that has been scheduled once previously.

![Scheduled Offerings page with a single existing scheduled offering](image)

4. Select **Schedule New Offering**. In the Schedule Details page complete the input fields as appropriate to your particular scheduled offering. At a minimum, you must fill in the start date field. Table 4-6 describes the details of the fields available within this page.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start Date</td>
<td>Date on which the classroom course will begin.</td>
</tr>
<tr>
<td>End Date</td>
<td>Date on which the classroom course will complete.</td>
</tr>
<tr>
<td>Start Registration Period</td>
<td>The first date on which students can enroll in this scheduled offering of the course.</td>
</tr>
<tr>
<td>End Registration Period</td>
<td>The last date on which students can enroll in this scheduled offering of the course.</td>
</tr>
<tr>
<td>Enrollment Maximum</td>
<td>As per offering details, a value for the maximum number that can enroll in the course. A value of zero will signify an unlimited enrollment maximum. The value provided here in the scheduled offering will override the value in the offering details if a value was specified at that stage.</td>
</tr>
<tr>
<td>Enrollment Minimum</td>
<td>As per offering details, a value for the minimum number of students that need to enroll in order for the course to be run.</td>
</tr>
</tbody>
</table>
Figure 4-23 on page 128 shows a sample of the Schedule Details page for a classroom course where you have selected New Scheduled Offering.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructors</td>
<td>A single instructor or set of instructor, can add or remove instructors as appropriate to the current scheduled classroom course.</td>
</tr>
<tr>
<td>Create Date</td>
<td>Current date when scheduled offering create, this is filled in automatically when offering is first created.</td>
</tr>
<tr>
<td>Status</td>
<td>Same as offering details, can be Active, Draft or Inactive.</td>
</tr>
<tr>
<td>Deployment Status</td>
<td>Will be Inactive for a classroom course.</td>
</tr>
<tr>
<td>Discussion</td>
<td>If you have specified a discussion component, link present here, otherwise No Discussion displayed.</td>
</tr>
<tr>
<td>City</td>
<td>City where course will be held, can use the Find Location to complete the City, State and Country fields.</td>
</tr>
<tr>
<td>State</td>
<td>State where course will be held, can use the Find Location to complete the City, State and Country fields.</td>
</tr>
<tr>
<td>Country</td>
<td>Country where course will be held, can use the Find Location to complete the City, State and Country fields.</td>
</tr>
<tr>
<td>Custom Fields</td>
<td>Any custom fields you may want to include, as described in the table 4.4.</td>
</tr>
</tbody>
</table>
If a booking block was added in the Course Master, details are completed at this stage. A booking block can still be added at this stage by selecting Add Booking Requirement. Figure 4-24 on page 129 shows the options available in the this dialog. In the booking requirement dialog you can specify how many resources are required.
Table 4-7 describes the details of the fields available within this Booking Requirement page.

Table 4-7  The fields within the Add Booking Requirement area

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Type</td>
<td>Can be set to either Classroom or Learning Event. The difference between the two types is that Classroom refers to the traditional classroom activity, where as Learning Event will apply to non-classroom activities, such as workshops.</td>
</tr>
<tr>
<td>Duration</td>
<td>Specify the number of days and hours per day for this booking requirement. Also must specify on which day the resources are to be reserved via the ‘Schedule on Day’ option. For example, if you were to have set up a two day classroom course, you would specify two booking blocks. The first block applies to resources required for day one, the second block would apply to the resources for day two.</td>
</tr>
</tbody>
</table>
After you have set up the booking requirement then these fields become mandatory. As you provide values for each of the resources, the application will check for conflicts in that resource's associated calendar.

If you are scheduling a blended course offering created from a master saved with a Lotus Virtual Classroom Block, you must provide schedule details for the Virtual Classroom component. The additional fields present in the Schedule Details page for a blended course are covered in Table 4-8.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources</td>
<td>Specify the number of instructors required and the type of room needed for this scheduled offering. Can also add a comment to the booking requirement.</td>
</tr>
</tbody>
</table>

Table 4-8  Additional fields available in when scheduling a blended course

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edit Virtual Classroom Block</td>
<td>Specify dates and time for the virtual classroom schedule. Also specify a Virtual Classroom Server and settings for the session - whether session is moderated or broadcast; recorded; uses chat; uses whiteboard; uses follow me; uses screen share; uses polling; uses breakout sessions; has audio or video requirements.</td>
</tr>
</tbody>
</table>

For more information about Virtual Classroom settings see the IBM Redbook *Using the IBM Lotus Virtual Classroom: A Best Practices Guide to e-Learning*, SG24-6842.

5. After you have completed all of the schedule information relevant to your scheduled classroom course, select Save.

Further scheduled offerings for this offering can be created by again selecting the Schedule New Offering button.

If you must make any updates to the scheduled offering you can do so by selecting the Course Catalog link, then Manage Offerings Catalog, browse to the offering and selecting the icon. From the Course Details page select the Scheduled Offerings tab, then select the icon beside the scheduled offering you wish to update. The selected scheduled offering can be put into edit mode by selecting the Edit button.
4.3.2 Online and Lotus Virtual Classroom courses

Online Courses do not have a schedule associated with them, so to create an
module that a student can enroll in is a two stage process:

1. Create a master from an imported online course that has been created in an
external authoring application.

2. Create an offering from this online course master.

Lotus Virtual Classroom courses have a further step in addition to the steps for
the online courses. In this extra step you schedule the Virtual Classroom
component.

A prerequisite to setting up online and Lotus Virtual Classroom courses in the
Course Catalog is that an online course package has been imported into the
Workplace system. This can be done using the Authoring and Assembly Tool
(AAT) or the Command Line Import utility (CLIMP). For more information about
how to import online course package using these utilities, see Section 2.8.2,
“Tools Available” on page 49 for the AAT import process and “CLIMP: Command
Line Import Utility” on page 54 for the Climp import process.

Create an online or Lotus Virtual Classroom course master

Follow these steps to create an online or Lotus Virtual Classroom course master
in the Masters catalog.

1. When in the Course Catalog area of the IBM Workplace Collaborative
   Learning interface, select Register Master, then select Continue.

2. Select the Course Master radio button, then select Continue.

3. Select the online package that has been imported previously from the list in
   the Unregistered Masters table, then select Continue. Figure 4-25 on
   page 132 shows an online course package that has been imported into the
   Workplace system but has not yet had a master created from this package.
4. In the Master Details page, complete the input fields as appropriate and select **Continue**. Most of the fields in this page are common to all types of module. The master details specified in Table 4-3 for the classroom course also apply to an online or Lotus Virtual Classroom course master. Table 4-9 covers the additional options specific to an online or Lotus Virtual Classroom course master. Most of the fields are pre-populated from the parameters set when authoring the course, such as the course name, description, and so forth.

**Table 4-9 Additional fields in Master Details page for online course master**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Package Name</td>
<td>Name of the package file that was imported to the Workplace server e.g. WorkplaceLearningTutorial.zip.</td>
</tr>
<tr>
<td>Package Size</td>
<td>Size of the package file on the server.</td>
</tr>
<tr>
<td>Package Import Directory</td>
<td>Physical location on the Workplace server where the imported package is stored.</td>
</tr>
<tr>
<td>Content Cost</td>
<td>An optional course metadata field specified during content creation. If a value not specified during content creation, this check box will not be available for selection.</td>
</tr>
<tr>
<td>Item</td>
<td>Description</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Content Copyright</td>
<td>An optional course metadata field specified during content creation. If a value not specified during content creation, this check box will not be available for selection.</td>
</tr>
</tbody>
</table>

Figure 4-26 shows a sample of the Master Details page for an online course where the fields in Table 4-9 on page 132 appear in the IBM Workplace Collaborative Learning interface.

<table>
<thead>
<tr>
<th>Delivery Medium</th>
<th>Virtual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requires Discussion</td>
<td>□</td>
</tr>
<tr>
<td>Requires Chat</td>
<td>□</td>
</tr>
<tr>
<td>Package Name</td>
<td>Swing001.zip</td>
</tr>
<tr>
<td>Package Size</td>
<td>4.0 MB</td>
</tr>
<tr>
<td>Package Import Directory</td>
<td>Z:\ims_courses\pkg19617</td>
</tr>
<tr>
<td>Content Cost</td>
<td>□</td>
</tr>
<tr>
<td>Content Copyright</td>
<td>□</td>
</tr>
</tbody>
</table>

*Figure 4-26  Master Details options specific to online or Lotus Virtual Classroom courses*

5. Select **Add Prerequisite** in the Course Prerequisites page to add another module that must be taken before a user will be able to take the current course. These prerequisite courses may be grouped as described in step 5 of Creating a classroom or blended course master, see Figure 4-7. When complete with prerequisites, select **Continue**.

6. In the Save Course page, you browse through your catalog structure for an area to save the Master, then select **Save**. You should see a page titled Course Confirmation when the Master has saved correctly.

If you must make any changes to the online or Lotus Virtual Classroom course master details you can do so by selecting the **Course Catalog** tab, then **Manage Masters Catalog**, browse to the master and selecting the icon. The Details page can be put into edit mode by selecting the **Edit** button.

**Create an online or Lotus Virtual Classroom course offering**

Follow these steps to create an online course offering in the offerings catalog.

1. When in the Course Catalog area of the IBM Workplace Collaborative Learning interface, select **Register Course Entry**.

2. Select the **Course** radio button, then select **Continue**.
3. Browse to the item in the Masters catalog from which you want to create an offering, then select **Continue**.

4. In the Course Details page complete the input fields as appropriate to your particular offering, and then select **Continue**. Table 4-10 describes the fields specific to an online or Lotus Virtual Classroom, (the course details not already covered while discussing classroom and blended courses in Table 4-4). In the Course Details page a number of the fields are pre-populated with values from the Master you have selected. These fields can be updated with the exception of the Course Number field, which is set to the value specified in the Course Master. In this Course Details page the Title, Course Number and Delivery Server fields are mandatory.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivery Server</td>
<td>Select the Delivery Server configured during the Workplace deployment.</td>
</tr>
<tr>
<td>Allows use with Offline Client</td>
<td>Select if you will allow students to use the Workplace Learning Offline Client to take the current course in an offline mode. See Chapter 2, Base Configuration for more information about the Offline Client.</td>
</tr>
<tr>
<td>Allows offline users to force course online</td>
<td>If you have enabled the ‘Allows use with Offline Client’ option, then this second option will allow student to force the status of the course to Online. This can be used if a course has become corrupt or if there are problems with the students machine. If a course is forced online then any progress data captured when the course is taken in offline mode will be discarded, the current Workplace server progress data is used for this course.</td>
</tr>
<tr>
<td>Previewable</td>
<td>Allows a student to preview a course without having to enroll in it. This Preview setting for a course must be set at the time when the online course is authored. The Course Details page in Workplace Learning will display a ‘Preview’ button when an online course has this ‘Previewable’ setting enabled in the Offering Details. No progress data is recorded for courses launched in preview mode.</td>
</tr>
</tbody>
</table>

Figure 4-27 on page 135 shows some of these fields in the Course Details page. The Previewable option is not available for selection because this course did not have the option specified when the course was created.
5. In the Save Course page, browse through the catalog structure for an area to save the Offering, then select Save. You should see a page titled Course Confirmation when the Offering has saved correctly.

6. If this is a Lotus Virtual Classroom that you are creating, then you must schedule the Virtual Classroom component. The process to schedule the LVC component is the same as scheduling a blended course, where you select Schedule New Offering in the Scheduled Offerings tab of the course details. The fields described in Table 4-8 on page 130 need to be completed to assign a schedule and then the scheduled offering is saved.

If you must make any updates to the offering details, you can do so by selecting the Course Catalog tab, then Manage Offerings Catalog, browse to the offering and select the icon. The Course Details page can be put into edit mode by selecting the Edit button.

### 4.3.3 Curriculums

The Curriculum type of Learning module exists so that a set of related courses may be grouped into one module. The courses added to a curriculum may be grouped into a number of elective courses, for example taking three out of five available courses specified in the curriculum.

#### Create a curriculum master

Follow these steps to create a curriculum master in the masters catalog.

1. When in the Course Catalog area of the IBM Workplace Collaborative Learning interface, select Register Master, then select Continue.

2. Select the Curriculum Master radio button, then select Continue. See Figure 4-28 on page 136 for this option in the New Master page.
3. In the Curriculum Details page, complete the input fields as appropriate and select **Continue**. The fields in this page are common to all types of module, see Table 4-3 on page 113 for a description of the fields. See Figure 4-29 on page 137 for the fields present in the Curriculum Details page.
4. In the Curriculum Prerequisites page, select **Add Prerequisite** if you want to add another module that must be taken before a user will be able to take the current curriculum. After you have added prerequisite modules, you can choose to group these modules. **Grouping** in the current context means to specify that a certain number of modules out of the total number must be taken before enrolling in the current curriculum. After you have added prerequisite modules as applicable, select **Continue**.

5. In the Curriculum Course List page, you can add courses to the curriculum by selecting **Add Course**. Search for courses to add to the curriculum and then select **ok**. Courses can be grouped into optional courses. To group a set of courses, you select the check boxes beside the courses to group and then select **Make Group**. You will then specify the number of courses that the student is required to take out of that grouping. Selecting **Ungroup** will remove the grouping, while **Remove** will take the selected courses out of the Curriculum Course List. Figure 4-30 on page 138 shows the Curriculum...
Course List page where a set of courses have been added and then grouped. When complete, select Continue.

![Curriculum Course List page with grouped courses](image)

6. In the Save Course page, browse through the catalog structure for an area to save the Master, then select Save. You should see a page titled Curriculum Confirmation when the master has saved correctly.

If you need to make any updates to the curriculum master details you can do so by selecting the Course Catalog tab, then Manage Masters Catalog, browse to the master and selecting the icon. The Details page can be put into edit mode by selecting the Edit button.

**Create a curriculum offering**

Follow these steps to create a curriculum offering in the offerings catalog.

1. When in the Course Catalog area of the IBM Workplace Collaborative Learning interface, select Register Course Entry.

2. Select the Curriculum radio button, then select Continue.
Chapter 4. Creating and managing learning modules

3. Browse to the item in the Masters catalog from which you want to create an offering, then select **Continue**.

4. In the Curriculum Details page complete the input fields as appropriate to your particular offering, and then select **Continue**. The options in this page are common to the types of Learning module described earlier, see table 4-5 for details. Figure 4-31 shows a sample of the Curriculum Details page.

5. In the Save Course page, browse through the catalog structure for an area to save the Offering, then select **Save**. You should see a page titled Course Confirmation when the Offering has saved correctly.

If you need to make any updates to the curriculum offering details you can do so by selecting the **Course Catalog** tab, then **Manage Offerings Catalog**, browse to the offering and selecting the icon. The Course Details page can be put into edit mode by selecting the **Edit** button.

### 4.3.4 Certificates

A Certificate is a grouping of related courses, for which completion results in a credential. Creating a certificate is a two step process - create a certificate master and then create a certificate offering from the certificate master. Similar to curriculums, the courses added to a certificate may be grouped into a number of elective courses, for example taking three out of five available courses specified in the certificate.
Create a certificate master
Follow these steps to create a Certificate Master in the Masters Catalog.

1. When in the Course Catalog area of the IBM Workplace Collaborative Learning interface, select Register Master, then select Continue.

2. Select the Certificate Master radio button, then select Continue. See Figure 4-32 for this option in the New Master page.

3. In the Certificate Details page, complete the input fields as appropriate and select Continue. The options in Table 4-4 on page 116 also apply to the current Certificate Details page, while Table 4-11 covers the additional options specific to an Certificate Master.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Time to Complete</td>
<td>Specify the number of days to complete the courses in the certificate from the time when they first enroll.</td>
</tr>
<tr>
<td>Validity Period</td>
<td>The time period for which the certificate will remain valid after completion. Can specify either a number of days or a particular date.</td>
</tr>
<tr>
<td>Renewable</td>
<td>If selected will need to complete details on the courses needed in order to renew the certificate after the expiry date.</td>
</tr>
</tbody>
</table>

Figure 4-33 on page 141 shows these fields in the Certificate Details page.
4. In the Certificate Prerequisites page, select **Add Prerequisite** if you want to add another module that must be taken before a user will be able to take the current certificate. After you have added prerequisite modules, you can choose to group these modules. Grouping in the current context means to specify that a certain number of modules out of the total number must be taken before enrolling in the current certificate. After you have added prerequisite modules as applicable, select **Continue**.

5. In the Certificate Course List page you can add courses to the curriculum by selecting **Add Course**. Search for courses to add to the curriculum and then select **ok**. Courses can be grouped into optional courses. To group a set of courses you select the check boxes beside the courses to group and then select **Make Group**. You will then specify the number of courses that the student is required to take out of that grouping. Selecting **Ungroup** will remove the grouping, while **Remove** will take the selected courses out of the
Curriculum Course List. Figure 4-34 shows the Certificate Course List for a sample certificate.

6. If you selected Renewable in the Details page, you are presented with a Certificate Renewal page. If the option was not selected, this page is not presented. In this page you specify the course required to be taken before the course can be renewed, when the initial expiry date or duration has passed. Figure 4-35 on page 143 shows this Certificate Renewal page. When you have specified a course that is required for certificate renewal, select Continue.
Figure 4-35  Certificate Renewal page displays when Renewable option selected

7. In the Save Course page, browse through the catalog structure for an area to save the master, then select Save. You should see a page titled Certificate Confirmation when the master has saved correctly.

If you need to make any updates to the certificate master details, you can do so by selecting the Course Catalog tab, then Manage Masters Catalog, browse to the master and selecting the icon. The Details page can be put into edit mode by selecting the Edit button.

Create a certificate offering
Follow these steps to create a certificate offering in the Offerings Catalog.

1. When in the Course Catalog area of the IBM Workplace Collaborative Learning interface, select Register Course Entry.

2. Select the Certificate radio button, then select Continue.

3. Browse to the certificate master in the Masters catalog from which you want to create an offering, then select Continue.

4. In the Certificate Details page complete the input fields as appropriate to your particular offering, and then select Continue. The options here have been covered in Table 4-5 on page 121. The values for the ‘Maximum Time to Complete’, ‘Validity Period’ and ‘Renewable’ fields brought across from the fields specified in master. Figure 4-36 on page 144 shows a sample of the Curriculum Details page.
5. In the Save Course page, browse through the catalog structure for an area to save the Offering, then select **Save**. You should see a page titled Course Confirmation when the Offering has saved correctly.

If you need to make any updates to the certificate offering details you can do so by selecting the Course Catalog tab, then Manage Offerings Catalog, browse to the offering and selecting the icon. The Course Details page can be put into edit mode by selecting the **Edit** button.

### 4.4 Updating course masters

When working with online courses, there is an option to use the Update Master functionality in the Course Catalog to update the content of an online course. The steps to update an online course master are as follows:

1. Reimport an online course package that has been updated into the Workplace system using either the CLIMP utility or Authoring and Assembly Tool.

2. When in the Course Catalog area of the IBM Workplace Collaborative Learning interface, select **Update Master**. Figure 4-37 on page 145 shows the Update Master link in the Course Catalog tab.
3. In the Select a Master to Update page there are two options for updating a course master. The 'Master with Update Pending' table will list any packages that you have imported that are recognized as an update to an existing master in the course catalog. The ‘Update a master using an imported master’ lets you choose a master to update from any unregistered master online course package. Choose the course that you are going to update from the ‘Master with Update Pending’ list, then select **Continue**. See Figure 4-38 for a sample course that you are going to update from the ‘Master with Update Pending’ table. Step 4 and step 5 apply to you selecting an item from the ‘Master with Update Pending’ table. Step 6 and step 7 apply to you choosing the ‘Update a master using an imported master’ option.
4. In the Update Options page, there are three options that you can choose. The first option you can choose is the **Update all offerings** option, this will update the online course content for all offerings referenced from this online course master. The second option you can choose is **Update future offerings only** option, this will only use the changed content for offerings created after the current update. The final option is the **Discard update** option which will remove the updated content and remove the option to apply the update. When you have selected the appropriate option, select **Continue**. See Figure 4-39 on page 147 for the options available in the Update Options page.
5. At this point you should see an update ‘Update Master Confirmation’ page, confirming the option that you selected has been successfully applied, as shown in Figure 4-40.

6. When you have selected the **Update a master using an imported master** option and selected **Continue** in the ‘Select a Master to Update’ page, you are brought to a page called ‘Select an Imported Master’, see Figure 4-41. In this page you first choose an online course master in the Masters catalog to update by clicking on the button **Select...** In the ‘Choose a Master’ pop-up window you search for a master and then select **Continue** to populate the ‘Select a Master to Update’ with a course to update. The Imported Masters table will display all unregistered masters in currently in the system, you
choose one to act as the update to the existing master you chose previously. When you have finished selecting the master and update, select **Continue**.

7. The Update Options page displays information about both the master and update courses: title, description, package name and package size. The single option available will be to select **Update future offerings only** and then select **Continue**.

8. At this point you should see an update ‘Update Master Confirmation’ page, confirming the option that you selected has been successfully applied, as shown in Figure 4-42 on page 149.
4.5 Managing learning modules

Learning modules can be managed by a user that has access to the Course Management area of the IBM Workplace Collaborative Learning interface. Here you will be able to manage the course enrollment, the user results for a particular course, and other details relating to the course such as wait-lists and approvals. As with all user searches in the IBM Workplace Collaborative Learning interface, users will need to be rostered before they are returned from the search. Any of the functionality described within section 4.5 will assume that the students have rostered. See 3.1.2, “Rostering” on page 75 for more information about Rostering Users. This section describes how to use the functionality available in Course Management. Figure 4-43 on page 150 shows the Course Management area of the IBM Workplace Collaborative Learning interface.
4.5.1 Managing course enrollment

As shown in Figure 4-43, the enrollment of students in modules can be performed either ‘By User’ or ‘By Course’. These two options essentially perform the same functionality, the end result is that students are enrolled in a module.

- If you select Enroll \ By User, you will first choose a user (or set of users) and then search for modules to enroll that user (or set of users) in.
- If you select Enroll \ By Course, you first choose a module and then search for users to enroll in that course.

The choice of which of these two options you want to use depends on how you want to batch assign enrollments. If you want to enroll a student into multiple courses, you may want to find the student the student first and then find multiple courses. In this case you would select Enroll \ By User. If you want to enroll multiple students into a course, you may want to find the course first and then find multiple students. In this case you would select Enroll \ By Course.

Note: If the courses in the course catalog are not set up with the options ‘Allows Self-enrollment’ and ‘Allows Self-unenrollment’, then an instructor, manager or administrator user will need to enroll students through the Course Management functionality.
4.5.2 Managing course results

The Manage Results section allow you to set or update results for any module. The results that can be set include raw score, start date and satisfied status. See Table 4-12 for a complete set of results that can be set. It should be noted that not all of the fields that can be set are applicable to all types of module. For example, a completion amount is not a valid attribute for a classroom course.

If you want to assign results to classroom courses, for example to assign a pass/fail status, then you need to update the results by one of the methods as described here.

The results for a user on a particular module can again be set a number of ways. You can choose to set results ‘By User’, ‘By Course’ or ‘By Instructor’.

▶ If you select Results \ By User, you first select a user and then have the option to set the results for any courses that user is enrolled in.

▶ If you select Results \ By Course, you first select a module, then set the results for a user enrolled in that course.

▶ If you choose Results \ By Instructor, then you need to be an instructor assigned to a course. This view allows instructors to set results for courses that they are assigned to. If you are not an instructor no courses are listed when you run this function.

When you have the table displaying the courses that a user is enrolled in there are links within the Course Name field for any online courses. When you select this name link you display the activities within the online course. The results can be set on the level of the activities as well as on the course level. Figure 4-44 shows the list of courses in which a user is enrolled.

![Image of table showing course results](image_url)

*Figure 4-44  Sample table of courses that for a user, select course and Edit button*
Figure 4-45 shows the results fields as they display in the pop-up window in the IBM Workplace Collaborative Learning interface once you select the **Edit** button having chosen a course to update from the table.

![Edit Results dialog in the IBM Workplace Collaborative Learning interface](image)

The results that can be set for a particular module are described in table 4-12.

**Table 4-12**  Fields available in the Edit Results dialog box

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Score</td>
<td>Minimum passing result for module.</td>
</tr>
<tr>
<td>Maximum Score</td>
<td>Maximum result you can attain for module.</td>
</tr>
<tr>
<td>Raw Score</td>
<td>Actual result attained on completion.</td>
</tr>
<tr>
<td>Start Date</td>
<td>Date when module first started.</td>
</tr>
<tr>
<td>Completion Date</td>
<td>Date when date is completed.</td>
</tr>
<tr>
<td>Time Spent</td>
<td>Amount of time spent (hours: minutes: seconds).</td>
</tr>
</tbody>
</table>
4.5.3 Manage \ Course

There are two final pieces of course management functionality available within the Course Management area. These last two options will allow users to do the following actions:

- If you select **Manage \ Course**, you will be able to manage the enrollment, wait-list and approval data for a particular course. Figure 4-46 shows the IBM Workplace Collaborative Learning interface when you have selected the course to manage. The course in Figure 4-46 has been set up with both the ‘Has Wait List’ and ‘Requires Managers Approval’ options selected. If these are not available for the course you select then the Manage Course interface will not have these tabs.

- If you select **Manage \ Unenrollment**, you can unenroll a user from courses. You first search for a user, then you choose courses from the resulting table and then select **Unenroll**. Figure 4-47 on page 154 shows the interface for this unenroll functionality.
Figure 4-47  Manage Unenrollment interface when student selected
Using the IBM Workplace Collaboration Services Learning component

This chapter discusses how to use the Learning Module within the context of IBM Workplace Collaboration Services 2.6. It covers the following topics:

- Introduction to the Learning page
- Announcements portlet
- My Learning portlet
- Skills Management and Career Development
- Career Development Portlet
- People Awareness
5.1 Introducing the Learning component of IBM Workplace Collaboration Services

IBM Workplace Collaboration Services version 2.6 introduces a platform with a set of capabilities and services for both client-based and server-based environment. However, it should be noted that Learning is not supported by the internal Web browser when launched from the Workplace Managed Client.

The IBM Workplace Collaboration Services offering includes components such as Messaging, Team Collaboration, Learning, Documents, Web Content Management, Workplace Managed Client, and common services such as Mail, Calendar, Address Book. It also has common portlets such as Search, Directory Search, People Finder, Instant Contacts and Administration.

The Navigation pane has three main associated areas: My Work, Templates and Administration. The My Work area contains the Learning component within it. From this screen a student can perform all of the Learning specific activities. The Templates area contains the template catalog, while the Administration area allows a set of the administration tasks to be completed.

A student can take learning modules by searching for and enrolling in various modules made available on the IBM Workplace Collaboration Services system. They can also take advantage of other collaborative tools and applications available in Workplace.

Figure 5-1 shows how the user interface displays when a user logs in to the IBM Workplace Collaboration Services system having successfully authenticated. The Welcome page is the first page to display. You switch to other components by choosing them from the list along the left side of the browser window (Mail, Calendar, Documents, Team Collaboration, Learning and Search).
Chapter 5. Using the IBM Workplace Collaboration Services Learning component

The number of components made available to users in IBM Workplace Collaboration Services depends on the level of licence agreement. For the scenario where all of the components have been licensed, there are seven distinct pages available in the IBM Workplace Collaboration Services user interface.

The pages include:

- Welcome (Shown in Figure 5-1)
- Mail
- Calendar
- Documents
- Team Collaboration
- Learning
- Search

This chapter introduces a high level overview of the Learning component within IBM Workplace Collaboration Services version 2.6 and discusses the capabilities...
of these features. Select the **Learning** link in Figure 5-1 to begin using the Learning component.

### 5.2 Introduction to the Learning page

The Learning component of IBM Workplace Collaboration Services enables users to take learning modules in order to increase skills in a chosen topic within an environment that facilitates collaboration. For example, students could choose to access the Mail, Instant Messaging, Document Management and Discussion components to collaborate with the instructor and other students on a particular course.

The IBM Workplace Collaboration Services platform helps organizations to manage their classroom based and e-learning activities through a single application.

The Learning component of IBM Workplace Collaboration Services comprises of four portlets. These portlets are:

- Announcements
- My Learning
- Skills Management
- Career Development

Having completed deployment of the IBM Workplace Collaboration Services without any further configuration, only the main administrator user will have access to all four portlets within the Learning page. A student user will only see the Announcements and My Learning portlets by default. An administrator user will be able to make all four portlets available to all users regardless of assigned access level by accessing the Administration link and giving access to all authenticated portal users. The content of both the Skills Management and Career Development that a user sees is based on the role assigned to a particular user. Refer to 3.1.1, “Roles and permissions” on page 68 in Chapter 3, “Base configuration” on page 67 for further details.

The main portlet in the Learning page that a student interacts with is the **My Learning** portlet. This portlet has functionality available to allow you to perform all tasks that a student typically needs to perform. The portlet also uses a view switcher to allow the student to change between the available views. The views available are listed in Table 5-1 on page 159, together with a summary of the functionality available with each view selected.
Table 5-1  Items in the My Learning view switcher and brief description

<table>
<thead>
<tr>
<th>Views</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrolled courses</td>
<td>Displays the courses that user is currently enrolled.</td>
</tr>
<tr>
<td>Curriculums</td>
<td>Displays the Curriculums that user is currently enrolled.</td>
</tr>
<tr>
<td>Certificates</td>
<td>Displays the Certificates that user is currently enrolled.</td>
</tr>
<tr>
<td>Learning History</td>
<td>Displays the list of completed courses, Curriculums and Certificates</td>
</tr>
<tr>
<td>Recommendations</td>
<td>Displays the courses recommended from Job &amp; Skills association.</td>
</tr>
<tr>
<td>Progress Summary</td>
<td>Displays the progress made in the enrolled courses.</td>
</tr>
<tr>
<td>Schedule List</td>
<td>Displays scheduled courses within a given time period that the user is currently enrolled in.</td>
</tr>
<tr>
<td>My Folders</td>
<td>Displays folders created by a user and subsequently any courses that the user has added to those folders.</td>
</tr>
<tr>
<td>My Learning Plan</td>
<td>Displays the learning plan created for the user by Manager</td>
</tr>
</tbody>
</table>

Section 5.4, “My Learning portlet” on page 160 covers the views mentioned in Table 5-1 in further detail. The following sections of this chapter expand on each of the four portlets mentioned in this introduction:

- Announcements portlet
- My Learning portlet
- Skills Management portlet
- Career Development portlet

5.3 Announcements portlet

The announcements portlet can display any text based announcements, an example is shown in Figure 5-2 on page 160. Announcements are created by a user with administration role within the IBM Workplace Collaborative Learning interface. These announcements are posted through the back-end to the Announcements portlet in the IBM Workplace Collaboration Services interface. Not all announcements are visible to every user, only to those users that meet the criteria specified when creating announcements.
Figure 5-2  Example of announcements shown in Learning portlet

For instructions on creating announcements see “Creating announcements” on page 104.

5.4  My Learning portlet

Students (all rostered users) can access the My Learning portlet to provide them with direct access to classroom and online courses, certificates, curriculums, and skills planning tools. This portlet facilitates many learning tasks including searching for various courses that are available on the system, displaying course detail information, enrolling in courses, organizing links to courses through personal folders, and monitoring of course progress for courses that they are taking.

Configure settings
The display settings for Announcements and My Skills cannot be changed. However, you can control the display of information in My Learning by selecting settings in the portlet’s configuration mode. This can only be done by an administrator on the system.

The Results per page setting lets you limit the number of rows to display on a single page. The default value for Results per page fields is 10. Also available through this page, the default view for users can be selected from the list of available views.

To do this, follow this procedure:
1. Click the wrench icon in the My Learning title bar. This opens the Configuration page as seen in Figure 5-3 on page 161.
Figure 5-3  Display settings that will be viewed in My Learning Portlet

2. From here, you can modify display settings.

3. Select **Ok** when you are satisfied with the changes to the default values, or select **Cancel** to discard your changes.

Any changes you make in this Configure settings area will affect all users of the My Learning portlet.

**Functions available from main views**

There are three functions available when a user initially enters the My Learning portlet. These are Manage Folders, Search Catalog and Offline Learning Client (if provisioned), as shown in Figure 5-4 on page 162.
Table 5-2 gives a brief description of each of these functions.

**Table 5-2  A brief description of each function**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage Folders</td>
<td>Create a new personal folder or work with the available folder(s) that you created previously.</td>
</tr>
<tr>
<td>Search Catalog</td>
<td>Search for available courses, curriculums, certificates, on the system. You must have access to the course catalog for results to be returned.</td>
</tr>
<tr>
<td>Offline Learning Client</td>
<td>Used by students to download a standalone application that allow them to work with courseware in offline mode. Use of the Offline Learning Client with a system is optional, and need not be deployed for any students. This Offline Learning Client runs on Microsoft Windows workstations. Button will not display if setting not specified in IBM Workplace Collaborative Learning settings page.</td>
</tr>
</tbody>
</table>

In the following sections, we describe these functions in further detail.

### 5.4.1 Manage folders

Using folders allows better manageability for the user when storing links to modules that you have previously found during a catalog search. You can add, rename, and delete your own personal folders.
The procedure to create a new folder is as follows:

1. Select the **Manage Folders** button
2. In the New Folder area, as shown in Figure 5-5, enter a folder name and optionally, a description.

![Figure 5-5   Create new folder in My Learning Portlet](image)

3. Select the **Add** button.
4. A confirmation message displays confirming that the folder has been created.

You will now see that this folder is put into the list of folders for renaming a folder or deleting a folder as seen in Figure 5-6.

![Figure 5-6   List of folders for renaming and deleting actions](image)
After you have at least one folder present, you can then rename and delete folders in your folders list. To do this perform the following actions:

1. To rename a folder, select a folder name that you wish to rename from the drop-down list in the Rename Folder section. Enter a new name for the folder in the Name field and then select Rename. A confirmation message displays confirming that the folder has been renamed.

2. To delete a folder, select a folder to delete from the drop-down list in the Delete Folder section and select Delete. A confirmation message displays confirming that the folder has been deleted.

**Note:** To delete a folder successfully, the folder must not have any courses bookmarked to that folder. If there are courses in the folder you will need to remove these before deleting the folder.

When finished managing your folders, select Done. If you now go to the My Folders view, you will see all the folders you have created in a list. Any folders you have deleted no longer appear in this list. Once folders are created, you can then add courses to these folders as shown in “Course Details” on page 169.

### 5.4.2 Search catalog

The search catalog function allows the user to search for available courses and other learning modules and display information about the modules found. When you search for modules containing a specific word or phrase using the Search All field, results are sorted by relevance with those modules (courses) containing the most occurrences of your search term appearing at the top of the list.

The courses (or modules) found during a search are ones that are available for that user to take. Courses that may not be displayed during a search are courses which have already expired or courses that are set to inactive.

The search catalog contains a number of fields available to search, for example ‘Name’, ‘Description’, ‘Number’ and so forth. These are explained in more detail later in the section.

To initiate a search on the catalog, a student clicks the **Search Catalog** button within the My Learning portlet. The student is then be presented with all the fields available to run search on, as shown in Figure 5-7 on page 165.
Chapter 5. Using the IBM Workplace Collaboration Services Learning component

Search Options

The options available to search the catalog are explained in Table 5-3. You can search using a single option or a combination of these options.

Table 5-3 Search options available for the Catalog Search

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search All</td>
<td>Enter a word or phrase to find all courses containing that word or phrase in any field. You can use different formats of how to enter the text here (explained later in the section).</td>
</tr>
<tr>
<td>Type</td>
<td>Click the type of course you are looking for: Course, Certificate, Curriculum, Online course, Classroom course, LVC course, or Any type of module that matches your other search criteria.</td>
</tr>
<tr>
<td>Name</td>
<td>Type a word from the course title you are searching for. Use the asterisk (<em>) to represent any number of characters at the end of the word (for example, Writing</em>).</td>
</tr>
<tr>
<td>Number</td>
<td>Type the course number you are searching for. Use the asterisk (<em>) to represent any number of characters at the end of the course number (for example, BUSWRIT</em>).</td>
</tr>
</tbody>
</table>
Formats of entering text in the **Search All, Name** and **Description** options:

- A single word (for example, Leopard)
- A partial word ending in the asterisk (*) wildcard (for example, Le*) to specify that the source must contain at least that portion of the word (this search could return Ledge and Leviathan as well as Leopard)
- A phrase enclosed in quotation marks (for example, "Snow Leopard") to specify that the source must contain the entire phrase
- Multiple words separated by spaces (for example, Nepal Leopard) to specify that the source must contain at least one of the words
- Multiple words separated by plus signs (+) but no spaces to specify that the source must contain all of the words, explained more fully later in the section (for example, Nepal+Leopard)
- A word preceded by the minus sign (-) to specify that the source must not contain that word, explained more fully later in the section (for example, -Elephant)
When you have entered your search criteria in the options available, you then click the **Search** button to perform the search on the course catalog. A list of results will then be displayed, an example is shown in Figure 5-8 on page 168.

You are told how many results where found. The results can be displayed over several pages, depending on how many results are located. There are several ways to navigate through the returned search results:

- Click arrow icon to take you to next page.
- Click arrow icon to take you to the last page.
- Use the Jump to Page input box, enter the page you want to navigate to and click the arrow icon beside this box.

**Note:** ‘0 results found’ is always displayed, if the user does not have access to the offerings catalog in IBM Workplace Collaborative Learning.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Module Type</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Classroom course icon" /></td>
<td>Classroom course</td>
</tr>
<tr>
<td><img src="image2" alt="Online course icon" /></td>
<td>Online course</td>
</tr>
<tr>
<td><img src="image3" alt="LVC course icon" /></td>
<td>LVC course</td>
</tr>
<tr>
<td><img src="image4" alt="Blended course icon" /></td>
<td>Blended course</td>
</tr>
<tr>
<td><img src="image5" alt="Curriculum icon" /></td>
<td>Curriculum</td>
</tr>
<tr>
<td><img src="image6" alt="Certificate icon" /></td>
<td>Certificate</td>
</tr>
</tbody>
</table>
The table of results displayed contains a number of different columns. These include:

- **Score:** This column gives percentage mark in relation to search criteria searched on. The document with most relevance to search criteria will have highest score. Words contained in the title or keyword fields of courses would have greater relevance than a word in the description field.

- **Name:** Displays the name of the course as a link. When selected this displayed course details as explained later in the section.

- **Number:** Displays the course number.

- **Type:** This displays an icon in relation to the type of module. See Table 5-4 for list of icons and module type relating to each.

- **Description:** Displays description of courses.

- **Language:** Displays language the course will be in.

From the results page, you can click a module name link to display the module details.
Course Details
When a user clicks a course name link, details about this course are displayed. If we take the example of a classroom course, these details include a description of the course, start date, end date, instructor of the course, course contact as seen in Figure 5-11 on page 171. Also available are additional functions such as enrolling in courses and withdrawing from courses. This is explained in further detail later in the chapter.

You can also view schedule information for classroom courses within this page. The schedule details link will only be displayed if the course has a scheduled offering associated that includes a booking of a resource. See more on scheduled offerings in 4.3.1, “Classroom and blended courses” on page 111. To view the schedule details, select the Schedule Details link under the Offerings section. This displays course information for each day it is scheduled, as seen in Figure 5-9.

![My Learning](image)

**Figure 5-9  Information displayed about Scheduled Offerings**

From this screen you can also view details on the room where the course is to be held. If you select the room name link, this will display all the room information as seen in Figure 5-10 on page 170.
To get back to the course details screen, you can use the links at the top of the page. These are known as *breadcrumb* links. From this screen you can select the following:

- **Schedule Details** takes you back to schedule information.
- **Course Details** takes you back to course information.
- **Search Results** brings you back to your search results.
- **Enrolled Courses** brings you back to the Enrolled Courses view (or the view that you were in when you originally selected the Search Catalog button).
Chapter 5. Using the IBM Workplace Collaboration Services Learning component

Figure 5-11  Example of course details page with the functions: enroll, add to folder etc.

Also within this page are a number of different functions that can be performed. These include:

1. Adding a module to a learning folder:
   Click Add to Folder button to add the current module to one of your learning folders. For information about how to create folders, see 5.4.1, “Manage folders” on page 162.

2. Previewing an online course:
   Click Preview button to launch an online course in preview mode. The Preview button appears only for online courses. While you preview the course, progress data is not collected. To collect progress data, you must enroll in the course and then launch it.

3. Launching an online course:
   Click Launch button to launch an online course in a new window. This button appears only for online courses. When you launch a course, progress data is collected as you progress through a course.
4. Enrolling in a module:
   Click **Enroll** button to enroll in the selected module to complete enrollment. The Enroll button appears only if you are not already enrolled in the module. You will receive a confirmation message that you have successfully enrolled in the course.

5. Withdrawing from a module:
   Click the **Withdraw** button to unenroll from the selected module. The Withdraw button appears only if you are enrolled in the module and have not already completed it. You will receive a confirmation message to inform you that you have successfully withdrawn from the course.

6. Displaying schedule details:
   Click **Schedule Details** link to display the activity schedule for the selected module. This will only be available if the course has a scheduled offering with a booking requirement. This is shown in Figure 5-9.

**Search syntax**
As the course catalog grows, the results returned from a search become large, so you can decide that you want to refine your search. Operators allow a user to combine words relating to specific courses and also exclude any keywords in courses that you do not want to be returned in the results. Thus making the results more specific to the courses you wish to search for.

There are three fields that allow the use of these operators and also a combination of these operators. These fields are **Search All**, **Name** and **Description** fields.

The following operators define the desired common syntax support when searching in workplace:

1. ‘ + ’ operator
   These are referred to as must-terms. That is, any word preceded by a plus sign is a **must term**. Every module found must contain that term.

2. ‘ - ’ operator
   These are referred to as **MustNot** Terms, the inverse of Must Term. Every module found must not contain that term. Also, it is important to note that you need to find some results before you can begin excluding results - e.g. +java -database. This will return courses that have the word “java” within their fields, but not courses that also have the word “database”.
3. “ “ operator
   Everything between the quotes must be found as a phrase. This is called a Phrase Query. Only modules containing all phrase terms in the same order will be retrieved.

4. ‘ * ’ operator
   This is operator is known as wildcard. This is used to replace some the characters in a string/word. e.g. cou* will find all modules that contain characters ‘cou’.

   The operators will be evaluated in the order they are presented e.g. ‘+java -database’ the + operator will be evaluated before the - operator.

5.4.3 Offline Learning Client

   When you select the Offline Learning Client button, you are brought to a page where you can download the client for installation as shown in Figure 5-12.

   ![Offline Learning Client download page](image)

   Figure 5-12   Offline Learning Client download page

   The Offline Learning Client is described in detail in Appendix B, “Offline Learning Client” on page 357.

5.4.4 Views in My Learning portlet

   There are nine items available in the ‘View’ drop-down list. The View selector in the ‘My Learning’ portlet in IBM Workplace Collaboration Services is shown in Figure 5-13.
Enrolled Courses view

The Enrolled Courses view is the default view when a user first selects the Learning page. This view shows the active courses that a user is enrolled in. Within this view there are a number of columns present, Table 5-5 describes the function associated with the data that display under each of these columns.

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Contains the name of the course as a link. Selecting the link will bring you to the Course Details page for that course.</td>
</tr>
<tr>
<td>Number</td>
<td>The number assigned to that course when it was created.</td>
</tr>
<tr>
<td>Type</td>
<td>Displays an icon representing the type of the course. For example, in Figure 5-21 the first six courses are of type ‘online’ while the last two courses are of type ‘classroom’.</td>
</tr>
<tr>
<td>Status</td>
<td>Displays an icon representing the status of the course. This status icon is an active link that can be selected to display the progress detail for that course. Table 5-8 on page 184 covers the various status icons that may be present in this column.</td>
</tr>
<tr>
<td>Discussion</td>
<td>If a course has been set up with a discussion component (either Course Collaboration Space or Domino Discussion), an icon will display in the column. Selecting the icon link will bring you to the discussion component.</td>
</tr>
<tr>
<td>Action</td>
<td>If the course has an online component (online course, blended course or LVC course), a ‘Launch’ button will be present in this column. Selecting the ‘Launch’ button will launch the course in a new browser window.</td>
</tr>
</tbody>
</table>
All courses that a student enrolls in will be present in the Enrolled Courses view until either the course is:

1. Completed.
2. The course is removed from the offerings catalog.

Figure 5-14 shows the Enrolled Courses view for a user that has enrolled in a number of courses, both online type and classroom type.

As mentioned previously, for those online courses that you have enrolled in, there is a Launch button in the Action column. If you select this button a new window will be opened where the online course is staged. This new window is controlled by the Delivery Server component, as can be seen by the URL ".../lms-ds/login.ds". Figure 5-15 on page 176 shows a sample online course that has been launched from the Enrolled Courses view.
These four frames seen in Figure 5-15 are always present for any online course that you launch. These frames are described briefly in Table 5-6.

**Table 5-6  Frames present in window when online course launched**

<table>
<thead>
<tr>
<th>Frame</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Header</td>
<td>Contains (i) the name of the product, (ii) your user name, (iii) a “Help” link that when selected displays a new window with the IBM Workplace Collaborative Learning Help for the current area of the product and (iv) an “About” link that when selected launches a new window with the version information about IBM Workplace Collaboration Services.</td>
</tr>
</tbody>
</table>
At any stage you can close the current window and return to using the IBM Workplace Collaboration Services interface. The progress information about the online course you were taking is retained in the system, a course that has not been completed may be launched again by selecting the **Launch** button from the Enrolled Courses view.

**Curriculums view**

Curriculums can be through a logical grouping of related courses into one single module. Selecting the Curriculums view will list all the active curriculums that you are currently enrolled in.

To enroll into a curriculum, search for it using Catalog Search functionality and then select the **Enroll** link. If you are enrolled in curriculums, these curriculums will now appear in the Curriculums view of My Learning portlet, as shown in Figure 5-16 on page 178.

<table>
<thead>
<tr>
<th>Frame</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Outline</td>
<td>Displays a tree structure for an outline of the current course. Beneath the course name, activities are listed as they were set up when the course was authored. Each activity is launched in a new window by selecting the name of the activity in the this Course Outline frame. The icons beside the activities in the Course Outline frame will change to indicate status for each of the activities. The icon beside the course name at the root of the tree structure will also be updated as progress is made on individual activities within the course.</td>
</tr>
<tr>
<td>Course Tools</td>
<td>Depending on how the online course was configured in the course catalog, there are a number of tools available as links in this Course Tools frame. At a minimum, this frame will display links for “Progress Summary” and “Calendar”.</td>
</tr>
<tr>
<td>Course / Activity Detail</td>
<td>In the Details frame the top section will display simple instructions on use of the current window. The table located below the instructions will display details on the course or activity currently selected in the Course Outline frame. As the window for the current activity is closed the progress information is updated in this table.</td>
</tr>
</tbody>
</table>
If you click the curriculum name you are brought to a page displaying further details on the curriculum. You can now see the courses required to complete this curriculum, the type of associated course, the course group (if groupings are configured for the current curriculum) and the status of each course listed. If you select the course link, you are brought to a page that displays information about the course as shown in Figure 5-11 on page 171.

**Certificates view**

A *Certificate* is a grouping of related courses, for which upon completion results in a credential. Certificates typically have a completion period and a validity period, for example the certificate must be taken within 21 days of enrollment and remains valid for 12 months after completion. The Certificates view lists all of the active certificates that you are currently enrolled in, as shown in Figure 5-17 on page 179.
If you click the certificate name you are brought to a page displaying further details on the certificate. The table for each certificate displays the courses required to complete this certificate, the type of the associated courses, the course group (if groupings are configured for the current certificate) and the status of each course listed. If you select the course link, you are brought to a page that displays information about the course as shown in Figure 5-11 on page 171.

**Note:** There is common misconception associated with enrollment in curriculums or certificates. When you enroll in a curriculum or certificate, you are not automatically enrolled in the courses specified within the curriculum or certificate. There are two main reasons why this is the correct business logic. Firstly, you may have already enrolled in an associated online course and have progress data for that course. Secondly, if there are scheduled components associated with the courses, automatic processing of enrollment may result in calendar conflicts.

**Learning History view**
Learning History view lists of the courses, curriculums and certificates that you have completed. Select the appropriate radio button to display completed Courses or Curriculums or Certificates, as shown in Figure 5-18 on page 180.
The Learning History view displays columns for the Course Name, Type, Discussion and Action. Descriptions on these columns has been covered in Table 5-5 on page 174 in the section on the Enrolled Courses view. If you click the course link, you are brought to a page that displays information about the course, as shown in Figure 5-11 on page 171.

**Recommendations view**

The Recommendations view (Figure 5-19 on page 181) displays courses recommended to a user through Jobs and Skills assignment in the Career Development portlet.

**Note:** See Chapter 6, “Introduction to Skills Management” on page 197 for more detail on this area.

You can choose to either recommend a course to a user, or auto-enroll a user in a course. This is done in the Courses tab of Skills Management portlet.

Based on a users Job and Skills assignments, the Recommendations view displays a list of courses that are recommended to that user.

The autoenroll feature automatically enrolls the user in the selected Online Courses or Curriculums. These courses then appear in the relevant view, either the Enrolled Courses or Curriculums or Certificates view.
In the Recommendations view, an additional button **My Learning Interests** is visible. When selected, you are brought to the My Learning Interest page.

**What is My Learning Interests?**

An employee can track their own career development by expressing an interest in a skill that they want to develop outside the jobs with which they are associated.

Courses are added to your Recommendations view through adding areas of interest in the My Learning Interests page, Figure 5-20 on page 182.

In the Recommendations view, click **My Learning Interests**. A list of jobs will display in the drop-down list. You select a job that you are interested in and this will then display the skills associated with that job. You make a selection from the list of skills by selecting the skills name check box and clicking the **Apply** button.

Any courses related to these skills are added to your list of recommendations.
Progress Summary view

The Progress Summary view (Figure 5-21 on page 184) displays a summary of the progress you have made on all modules in which you have ever enrolled. This Progress Summary view displays the information in the same table for all modules, though not all types of module will have data. For example, a classroom course will not have data in the Last Accessed column as this field clearly does not apply. The columns in the table in this view are described in Table 5-7.

Table 5-7 Columns available in the Progress Summary view

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Contains the name of the module as a link. Selecting the link will bring you to the Details page for that module.</td>
</tr>
<tr>
<td>Type</td>
<td>Displays an icon representing the type of the module. Different icons are displayed for the different types of module - classroom courses, online courses, LVC courses, curriculums and certificates.</td>
</tr>
<tr>
<td>Status</td>
<td>Displays an icon representing the status of the module. This status icon is an active link that can be selected to display the progress detail for that module. Table 5-8 on page 184 covers the various status icons for this column.</td>
</tr>
<tr>
<td>Column</td>
<td>Description</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Start Date</td>
<td>Applies to courses with an online component. This column displays the date when the course was first launched.</td>
</tr>
<tr>
<td>Last Accessed</td>
<td>Applies to courses with an online component. This column displays the date when the course was last launched.</td>
</tr>
<tr>
<td>Attempts</td>
<td>Applies to courses with an online component. This column displays the total number of times the course has been launched.</td>
</tr>
<tr>
<td>Time Spent</td>
<td>Applies to courses with an online component. This column displays the total amount of time you have spent while taking the course.</td>
</tr>
<tr>
<td>Score</td>
<td>Applies to courses with an online component. This column displays a score if the course has been set up to have an assessment component.</td>
</tr>
</tbody>
</table>

**Note:** If you withdraw from a module that you had enrolled in and later enroll in that module again, the same module will be listed again in the Progress Summary view.
Changes to the course information and progress data take time to process. If you do not see your latest work reflected in the system, wait a few minutes before clicking your browser's Refresh button to refresh the view, to allow time for the changes to be posted.

Student:  Susan Adams 001
Date:  4 November 2005
Time:  10:21:06 GMT-05:00

### Table 5-8  Status icon and its meaning

<table>
<thead>
<tr>
<th>Status Icon</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Status Icon" /></td>
<td>Status is not started (default status when first enrolled in the module).</td>
</tr>
<tr>
<td><img src="image" alt="Status Icon" /></td>
<td>Status is in progress (started but not complete).</td>
</tr>
<tr>
<td><img src="image" alt="Status Icon" /></td>
<td>Status is pending approval (enrollment in course is pending approval from approver or manager).</td>
</tr>
</tbody>
</table>

**Figure 5-21  Progress Summary view**

Hover your mouse over the status icon to display the status of a course in which a user is enrolled. Table 5-8 shows various status icons shown for the courses and a brief description on the meaning of that icon.
Schedule List view

The Schedule List view (Figure 5-22 on page 186) displays all of the scheduled courses (classroom courses, LVC courses and blended courses) that you are currently enrolled in. There are four filters available by which you can choose the time period to show the scheduled courses. These filters are:

- **All** lists all scheduled courses that the user is enrolled in
- **Today** lists scheduled courses that the user is enrolled in that happen today
- **This Week** lists scheduled courses that the user is enrolled in that happen this week
- **This Month** lists scheduled courses that the user is enrolled in that happen this month

The columns in the table in this view are described in table Table 5-9.

**Table 5-9  Schedule List view options**

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity</td>
<td>Name of the scheduled activity.</td>
</tr>
<tr>
<td>Type</td>
<td>The type of the course.</td>
</tr>
<tr>
<td>Course Name</td>
<td>Name of the course, link to course details.</td>
</tr>
<tr>
<td>Start Date</td>
<td>Start date for the scheduled course.</td>
</tr>
<tr>
<td>Time</td>
<td>Time when the course is scheduled to run.</td>
</tr>
<tr>
<td>Room</td>
<td>The room assigned to the scheduled course.</td>
</tr>
</tbody>
</table>

Status Icon | Meaning
-------------|---------------------------------------------------
         | Status is failed (module assessment has not been passed). |
         | Status is passed.                                      |
         | Status is complete (module has been completed).        |
My Folders view
This My Folders view lists all of the folders created via the ‘Manage Folders’ button present at the root level of the My Learning portlet.

Note: Refer to 5.4.1, “Manage folders” on page 162 for details on how to both create and manage folders.
Chapter 5. Using the IBM Workplace Collaboration Services Learning component

Figure 5-23  My Folders view

If you click any of the folder name, you see what courses are stored in that folder. The Details page for any module (Course or Curriculum or Certificate) has an ‘Add to Folder’ button. Once you select the Add to Folder you will choose a folder that you have created. Figure 5-24 shows the content of a folder that has had courses added to it.

Figure 5-24  Courses in a folder

The table present in the Folder page will display the module name (link to details page), module type, module status, discussion component available with module (if configured for current module) and a Remove from Folder column. This Remove from Folder column will display a remove (bin) icon in each row. If you select this remove icon corresponding to a particular module, that module is removed from the current folder.
My Learning Plan view
The My Learning Plan view (Figure 5-25) displays the learning plan created by a user’s manager through the Career Development portlet. This allows for the employee to track their skills gap (current versus planned skills) and work towards closing the gap.

The My Learning Plan view shows the skills associated with a job, as well as the required proficiency level for that particular job and the current proficiency level of the employee. Based on these two levels, a proficiency gap is calculated. The My Learning Plan view also shows the courses that are needed to be taken to close the proficiency gap. Figure 5-25 shows a sample My Learning Plan view for a student whose manager has created a learning plan for them.

![My Learning Plan view](image)

Figure 5-25  Learning Plan view

5.5 Skills Management and Career Development
Skills Management is the third portlet in the Learning page in IBM Workplace Collaboration Services and Career Development is the forth portlet. The Skills Management feature enables Course Managers and HR Managers to define and track career path for their employees by matching available courses to an
employee based on jobs and skills and also helps to build up the required skills. This facilitates a company’s learning policy versus the business need.

Access to the portlets connected with Skills Management (Skills Management and Career Development portlets) is restricted. Access is assigned though the Administration link that appears at the top right hand corner of Workplace UI (Figure 5-1 on page 157). This is performed by an Administrator.

**Note:** See 6.2, “Roles and permissions for Skills Management” on page 198 regarding access permissions to Skills Management & Career Development portlets.

Before you begin working with Skills Management, it is required that an administrator do some preliminary setup work. Refer to Chapter 2, “Installing IBM Workplace Collaborative Learning 2.6” on page 11 and Chapter 4, “Creating and managing learning modules” on page 107. Also, roles and permissions are to be assigned. This is discussed later in this section. For all functionality of Skills Management to be available, you need to populate your deployment with relevant data. This can be done using a Skills dictionary. This method of importing data to the server is discussed in Chapter 3, “Base configuration” on page 67.

Roles and permissions for Skills Management & Career Development are set up through: LDAP Groups, LMS Roles & Workplace Collaborative Learning Administration.

Only members of the following groups can be granted access to the Skills Management and Career Development portlets:

- Manager group
- HR Manager group
- Course Manager group

Table 5-10 explains the Role and its corresponding access level.

**Table 5-10 Skills Management: Roles & Access level.**

<table>
<thead>
<tr>
<th>Role</th>
<th>Access level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager</td>
<td>No access to Skills Management</td>
</tr>
<tr>
<td></td>
<td>Can able to access Career Development, Learning Plan, Modify Jobs &amp; Skills only.</td>
</tr>
<tr>
<td>HR Manager</td>
<td>Can able to access Career Dev; Learning Plan, Modify Jobs &amp; Skills &amp; Skills Management; Dictionary &amp; Courses Tab</td>
</tr>
</tbody>
</table>
This section provides an overview of the purpose and functions of Skills Management. Chapter 6, “Introduction to Skills Management” on page 197 of this book goes into greater detail of individual features of Skills Management and their functions. Please refer to this chapter for further details and a step by step guide to working with Skills Management.

### 5.5.1 Skills Management portlet

Skills Management Section in Learning Portlet UI appears as shown below in the Figure 5-26.

<table>
<thead>
<tr>
<th>Role</th>
<th>Access level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Manager</td>
<td>Can able to access Skills Management- Dictionary tab; While Courses tab and Career Dev will be blank.</td>
</tr>
<tr>
<td>Student</td>
<td>Only own Learning plan is available to view</td>
</tr>
</tbody>
</table>

Figure 5-26  Skills Management portlet

You can add a job or select a job to work on. Once you have selected a job, then you can select a set of skills to add to the job.
There are two tabs in the Skills Management portlet - Skills Dictionary tab and Courses tab. On the Skills dictionary tab there are three views: Jobs, Skills, and Rating Scales. Browse between pages using the drop-down menu to view various features contained in each of the pages in Skills Management portlet.

The major functions that can be performed in Skills Management portlet are:

- Create a new Job, Skill and Rating scale
- Edit and delete a Job, Skills, or Rating scale
- Associate Skills with Jobs and assign relevant Proficiency level
- Associate courses to Skills
- Autoenroll or Recommend a course for users
- View Skills and courses associated to Jobs

5.6 Career Development Portlet

Career Development Portlet is the forth portlet in the Learning component. It allows Managers to assign jobs and skills to an employee. It also facilitates a manager to create Learning plans for individual employees. It allows a manager to track a Learning plan for an employee(s).

Managers can also assign a job/skills to multiple employees at a time, which is a very useful feature where the batch assignment of jobs and skills helps save time for an organization, making people management more efficient.

All users set up in the user repository (e.g. LDAP) and rostered through the IBM Workplace Collaborative Learning interface can access the Career Development section. Based on the access level assigned to their role, a user may create, edit, and delete Learning Plans.

Access to Career Development portlet is also restricted (same as Skills Management) and access is assigned through Administration Link that appears at the top right hand corner of Workplace UI (see Figure 5-1 on page 157) as discussed in the introduction section. This can be performed by an Administrator user.

An employee will have ‘Read only’ access to his/her Learning plan in this portlet. An employee can review their Learning plan but not modify it unless greater access level is assigned.

**Note:** See 6.2, “Roles and permissions for Skills Management” on page 198 for access to Skills Management & Career Development portlets.
For an employee to review their Learning plan they can select **My Learning Plan** from the drop down menu in the My Learning portlet, see 5.4, “My Learning portlet” on page 160 above for further details. An alternative method to view a Learning plan is when an employee logs into the IBM Workplace Collaboration Services interface and selects the Learning page, they can click the spectacles icon in the employee table contained in Career Development tab. See Chapter 6, “Introduction to Skills Management” on page 197 for more details on how to follow this method.

**Tip:** Employee can also view his or her learning plan by selecting the **My Learning Plan** view in My Learning Portlet.

Reports can be generated as part of Skills Management and Career Development that enable managers to analyze progress of their employees. There are five different reporting options connected to Skills Management. The Skills Management reporting feature allows a manager or administrator to view data based on Skills management feature in IBM Workplace Collaborative Learning. You can generate reports to display required courses for an individual Skill, the current & required proficiency level for jobs, best candidate for a job, a Learning plan for an individual student and analyze the gap between students who have the same job with courses assigned to it.

**Tip:** Information on how to generate reports is available in Chapter 7, “Reporting” on page 233.

The Career Development portlet UI appears as in the Figure 5-27 on page 193.
Chapter 5. Using the IBM Workplace Collaboration Services Learning component

The major functions that can be performed in the Career Development portlet are:

- Search employees
- assign Jobs & Skills
- Assign Jobs & additional skills
- Create Learning Plan
- Proficiency Gap
- Add courses
- Add activities & additional Skills
- Preview learning plan

**Note:** More details on Skills Management & Career Development, See Chapter 6, “Introduction to Skills Management” on page 197.
5.7 People Awareness

The Workplace Learning user interface leverages a Workplace-wide piece of functionality called *People Awareness*. This common functionality is based on instances of other users appearing in the Workplace user interface. When the name of another user appears, there are a number of actions that can be performed by selecting the user name. Figure 5-28 shows the actions as they appear to the user.

![Figure 5-28 User selects the name of another user in the Workplace environment](image)

These actions allow the user to perform the tasks listed in Table 5-11.

<table>
<thead>
<tr>
<th>Action</th>
<th>Functionality Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Status</td>
<td>Displays message based on whether that user is current logged into Workplace Instant Messaging</td>
</tr>
<tr>
<td>Show Person Record</td>
<td>Displays a window with the details for that user through the Workplace People Finder page</td>
</tr>
<tr>
<td>Add to Address Book</td>
<td>Displays a window with the Workplace Address Book New Entry page</td>
</tr>
<tr>
<td>Action</td>
<td>Functionality Details</td>
</tr>
<tr>
<td>------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Send E-mail</td>
<td>Displays a window with the Workplace Messaging New Memo page and the name of that user present in the 'To:' field</td>
</tr>
<tr>
<td>Start Chat</td>
<td>Displays a Chat window to begin Instant Messaging chat session with that user</td>
</tr>
<tr>
<td>Add to Instant Contacts</td>
<td>Displays a window with the users listed, option to add them to a new or existing Instant Messaging Group</td>
</tr>
</tbody>
</table>
Introduction to Skills Management

One of the most important features of IBM Workplace Collaborative Learning 2.6 is Skills Management.

Skills Management enables managers to define and track career paths for their employees. This is done by matching available courses to an employee based on skill and job requirements and by building up necessary skills. This facilitates a company's learning policy versus the business need.

This chapter guides you on how to configure the roles and permissions for the Skills Management feature, and then discusses how to use the different functional aspects to most effectively manage Skills for the Skills Dictionary and / or Career Development purposes.
6.1 Overview of Skills Management

The Skills Management feature has two modules:

1. Skills Management for working with the Skills Dictionary and Courses tabs
2. Career Development for creating and modifying an employee’s Learning Plan

To work with Skills Management, you must set up required access for roles and permissions. This is discussed in 6.2, “Roles and permissions for Skills Management” on page 198.

One of the most important features of IBM Workplace Collaborative Learning 2.6 is Skills Management.

Skills Management enables managers to define and track career paths for their employees. This is done by matching available courses to an employee based on skill and job requirements and by building up necessary skills. This facilitates a company's learning policy versus the business need.

With Skills Management, a manager creates and tracks an employee’s Learning Plan, which the employee can review to work toward closing the skills gap. Reports can be generated as part of Skills Management that enable managers to analyze the progress of their employees.

Before you begin working with Skills Management, you must perform some preliminary setup work. Refer to Chapter 2, “Installing IBM Workplace Collaborative Learning 2.6” on page 11 and Chapter 4, “Creating and managing learning modules” on page 107. Also, roles and permissions must be assigned. This is discussed in the following section. For all functionality of Skills Management to be available you need to populate your deployment with relevant data, this can be done using a Skills dictionary. This method is discussed in 6.3, “Skills Management: Skills Dictionary” on page 201.

6.2 Roles and permissions for Skills Management

A user must be granted access to the Skills Management and Career Development portlets. Roles and permissions for Skills Management and Career Development are set up through LDAP Groups, IBM Workplace Collaborative Learning Roles, and IBM Workplace Collaborative Learning Administration.

Features of Skills Management can be considered a parallel to a Profile in Learning Management System. You are assigned a role as outlined in Chapter Two, then via Skills Management portlet you are assigned Jobs and Skills. Jobs and Skills can have numerous courses associated to them. The relationship
between a Job and a Skill and the course associated to it has a direct bearing when a Job or a Skill is assigned to you. You will either be automatically enrolled in a course or the course will be listed as a recommendation for you and your corresponding role. The Job or Skill assigned to your role will determine the courses and Learning activities that are relevant to you.

**Attention:** In earlier versions of IBM Workplace Collaborative Learning (known as the Lotus Learning Management System previous to 2.0), that feature was handled through Users \ Auto-enrollment profiles

This section describes how to set up the proper roles and permissions.

### 6.2.1 Setting up roles and permissions

Roles and permissions can be setup manually or through an LDAP directory. You can setup Roles and Permissions manually in the Learning Management System, refer to Chapter 2, “Installing IBM Workplace Collaborative Learning 2.6” on page 11 for more information about how to do this.

**Tip:** Roles can be assigned by clicking Manage User in the User Tab in the Learning Management System.

Set up roles and Permissions setup using LDAP by following these steps:

1. The recommendation is to define three groups in the LDAP directory:
   - Manager: This group will have access to Career Development.
   - HR Manager: This group will have access to Skills Management and Career Development.
   - Course Manager: This group will have access to Skills Management.

2. Assign these groups the associated roles in the Learning Management System (IBM Workplace Collaborative Learning) on the User tab. Select Roles → Manage Automatic Assignments.

   Select a role, such as Manager by clicking Add Automatic Assignment.

   Change Match Type to Group.

   Type in the text for Matching String. This is an example of the full cn name:

   `cn=Manager,cn=groups,l=Westford,st=Massachusetts,c=US,ou=Lotus,o=Software Group,dc=ibm,dc=com`

3. Assign access through IBM Workplace Collaboration Services Administration:
   a. Log on to IBM Workplace Collaborative Learning as the Admin.
b. Click the **Administration** tab.

c. Click **Access** → **Resource Permissions** → **Portlets**.

d. Locate the Skills Management or Career Development portlet.

e. Click **Assign access**.

f. Click **Edit** next to the portal role to which you want to assign users access. (Use the Manager role.)

g. Click **Add**.

h. Locate the group to which you want to grant access.

i. You should grant Managers and HR Managers access to Career Dev.

j. You should grant HR Managers and Course Managers access to Skills Management.

When you log on as a member of the Manager group, you should be able to access only Learning Plan, Modify Jobs, and Skills in the Career Development portlet. Skills Management should be blank.

When you log on as a member of the HR Manager Group, you should be able to access Learning Plan, Modify Jobs, and Skills in Career Development, and the Dictionary and Courses tabs in Skills Management.

When you log on as a member of Course Managers, you should be able to access Skills Management. The Courses tab and Career Development should be blank.
6.3 Skills Management: Skills Dictionary

Attention: To take advantage of the Skills Management Component described in this paper, the following prerequisites must be satisfied:

IBM Workplace Collaboration Services 2.6 has been installed and deployed in your organization. For details about deploying IBM Workplace Collaboration Services, see IBM Workplace Collaboration Services: IBM Workplace Collaboration Services: Release 2.5 Deployment Guide, SG24-6777, which you can download at this Web site:

http://www.redbooks.ibm.com/redpieces/abstracts/redp4034.html

The service for IBM Workplace Collaborative Learning has been installed and enabled in Workplace Collaboration Services 2.6.

You have proper permissions to access the IBM Workplace Collaborative Learning portlet. Refer to 6.2, “Roles and permissions for Skills Management” on page 198 for information about setting up the proper access.

A skills dictionary is a collection of jobs, skills, and rating scales. This is where you create a job, skill, and rating scale, and where you associate a job to a skill.

This can be broken down as follows:

- Import a skills dictionary (from a third party)
- Show Skills and Job Rating Scale from dictionary
- Job page
- Skill page
- Rating scale page

6.3.1 Import skills dictionary

A skills dictionary is a collection of jobs, skills, and rating scales that you create so you can associate users with jobs, enroll users in courses, create learning plans, and review user performance. You can create your own skills dictionary in XML file format or you can obtain a skills dictionary XML file from a third-party vendor. These third-party dictionaries can be obtained prepopulated with Skills information specific to a company and it's corresponding industry sector.

A company can create a dictionary and populate it with information relevant to the business. You can view a job, skill, rating scale, or proficiency level directly in an XML file as well as through Workplace when you have imported the dictionary to the deployment.
A job consists of the following items:

- A name (such as Junior Application Developer)
- An ID (such as AD1)
- A description (for example, Entry-level programmer)
- The set of required skills (such as database design, teamwork, and database management)
- The required level of proficiency (5. Expert, 1. Novice)

6.3.2 Show skills, job and rating scales from a dictionary

Example 6-1 is an example from a Skills Dictionary XML file.

Example 6-1 Sample XML file for Skills Dictionary:

```xml
<SkillsDatabase LanguageId="en">
  <Position>
    <Folder name="Information Technology">
      <FolderId id="Folder101" />
      <TaxonomyId id="MyCompany" idOwner="MyCompany" description="Information Technology Jobs" />
    </Folder>
    <JobCategory>
      <TaxonomyName version="4.0">MyCompany</TaxonomyName>
      <CategoryCode>JOB001</CategoryCode>
      <CategoryDescription>Junior Programmer Analyst</CategoryDescription>
      <Comments>The Junior Systems Analyst job role contains the key competencies associated with programming software. This may include such tasks as software design and development, testing and writing documentation.</Comments>
    </JobCategory>
    <Competency name="Data Analysis">
      <CompetencyId id="SKILL001" idOwner="MyCompany" description="None" />
      <TaxonomyId id="MyCompany" idOwner="MyCompany" description="None" />
      <CompetencyInJobDescription>Data refers to values without regard to the meaning of the values as understood by some user. Data Analysis is the process involved in studying those values to determine how a customer can store, share, integrate and use them in their business activities.</CompetencyInJobDescription>
    </Competency>
    <Competency name="Develop Software Requirements">
      <CompetencyId id="SKILL002" idOwner="MyCompany" description="None" />
      <CompetencyWeight>
        <NumericValue minValue="0" maxValue="90" proficiencySet="Exceed Standard Scale">10</NumericValue>
      </CompetencyWeight>
    </Competency>
  </Position>
</SkillsDatabase>
```

Note: You can create and edit an XML through a text editor. A Skills Dictionary complies with the Workplace HR Management standard.
Chapter 6. Introduction to Skills Management

6.3.3 Jobs view

The Jobs page is used to create new jobs, work with existing jobs, and associate skills with jobs. To work with a job, browse to Skill Management \ Jobs view (Figure 6-1 on page 204).

To create a new job in the Learning portlet, browse to the Skills Management section (Figure 6-2 on page 205). On the Skills Dictionary tab, choose Jobs from the View pull-down list. Click New Job and complete the fields with the required details, and save the new job.

In the Associated Skills table, you can add or create skills if required. To save this job and the skills you have associated with it, click Save Job and Skills.
6.3.4 Skills view

The Skills page is used to create new skills, work with existing skills, and associate rating scales with skills. To work with a skill, browse to Skill Management \ Skills.

Choose a skill to view its associated jobs and rating scale. You can edit a rating scale, the skill ID, and description. Click Save Skill Settings to keep your modifications.

**Important:** Clicking Remove removes the skill from the view. Clicking Delete deletes the skill from the skills dictionary.
6.3.5 Rating Scales view

The Rating Scales page (Figure 6-3 on page 206) is used to create new rating scales and work with existing rating scales. Browse to Skill Management \ Rating Scales.

To create a new rating scale in the Learning portlet, browse to the Skills Management section. On the Skills Dictionary tab, choose Rating Scales from the View pull-down list. Click New Rating Scale and complete the fields with the required details. Click OK to save the new rating scale.

You can add numerous proficiency levels by clicking New Proficiency Level. You can also change the display order of values by selecting High to Low or Low to High.
Each skill has a rating scale associated with it, and each rating scale has a proficiency level. You can associate a skill to multiple jobs.

- Search for a job to view associated skills and rating scales (see 6.4.2, “Associate a course to a skill” on page 209) or add alternative skills to a particular job. You can edit a job to update the information or delete a job from the skills dictionary if it is no longer required.

- Search for a skill to view associated job and rating scales. You can edit rating scales associated with a skill or delete a skill if it is no longer required.

- Search for a rating scale to view the associated proficiency level. You can add and remove proficiency levels and change the display order.

You can delete the proficiency level from the skills dictionary if it is no longer required. A Proficiency set that is being used by a skill cannot be deleted.
6.4 Skills Management: Courses tab

The Courses tab enables the user to associate courses with skills and to view the skills and courses that are associated with a job.

The subtopics in this section are:

- “Search for a skill”
- “Associate a course to a skill”
- “Search for a course”
- Recommending and auto-enrolling in courses
- “My Learning Interests”
- “View courses associated with a job”
- “Search for a job”
- “View skills, proficiency levels, and courses associated with a job”

You can associate a course (this can be a certificate, curriculum, online course, or classroom course) to a skill for a particular proficiency level.

In this example, we search for the Database Design skill, and associate it to the Designing a Database course at Proficiency Level 2.

As we have already associated the Database Design skill to the Application Developer job (Section 6.3.3, “Jobs view” on page 203), we now have a course, skill, and job associated to each other. Therefore, to qualify to be an Application Developer, you need to have the Database Design skill at Proficiency Level 2, and you can achieve this by completing the “Designing a Database” course.

Browse to the Skills Management section. On the Courses tab, choose to view courses associated with A Skill from the pull-down list.

![Courses associated with a skill](image-url)
6.4.1 Search for a skill

Click **Find Skill** (Figure 6-5) and search for a skill either by using the name if you know it or by using a wildcard (*) in one of the fields. Select the check box next to the skill and click **OK**.

This opens a page with the skill's details (name, ID, vendor ID, and description) and the proficiency levels for the skill's rating scale (Figure 6-6 on page 209).
6.4.2 Associate a course to a skill

Choose the proficiency level that you want to add the course, check the box beside it, and click Add Courses.

In our example we use level 2 - Beginner, because this is what the job requires.

6.4.3 Search for a course

Search for a course either by using the name if you know it, or using a complete course listing and searching with a wildcard (*) in the course Number field. Select a course (Figure 6-7 on page 210) and click OK.
Figure 6-7 Searching for a course

This adds the Designing a Database course to the Database Design skill for Level 2.

You can use Add Courses (Figure 6-8 on page 211) to add further courses, and you can delete a course using Remove the Course from Skill Level. Click OK to save the skill settings.
6.4.4 Recommending and auto-enrolling in courses

On the Courses tab, you can recommend a course to a user or auto-enroll a user in a course. Based on the user's assigned job and skills, Recommendations displays a list of courses that are appropriate for the user. Auto-enroll automatically enrolls the user in the selected courses.

To use Recommend or Auto-enroll:

1. Navigate to the Skills \ Courses tab.
2. Browse to the Skills Management section. On the Courses tab, choose to view courses associated with A Skill.
3. Search for a skill, choose the proficiency level that you want to add the course to, and click Add Courses. In our example, we use the Teamwork skill for level 2 - Working Experience, and the Product Decisions course.
4. After you have added the course to the required proficiency level, select Recommend or Auto-Enroll from the Required pull-down list.

**Note:** Auto-enroll can be selected only for nonscheduled courses.
Selecting Auto-Enroll means that when a user is assigned a job that requires the Teamwork skill at level 2, enrollment in the course is automatic.

Selecting Recommend means that when a user is assigned a job that requires the Teamwork skill at level 2, the course will appear in their Recommendations list.

![Table showing course selection options](image)

**Figure 6-9  Recommending a course**

To see the recommended courses, go to the My Learning section. Select **Recommendations** from the View menu (Figure 6-10). Click the course name for details. You can enroll in the course and, if it is available, view the course schedule for date, start time, location, and so forth.

![List of recommended courses](image)

**Figure 6-10  List of recommended courses**

### 6.4.5 My Learning Interests

Employees can manage their own career development by expressing an interest in a skill they want to develop outside the jobs with which they are associated.
This can be done through the Learning Interests section. To add to a list of recommendations, follow these steps:

1. Click **My Learning Interests**, and make a selection from the list (Figure 6-11).

2. Check the Name box for your selection and click **Apply**. Any related courses will be added to your list of recommendations.

![My Learning Interests](image)

*Figure 6-11  Listing of courses related to your interests*

### 6.4.6 View courses associated with a job

You can view the skills, proficiency levels, and courses associated to a job. In this example, we look at the Application Developer job.

Browse to the **Skills Management** section. On the **Courses** tab (Figure 6-12 on page 214), choose to view courses associated with A Job from the pull-down list.
6.4.7 Search for a job

This section provides details about a job and the skills associated with it. It also shows the courses associated with a particular skill. (For additional details, refer to 6.4.2, “Associate a course to a skill” on page 209).

To obtain more about this job-skills-courses association, click **Find Existing Job** and search for a job using either the name or a wildcard (*) in one of the fields (Figure 6-13).
6.4.8 View skills, proficiency levels, and courses for a job

After you have located a job using the search method, a page opens with the job details (name, ID, and description), skills, required rating, and associated courses (Figure 6-14). Click the course name to see the course details and to enroll in the course.

![Skills Management](image)

| Job Name: Application Librarian |
| Job ID: AS-6APL |
| Job Description: Coordinates and provides support for cataloging and upkeep of application documentation and reference materials. Maintains records of production applications and associated source and execution documentation. Interfaces with applications and operations departments to create and maintain documentation catalogs. Maintains and publishes the release schedules for new applications and maintenance updates. Generates and distributes reports. |

<table>
<thead>
<tr>
<th>Skill</th>
<th>ID</th>
<th>Required Rating</th>
<th>Associated Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPLICATION DEVELOPMENT TOOLS</td>
<td>T0300</td>
<td>3-Extensive Experience</td>
<td>Flash Quiz Test Course Course001</td>
</tr>
<tr>
<td>Teamwork</td>
<td>T350</td>
<td>3-Extensive Experience</td>
<td>Lotus Software Problem Reporting Training MyCourse01</td>
</tr>
</tbody>
</table>

*Figure 6-14 Skills and proficiency levels associated with a particular job*

6.5 Career Development portlet

The Career Development portlet interface enables you to add specific skills and jobs to employees, ultimately creating an employee Learning Plan.

One of the major attractions introduced with IBM Workplace Collaborative Learning 2.6 is the ability to perform batch assignments of jobs and skills to the employees. This is especially helpful to relatively large organizations that want to reduce the time required for assigning skills. Previously, in the 2.0 release, you could assign jobs and skills to an employee only on an individual basis. Naturally,
this was very time consuming and required extensive effort. This new feature provides better performance in assigning skills and jobs to employees.

Additionally, a second new feature in the career development portlet of IBM Workplace Collaborative Learning 2.6 is the ability to search for an employee using either an LDAP attribute or a specific job or a skill.

The subtopics in this section are:
- “Career Development portlet and learning plan prerequisites”
- “Finding an employee”
- “Adding a job”
- “Assigning additional skills”
- “Creating a Learning Plan”
- “Proficiency gap”
- “Add courses”
- “Adding activities”
- “Additional skills”
- “Learning Plan: Employee view”

### 6.5.1 Career Development portlet and learning plan prerequisites

This section discusses who can use this portlet (roles and permissions required) and addresses other prerequisites that must be in place prior to creating a Learning Plan.

- **Who can access this portlet?**
  All users in the LDAP directory who are rostered in the Learning Management System (IBM Workplace Collaborative Learning). Based on the level of access, the user can create, edit, and delete Learning Plans.

- **Who can create a Learning Plan?**
  This feature is available for users with Manager role in IBM Workplace Collaborative Learning. The Managers of the organization can create and edit Learning Plans for their employees.

- **Who can read the Learning Plan?**
  An employee has read-only access to his or her Learning Plan.

The Career Development portlet is visible in Figure 6-15 on page 217.
Note: Two prerequisites must be fulfilled before the manager can create a Learning Plan for an employee:

- A skills dictionary should be made available on the server. (See 6.3, “Skills Management: Skills Dictionary” on page 201.)
- Courses should be associated with skills and jobs. (See 6.4.2, “Associate a course to a skill” on page 209.)

Career Development portlet features
The following features are available in the Career Development portlet:

- Multiselect and deselect functionality
  The default state is all options are deselected. You can select or deselect multiple options.

- Modify Jobs and Skills
  Select the check box for an employee name and click this button to change jobs and skills on the Modify Jobs and Skills page. For one employee, the page is unchanged from IBM Workplace 2.0, but for two or more employees, the page is a modified version of the Modify Jobs and Skills page used for a single employee. (Read more at 6.5.3, “Adding a job” on page 221 and 6.5.4, “Assigning additional skills” on page 222.)
6.5.2 Finding an employee

To use the Find Employee feature in the portlet, follow these steps:

1. Click **Find Employees** to open the Find Employees page (Figure 6-16 on page 219), where you can search for employees and create the Learning Plan.
Figure 6-16  Find an employee page

Highlights of this Find Employees page include:

► People search: This page enables the user to select people from the LDAP directory using LDAP attributes.

You can search based on any of these criteria: employee’s first name, last name, common name, user ID, e-mail address, department number, organization, or job, or an additional skill. By default, the job and additional skills fields are blank.

Note: The People search functionality is similar to the partitioning feature in the User tab in Learning Management System.

► The Results per page field enables a user to designate how many results will be shown per page. The default setting is 10 results per page and the maximum valid value is 100. Invalid entries (that is, greater than 100 or less than 1, or a noninteger) are ignored, and the default value of 10 is used if the
value is invalid (0 or less, a non-integer, or blank). If the number is greater than 100, 100 is used.

User-defined entries are valid only for a specific session, and the default value returns for the next session. The default setting here is 10 results per page.

Find Employees search results are listed in alphabetical order by surname.

**Note:** It is assumed that the LDAP server has already been set up, as this is a prerequisite for IBM Workplace Collaboration Services.

To search for an employee, follow these steps:

1. Type the employee details into the appropriate fields. Select the appropriate user entry.

2. Click **Search** to search the information that is available on the LDAP server. The search results are shown on the same page, below the initial criteria (Figure 6-17).

```
Figure 6-17  Employee returned in the search
```

3. Click **OK** to save the selection, or **Cancel** to discard the changes. This returns you to the Career Development portlet page. The selected employee has been added to the view (Figure 6-18 on page 221).
6.5.3 Adding a job

New functionality has been introduced in IBM Workplace Collaborative Learning 2.6 that enables you to assign multiple jobs to the same employee using the Modify Jobs and Skills button shown in Figure 6-19 on page 222. Similarly, many employees can be assigned to a single job by selecting check boxes next to their names and clicking Modify Jobs and Skills.

There are two important prerequisites and examples for adding jobs:

- To assign a single job or skill to a group of users (for example, a Line Manager wants to add the job J2EE Developer to all employees in the department), the Line Manager and people in his or her department must be in LDAP, and the J2EE Developer job must be in the IBM Workplace Collaborative Learning system.

- To add a single skill to a group of employees (for example, the HR Manager wants to add the Export Compliance skill to all permanent regular employees), the HR Manager must be in LDAP, and the Export Compliance skill must be in the system. Set the employee type attribute to Regular.

To add a job to a specific employee, or group of employees, perform the following tasks:

1. Select one or more employees in the list. Click **Modify Jobs and Skills**.
In the window that opens, click Add Job to open the Find Jobs page (Figure 6-20).

Search for a job using one or more of the fields and click OK.

2. Jobs and their descriptions that are available on the IBM Workplace Collaborative Learning server are shown. Select a job and click OK.

6.5.4 Assigning additional skills

After a job is assigned to an employee, all skills associated with the job will be assigned to that employee automatically. Additional skills can also be assigned to the employee.

This task also uses the Modify Jobs and Skills button. Select the job in the pull-down list, search for the desired additional skill for the employee, and click OK. The skill appears in the employee table(Figure 6-20 on page 223). See 6.5.9, “Additional skills” on page 226 for additional information.
Figure 6-20  Assigning additional skills

Note: Additional skills cannot be the same as those assigned to the job.

6.5.5 Creating a Learning Plan

Check the box next to an employee in the Employees list shown in Figure 6-20, and click the icon to create the Learning Plan. The window shown in Figure 6-21 opens.
Select from the jobs that are assigned to an employee, and choose a skill from the Skill Name pull-down list. The required Proficiency Level, as well as the Target Proficiency and Current Proficiency pull-down lists, appear on the page (as shown in Figure 6-22). Refer to 6.4.2, “Associate a course to a skill” on page 209.

### 6.5.6 Proficiency gap

Each job is associated to one or more skills, and each skill has a required proficiency level related to that job. (For details, see 6.3.5, “Rating Scales view” on page 205.) A proficiency gap is the gap between the employee’s current proficiency level and the required proficiency level.

To assign the target proficiency and the current proficiency to the skill that was selected in the Skill Name list, select the proficiency level for the target and current proficiencies (Figure 6-22). Click Add Other Courses, search for one or more courses, and select them. A proficiency gap is displayed along with the courses that the employee needs to attend to fill the proficiency gap.

![Figure 6-22 Proficiency Gap calculation based on Target & Current Proficiency level](image)

### 6.5.7 Add courses

Clicking Add Courses opens the Find Courses window (Figure 6-23), where you can search for courses, curricula, and certificates using one or more fields. These courses should already be created and offered in the Learning Management System (IBM Workplace Collaborative Learning).

**Note:** IBM Workplace Collaborative Learning is a Web-based learning system designed for both self-paced and instructor-led classes. All work is done through a browser. More details can be found at this Web site: [http://www-10.lotus.com/ldd/notesua.nsf/find/lms](http://www-10.lotus.com/ldd/notesua.nsf/find/lms)
Based on the search criteria, the results show details of the courses, curricula, and certificates that are available on the IBM Workplace Collaborative Learning.

![Find Courses](image1)

**Figure 6-23  Find Courses**

Check the box beside each course that you want to add to and employee’s Learning Plan, or you can add all courses by checking the Name column box.

### 6.5.8 Adding activities

Similar to Add Courses, you can add an activity to the employee’s Learning Plan (Figure 6-24).

![Learning Activity Details](image2)

**Figure 6-24  Learning Activity Details**
After the courses and the activity have been added to fill up the proficiency gap, the Learning Plan appears similar to Figure 6-25.

![Image of Career Development]

### 6.5.9 Additional skills

Employees might like to develop extra skills to move on to a different job or to the next level of their current role. Additional skills can be gained by completing some courses or doing a special activity. To add an additional skill to an employee’s Learning Plan, follow these steps:

1. Click **Find Skills**.
2. On the page that opens, search for the skills that have not been added to a job.
3. Click **OK**. The skills are displayed as shown in Figure 6-26 on page 227.
4. Click **OK** to add these details to the employee’s Learning Plan.

5. In the window in Figure 6-27, select the appropriate target and current proficiency levels for the additional skills. Click **OK** to save the Learning Plan.

The message appears as Figure 6-28 on page 228. Click **OK** to save the Learning Plan assignment.
You are returned to the Career Development portlet, which shows details of the employee and the job assigned.

**Note:** Only those skills that are not already associated with the job will be displayed in the Career Development UI page. This page will not display the skill that has been added as an additional skill and also associated with the job.

**Note:** To delete the Learning plan, click the icon in the Remove from List column.

### 6.5.10 Learning Plan: Employee view

After the manager creates a Learning Plan, an employee can log on to the IBM Workplace to view his or her plan, opening the window shown in Figure 6-29.

Any individual employee sees the page you can see above in Figure 6-29. Notice there is only one icon for one employee to preview his or her own learning plan.

**Note:** Employees cannot edit their own Learning Plans.
When a multiple employee search results are returned, the search results look similar to Figure 6-30. Click the glasses icon to preview the Learning Plan.

**Figure 6-30  Result for multiple employees**

Figure 6-31 is a snapshot of a Learning Plan when logged in as an employee with no Manager access rights.

**Figure 6-31  Employee view of a Learning Plan**
6.6 Reports

Using the reporting feature of Skills Management, you can review the data within IBM Workplace Collaborative Learning in various layouts and formats.

The Skills Management reports include:

- Courses for a Skill report
- Gap Analysis for an Employee report
- Best Candidates report
- Learning Plan report
- Group Gap Analysis report

Skills Management reports are discussed in detail in Chapter 7, “Reporting” on page 233. This section gives a summary of the purposes of each Skills Management report.

A manager can review user progress by using the reporting feature. You can view a Skills Management report in various presentation options as outlined in Chapter 7, “Reporting” on page 233.

6.6.1 Courses for a Skill report

This report type displays the various courses that are needed to attain a specific skill.

The report shows the various courses that are recommended for the skill. These courses are set to Recommend rather than Auto-Enroll. Refer to 6.4.4, “Recommending and auto-enrolling in courses” on page 211 for more information about auto-enrolling in a course.

6.6.2 Gap Analysis for an Employee report

The Gap Analysis report displays the gap analysis (current compared to required proficiency levels) for an employee for a given job. For this report to be generated, the employee must have a Learning Plan created in the Career Development portlet.

6.6.3 Best Candidates report

The Best Candidates report displays an employee’s suitability for a job based on a percentage match of proficiency levels and skills. The report can be used to compare two or more employees or a group of employees based on a particular job.
A prerequisite to running this report is that an employee must have a Learning Plan that incorporates one or more specific jobs. Numerous employees who are assigned a specific job are compared, and a report is generated based on the pertinent information. The employee with the best results (highest rating in a skill associated to a job) is listed. As a manager, you can determine the most successful employee or the best candidate.

### 6.6.4 Learning Plan report

The Learning Plan report is a printout of an employee’s Learning Plan in the career development portlet. The report details a list of courses that are included in their individual Learning Plan along with the course status, and it includes both target and actual proficiency levels for the given employee. The employee must have a Learning Plan created in the career development portlet to be included in the report.

### 6.6.5 Group Gap Analysis report

**Note:** The prerequisite to running this report is that courses should be associated with a given skill, and skills should be associated with the job. A user must be associated with at least two jobs.

This creates a report based on all employees who are associated with both or either of the jobs. The report compares and lists two jobs and the corresponding gap analysis for required skills and courses, enabling a manager to view peer-to-peer comparison between employees.

The Group Gap Analysis reports highlights: two jobs and corresponding gap analysis for skills and courses.
Chapter 7. Reporting

This chapter discusses how to use IBM Workplace Collaborative Learning’s reporting functionality to assess how the application and its features are being utilized.

Specifically, this chapter details using the Reports module in IBM Workplace Collaborative Learning to:

- Run reports from existing report templates
- Formatting of reports
- Generating a sample report
- Manage (view, modify, and delete) scheduled reporting job(s)
- Scheduling reports
- Add your own custom reports to the Learning Management System.
7.1 Introduction to reports

As with any enterprise-wide application, a set of users will need to view a representation of the data in order to assess how the application and its features are being utilized. In IBM Workplace Collaborative Learning, this is achieved with its built-in Reporting functionality.

This chapter discusses in detail using the Reports module in IBM Workplace Collaborative Learning to:

- Run reports from existing report templates
- Formatting of reports
- Generating a sample report
- Manage (view, modify, and delete) scheduled reporting job(s)
- Scheduling reports
- Add your own custom reports to the Learning Management System.

Users with an Administrator's role can run all available reports to obtain a specified set of data stored in IBM Workplace Collaborative Learning systems. Students may only run a report on their own usage on the system. Students do not have permission to run administrative reports. Reports can be scheduled and managed according to requirements. Custom reports are added outside of the standard set of reports through a manual process.

The Reports module lets you generate summaries of student, course, and resource (vendors, instructors, rooms) information in report form. These reports are divided into the following general areas:

- Course Catalog information
- Student enrollment information
- Student progress information
- Resource information
- Skills Management information
- Miscellaneous system information

The IBM Workplace Collaborative Learning application contains a standard set of predefined reports that cover many typical areas on which you need to collate data. These reports are listed in 7.2, “Predefined reports” on page 236. As we discuss in 7.5, “Who runs reports?” on page 253, you can also define roles for functions such as registrar, course developer, student, and instructor to allow them to run their own subset of reports.

Access to the Reports module, the tasks within it and the individual reports is controlled by Roles and Permissions. The permission corresponding to a particular report is specified in the reports.xml file. See Figure 7-1 on page 235 for an example of reports.xml file content.
<xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE reports (View Source for full doctype...)>  
<!--  **************************************************************************** Reports for LMS 1.0X  **************************************************************************** -->
<!--  **************************************************************************** -->
<reports>
  <report id="locationActivity" name="locationActivity.name"  
    description="locationActivity.description" category="catalog" template="actR1.cls"  
    permission="Activity_Report" localize="true">  
    <select type="dateRange" parameter="date_act_com" />
    <select type="singleLocation" parameter="p_transaction_oid_com" />
  </report>

  <report id="availableCertifications" name="availableCertifications.name"  
    description="availableCertifications.description" category="catalog" template="avlcert.cls"  
    permission="Available_Certifications_Report" localize="true">  
    <select type="label" parameter="p_label_yes"  
      key="courseManagement.results.satisfied" />
    <select type="label" parameter="p_label_no"  
      key="courseManagement.results.notSatisfied" />
    <select type="label" parameter="p_label_days"  
      key="reports.attrib.reportSelection.unit.days" />
  </report>

  <report id="certificationList" name="certificationList.name"  
    description="certificationList.description" category="catalog" template="cr_m.cls"  
    permission="Certification_List_Report" localize="true">  
    <select type="multipleCertificate" parameter="p_transaction_oid_com" />
  </report>

  <report id="certificationExpiration" name="certificationExpiration.name"  
    description="certificationExpiration.description" category="catalog" template="cerexp.cls"  
    permission="Certification_Expiration_Report" localize="true">  
    <select type="multipleCertificate" parameter="p_transaction_oid_com" />
  </report>

  <report id="courseMasterDetail" name="courseMasterDetail.name"  
    description="courseMasterDetail.description" category="catalog" template="crs_m.cls"  
    permission="Course_Detail_Report" localize="true">  
    <select type="label" parameter="p_transaction_oid_com" />
    <select type="label" parameter="p_label_yes"  
      key="courseManagement.results.satisfied" />
    <select type="label" parameter="p_label_no"  
      key="courseManagement.results.notSatisfied" />
  </report>

<report id="curriculumList" name="curriculumList.name"  
    description="curriculumList.description" category="catalog" template="cri_m.cls"  
    permission="Curriculum_List_Report" localize="true" />

  <report id="courseEnrollments" name="courseEnrollments.name"  
    description="courseEnrollments.description" category="enrollment" />

Figure 7-1 - Reports.XML sample file
7.2 Predefined reports

Using the Reporting feature in IBM Workplace Collaborative Learning, you can review the data within IBM Workplace Collaborative Learning in various layouts and formats. Depending on the level of access, a manager or an administrator can view all the activities, progress, and available resources that are present within their Learning system.

Click the Reports tab, as in Figure 7-2 to show the Reports main window.

![Figure 7-2   General Report feature diagram](image)

The IBM Workplace Collaborative Learning comes with several predefined reports. The list of report categories available in IBM Workplace Collaborative Learning is:

- Catalog Reports
- Enrollment Reports
- Progress Reports
- Resource Reports
- Skills Management Reports
- Miscellaneous Reports
Catalog reports

Creating reports using the Catalog category (Figure 7-3) provides you with reports based on the content of the offerings catalog. See Table 7-1 for details of the individual reports available.

Figure 7-3 - Catalog report diagram

The Catalog reporting feature allows a manager or administrator user to reference properties of courses, curriculums and certificates. You can locate information regarding events and expiration details associated to individual courses, including curriculums and certificates. You can confirm details of students who are certified in a particular course, also students, and a certificate course's expiration details.

Table 7-1 Catalog reports available

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Report</td>
<td>Display the list of classroom courses and learning events available over a specific period of time for a specified location.</td>
</tr>
<tr>
<td>Available Certificates</td>
<td>Display the list of all available certificates.</td>
</tr>
<tr>
<td>Certificate List</td>
<td>Display the list of certificates with all certified users.</td>
</tr>
<tr>
<td>Certificate Expiration</td>
<td>Display the list of student certificates ordered by expiration date.</td>
</tr>
<tr>
<td>Course Detail</td>
<td>Display the properties of a single course and all of its topics, activities, and objectives.</td>
</tr>
<tr>
<td>Available Curricula</td>
<td>Display the list of all curriculums.</td>
</tr>
</tbody>
</table>
**Enrollment reports**

Creating reports using the Enrollment category (Figure 7-4) provides you with reports based on the enrollment of Students in modules contained in the offerings catalog. See Table 7-2 for details of the individual reports available.

![Enrollment Reports Diagram](image)

The Enrollment reporting feature allows a manager or administrator to reference details regarding enrollments in specific courses and the individual student enrollment details. You can obtain reports specifying multiple enrollments, course enrollment schedules, and waiting lists for courses.

**Table 7-2  Enrollment reports available**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Enrollments</td>
<td>Display the list of students enrolled in a specified course.</td>
</tr>
<tr>
<td>Enrollment Activity</td>
<td>Display the number of students enrolled in one or more courses over a specified time period.</td>
</tr>
<tr>
<td>Enrollment Summary</td>
<td>Display all enrollments for multiple users.</td>
</tr>
<tr>
<td>Student Schedule (List)</td>
<td>Display the course schedule for a specified user.</td>
</tr>
<tr>
<td>Wait List</td>
<td>Display the wait list for one or more courses.</td>
</tr>
</tbody>
</table>

**Progress reports**

Creating reports using the Progress category (Figure 7-5 on page 239) provides you with reports based on the progress summary of an individual student or a group of students and the modules they have taken. See Table 7-3 on page 239 for details of the individual reports available.
The Progress report feature allows a manager or administrator to reference students progress details in specified courses. You can obtain results for a list of students or for one individual student. A report can also be generated to display all courses in which a student is enrolled. The information in a report can be based on Skills assigned to an individual student. It can determine the progress made in a curriculum, what modules a student has taken, and what is outstanding for the curriculum to be completed overall.

Table 7-3 Progress reports available

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Progress</td>
<td>Display how far a particular student has progressed in a specified curriculum.</td>
</tr>
<tr>
<td>Interaction Summary</td>
<td>Display average score and latency for all interactions in an activity.</td>
</tr>
<tr>
<td>Course Progress by Skill</td>
<td>Display progress for a single course, by user skill.</td>
</tr>
<tr>
<td>Course Progress by User</td>
<td>Display progress for multiple users in a single course.</td>
</tr>
<tr>
<td>User Interaction Detail</td>
<td>Display a user's results for all interactions in an activity.</td>
</tr>
<tr>
<td>User Progress by Course</td>
<td>Display a user's progress in one or more courses.</td>
</tr>
<tr>
<td>User Progress by Course, Detailed</td>
<td>Display a user’s progress in all topics and activities for one or more courses.</td>
</tr>
</tbody>
</table>
Resource Reports

Creating reports using the Resource category (Figure 7-6) provides you with reports based in the list of resources available to be reserved for offerings in the offerings catalog. See Table 7-4 for details of the individual reports available.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Transcript</td>
<td>Display the entire course history for a particular student.</td>
</tr>
</tbody>
</table>

**Figure 7-6  Resource Report Diagram**

The resource reporting feature allows a manager or administrator to reference details regarding resources listed in the Learning system. Resources include instructors, classrooms, and vendors. You can generate a report to detail classroom bookings over a specified date range, classrooms that are available in a specific location, instructor schedule details, and information regarding their classes, groups and vendors.

**Table 7-4  Resource reports available**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom Schedule (List)</td>
<td>Display the course schedule for a specified classroom.</td>
</tr>
<tr>
<td>Classroom Utilization</td>
<td>Display the usage of a classroom over a specified period of time.</td>
</tr>
<tr>
<td>Classrooms by Location</td>
<td>Display the list of classrooms for a specified location.</td>
</tr>
<tr>
<td>Instructor Schedule (List)</td>
<td>Display the teaching schedule for a specified instructor.</td>
</tr>
<tr>
<td>Instructor Utilization</td>
<td>Display the percentage of time an instructor is scheduled to teach, over a specified time period.</td>
</tr>
<tr>
<td>Instructors by Group</td>
<td>Display the list of instructors for a specified group.</td>
</tr>
<tr>
<td>Instructors by Vendor</td>
<td>Display the list of instructors for a specified vendor.</td>
</tr>
</tbody>
</table>
Skills Management reports
Creating reports using the Skills Management category (Figure 7-7) provides you with reports based on Skill and Job assignments to an individual student or a group of students. See Table 7-5 for details of the individual reports available.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructor Schedule (List)</td>
<td>Display the teaching schedule for a specified instructor.</td>
</tr>
<tr>
<td>Instructor Utilization</td>
<td>Display the percentage of time an instructor is scheduled to teach, over a specified time period.</td>
</tr>
<tr>
<td>Instructors by Group</td>
<td>Display the list of instructors for a specified group.</td>
</tr>
<tr>
<td>Instructors by Vendor</td>
<td>Display the list of instructors for a specified vendor.</td>
</tr>
</tbody>
</table>

Figure 7-7  Skills Management Report Diagram

A manager can review user progress by using the various reporting features. You can view a Skills Management report with various presentation options.

The Skills Management reporting feature allows a manager or administrator to view data based on Skills Management feature in IBM Workplace Collaboration services. You can generate reports to display required courses for an individual Skill, the current and required proficiency level for jobs, best candidate for a job, a Learning plan for an individual student, and analyze the gap between students who have the same job with courses assigned to it.

Table 7-5  Skills Management reports available

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courses for a Skill</td>
<td>Display all of the courses needed to attain a specified skill.</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Gap Analysis for an Employee</td>
<td>Display the current and required proficiency levels of an employee for specified jobs.</td>
</tr>
<tr>
<td>Best Candidates</td>
<td>Display the best candidates for a specified job.</td>
</tr>
<tr>
<td>Learning Plan</td>
<td>Display the learning plan for a specified user.</td>
</tr>
<tr>
<td>Skills Management - Group Gap Analysis</td>
<td>Display progress in all courses for all students associated with a job, and for the same students, their skills gap in all courses associated with another job.</td>
</tr>
</tbody>
</table>

**Courses for a skill report**

This report type displays the various courses that are needed to attain a specific skill.

The resulting report shows the various courses that are recommended for a skill. Courses can be set to Recommend or Auto-Enroll. Refer to Chapter 6, “Introduction to Skills Management” on page 197 for more information about auto-enrolling and recommending a course.

**Gap Analysis for an employee report**

The Gap Analysis report displays the gap analysis (current compared to required proficiency levels) for an employee for a given job. For this report to be generated, the employee must have a Learning Plan created in the Career Development portlet.

**Best Candidates report**

The Best Candidates report displays an employee’s suitability for a job based on a percentage match of proficiency levels and skills. The report can be used to compare two or more employees or a group of employees based on a particular job.

**Note:** A prerequisite to running this report is that an employee must have a Learning Plan that incorporates one or more specific jobs. Numerous employees who are assigned a specific job are compared, and a report is generated based on the pertinent information. The employee with the best results (highest rating in a skill associated to a job) is listed. As a manager, you can determine the most successful employee or the best candidate.
**Learning Plan report**

The Learning Plan report displays an employee’s Learning Plan in the Career Development portlet. The report details a list of courses that are included in their individual Learning Plan along with the course status, and it includes both target and actual proficiency levels for the given employee. The employee must have a Learning Plan created in the Career Development portlet to be included in the report.

**Group Gap Analysis report**

**Note:** The prerequisite to running this report is that courses should be associated with a given skill, and skills should be associated with the job. A user must be associated with at least two jobs.

This report is generated based on all employees who are associated with both or either of the jobs. The report compares and lists two jobs and the corresponding gap analysis for required skills and courses, enabling a manager to view peer-to-peer comparison between employees.

For more information about Skills Management and its reporting features refer to Chapter 6, “Introduction to Skills Management” on page 197.

**Miscellaneous reports**

The Miscellaneous reporting category (Figure 7-8) allows a manager or administrator to run other useful reports that do not fall into other report categories. See Table 7-6 on page 244 for details of the individual reports available.

**Figure 7-8 - Miscellaneous Report Diagram**

Miscellaneous report features allow a manager or administrator to reference details regarding students logging onto the learning system, users assigned a specified skill, scheduled reports, and permissions for individual students.
Table 7-6  Miscellaneous reports available

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logon Summary</td>
<td>Display the login activity for all users.</td>
</tr>
<tr>
<td>Skill Roster Summary</td>
<td>Display all users belonging to a specified skill.</td>
</tr>
<tr>
<td>Scheduled Reports</td>
<td>Display the list of scheduled reports, along with repetition information.</td>
</tr>
<tr>
<td>User Permissions</td>
<td>Display the list of permissions for each specified user</td>
</tr>
<tr>
<td></td>
<td>with information about how the permission is inherited (from a group, individual, and so on.).</td>
</tr>
</tbody>
</table>

7.3 Report formats

You can view IBM Workplace Collaborative Learning reports in various presentation options. These options are listed in Table 7-7 and describe in fuller detail in the following sections.

Table 7-7  Report format types available

<table>
<thead>
<tr>
<th>Report Format</th>
<th>Use method</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTML - HyperText Markup Language</td>
<td>Browser-based applications</td>
</tr>
<tr>
<td>CSV - Comma Separated Value</td>
<td>Spreadsheet-based applications</td>
</tr>
<tr>
<td>XML - Excel® Macro Language</td>
<td>Browser-based applications</td>
</tr>
<tr>
<td>TXT - Text</td>
<td>Text editor-based application</td>
</tr>
</tbody>
</table>

HTML format

An example of when to use HTML format of report would be when you want to export the report output into a browser based Application. See Figure 7-9 on page 245 for an example of how a report in HTML format appears.
CSV format
An example of when to use a CSV format report would be when you want to export the report output into a spreadsheet application such as Lotus 1-2-3. See Figure 7-10 for an example of how a report in CSV format appears.

CSV reports can be imported into spreadsheets and similar applications.

XML Format
One example of when to use XML format report would be when you want to export the report output into a Web application. See Figure 7-11 on page 246 for an example of how a report in XML format appears.
TXT format

An example of when to use TXT format of report would be when you want to export the report output into a text editor application such as WordPad or Notepad. See Figure 7-12 on page 247 for an example of how a report in TXT format appears.
7.4 Running reports

Execute a report with the generic method by following the steps outlined in this section.

Running a report displays the report results in your browser within a few moments in a separate window.

**Note:** The time it takes for a report to execute depends on a number of criteria: the system specification, system workload, and the amount of data to be processed for a specific report. Some reports can take a long time to run, for example selecting multiple users' progress based on 10,000 users.

1. In the Reports module, click **Run a Report**.
2. Select a category of reports in the drop-down box.
3. From the list of reports that opens, click the report name.
4. Proceed through all selection steps, depending on the selected report.
5. In the Presentation page, choose a report format from the File Format list.
6. Optional: If it is required, you can choose to schedule a report here by clicking the **Schedule** button. Complete the Scheduling options as required, depending on report selection criteria. This will cause reports to be managed as in 7.6, “Managing scheduled reports” on page 255.

7. Click **Run**.

8. After you select **Run**, the report appears in a separate browser window.

9. Optional: To print the report, press Ctrl+P.

**Step-by-step guide to generate a report**

This section is a step-by-step guide to take you through the process of generating a report.

1. Log in to the IBM Workplace Collaborative Learning interface.

2. Click the **Reports** tab.

3. In the Reports module, click **Run a Report** as shown in Figure 7-13.

![Figure 7-13  Report tab in IBM Workplace Collaborative Learning](image)

4. Select a category of report from the drop-down box for the report type that you choose to create. Refer to Figure 7-14 for the listing of report categories available.

![Figure 7-14  Report categories](image)
5. When you have selected the category of report that you require, click the report name that you want to generate. Refer to 7.2, “Predefined reports” on page 236 for the full listing of reports available in each of the six categories.

6. In this example, we create a report from the Enrollments category to provide us with details listing students enrolled in a specific course. This report is entitled Course enrollments.

7. Select Enrollment Reports from the category drop-down box, then select Course Enrollments report, as shown in Figure 7-15, by clicking the report name.

![Figure 7-15 - Course Enrollments report](image)

8. Depending on the report you select, there are various selection steps required to input information into the reporting feature. Proceed through all selection steps as they are presented to you.

9. For this example report, Course Enrollments, we are required to select the course for which we want the report to generate information, to list enrollments in the specified course.

10. Search for a course as shown in Figure 7-16 on page 250.
11. Select the course in which you are basing the report. In this example we want an enrollment listing for Course102.

12. Select the course by clicking the check box next to the course name. Then click the Add Selected button. See Figure 7-17 for an example.

13. Click the Continue button.

14. You can choose to schedule a report at this stage. This is an optional decision based on your business requirements. This example steps through scheduling a report. An example where you might want to schedule reports...
would be to list the activities in classrooms or learning events over a specified period of time or a login summary of students which will provide a report detailing the login activity for all users. There are many other scenarios in which a report running at a scheduled intervals will provide useful information to an individual, a group, or an organization as a whole.

**Note:** You can create a report to list all Scheduled reports currently setup by going to Miscellaneous reports category & selecting the Scheduled reports report.

![Image](Figure 7-18 Generating a report)

15. Click **Schedule** button as shown in Figure 7-18.

16. Complete the scheduling options as required and select **Save** your settings. An example of a schedule you can set up for a report is shown in Figure 7-19 on page 252.
17. In the Presentation page, choose a report format from the File Format list, see Figure 7-18 on page 251 for an example of the presentation page layout.

18. Click **Run** to begin the report generation. This can take a few moments, depending on the report you are creating and the amounts of data involved.

19. Select **Run** and the report is launched in a separate browser window. In Figure 7-20 on page 253 there is an example of the Course Enrollment report generated in HTML format.

**Note:** To print the report, press Ctrl+P on the keyboard.
As you can see in Figure 7-20, this report details students who are currently enrolled in Course_102. It provides details on the individual student. You can now use this information in ways that will benefit your organization. One example is that because you have the students’ e-mail addresses for that course, you could send them an online survey to query how they find the course content, if it is adequate for the subject, if it needs to be improved, or solicit any feedback or suggestions they might have.

The example above shows how powerful a tool the reporting feature can prove be. By amalgamating information contained within your IBM Workplace Collaborative Learning system you can compile data into structured reports that can be used in various ways.

### 7.5 Who runs reports?

The predefined roles of System administrators, students, course instructors, course administrators, managers and user administrators can all run reports.
Administrators, managers, and instructors have default permissions to manage reports. To allow another user to run reports, that user needs at least the following permissions:

- Reporter - allows access to the Reports module
- Run Reports - allows the user to run reports

Chapter 2, “Installing IBM Workplace Collaborative Learning 2.6” on page 11 discusses setting permissions for individual users and groups of users. When you specify a user to have Reporting permissions, the option for a user to view Reports through the IBM Workplace Collaborative Learning is then available.

Each predefined report has its own permission. Thus, you can allow a user to run a subset of reports by assigning individual reports to a role.

**Note:** The IBM Workplace Collaborative Learning has predefined roles for Student, Instructor, Administrator and Manager roles (Table 7-8). You must further define roles for other functions. See 3.1.1, “Roles and permissions” on page 68 for further details on Roles & Permissions and how to set these roles through IBM Workplace Collaborative Learning.

<table>
<thead>
<tr>
<th>Role</th>
<th>Available Reporting Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Instructor</td>
<td>▶ Review students &lt;br&gt; ▶ Track student progress &lt;br&gt; ▶ View class roster &lt;br&gt; ▶ View teaching schedule</td>
</tr>
<tr>
<td>Course Administrator</td>
<td>▶ View surveys &lt;br&gt; ▶ Views course resources &lt;br&gt; ▶ View schedules</td>
</tr>
<tr>
<td>User Administrator</td>
<td>▶ Run certification reports &lt;br&gt; ▶ Run student progress reports &lt;br&gt; ▶ Run profile progress reports</td>
</tr>
<tr>
<td>System Administrator</td>
<td>▶ Run any available report i.e. all functionality available in other roles &lt;br&gt; ▶ Create customized reports for other users &lt;br&gt; ▶ Modify existing, predefined reports</td>
</tr>
</tbody>
</table>

**Note:** A student may have access to Reporting functionality in IBM Workplace Collaborative Learning if the role is defined as providing that permission.
7.6 Managing scheduled reports

Scheduled reports are delivered by e-mail to one or more people at a specified time. You can manage any scheduled report that you own (that is, reports that you have created). If you have the ‘Manage Scheduled Reports’ permission then you can manage all scheduled reports that have been setup in the system, see Figure 7-21. This permission is assigned through Roles and Permissions, see Chapter 3, “Base configuration” on page 67 for further details.

![Figure 7-21 Managing scheduled reports](image)

You can edit the schedule details of any report that has been scheduled by clicking the report name, or delete the schedule for a report by clicking the check box next to the report name and clicking **Delete**. See Figure 7-22 for details.

![Figure 7-22 Editing a scheduled report](image)

See figure Figure 7-23 on page 256 for details.
Three tabs appear on the Manage Scheduled Reports page. These tabs and their editable criteria are listed in Table 7-9.

<table>
<thead>
<tr>
<th>TAB</th>
<th>Can Change...</th>
</tr>
</thead>
</table>
| Format      | - File format
              - Report Locale                                                             |
| Criteria    | - Criteria set for a report output                                           |
| Schedule    | - Start Date
              - Unit of scheduling
              - End period of scheduled report
              - E-mail address of report recipient |

The Format tab (Figure 7-24 on page 256) allows you to change:

- File format
- Report locale
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Figure 7-24  Format tab

The Criteria tab (Figure 7-25) allows you to change the criteria you set for the report output. The criteria varies, depending on which report was scheduled. For example, a report on resources will display information regarding Instructors, Classrooms, and Equipment, depending on the criteria you selected.

Figure 7-25  Criteria tab

The Schedule tab (Figure 7-26 on page 258) allows you to change:

- Start date
- Frequency of scheduling (hourly, daily, weekly, monthly)
- When to end the scheduled report:
  - By specified end date
  - After completing a specified number of repetitions
  - Never
- The e-mail addresses of the recipients of the report
The only required field is the start date.

To delete a schedule for a report, do the following in the Reports module:
1. Click **Manage Scheduled Reports**.
2. Select the check box next to the report or reports you want to delete the associated report schedule.
3. Click **Delete** to delete the selected report schedule.

This only deletes the scheduled report, not the report itself. You can still run the report at any time or create new schedules for it.

![Course Enrollments](image)

*Figure 7-26  Schedule tab*

### 7.7 JReports Report Designer

This section describes how to use JReport Designer to generate custom reports. JReport Professional is the report designer for creating report templates. An
administrator can work with JReport features embedded in IBM Workplace Collaborative Learning by using the JReport Designer client.

You can add your own custom reports to IBM Workplace Collaborative Learning. Refer to the redbook *IBM Lotus Learning Management System Handbook*, SG24-7028-00, and read “Chapter 13 Custom Reports” for further detail on setting up this feature.


*JReport Designer* is a tool used to create custom reports for use with IBM Workplace Collaborative Learning. Some of the main features of JReport designer include:

- Runtime viewer
- Report wizard
- Visual query editor
- Data manager
- Catalog repository
- Subreports
- Charts / Graphs

All of the object definitions for a report, along with the report itself are stored in a catalog repository. Object definitions include items such as parameters, database connections, and formulas.

### 7.7.1 Enabling custom reporting

To enable custom reporting on your IBM Workplace Collaborative Learning system you must have installed the following:

- JReport Designer
- JReport Help files

When JReport Designer is installed and connected to the JReport engine in IBM Workplace Collaborative Learning, you can create a custom report. A report consists of the following components:

- Catalog Repository:
  - Queries that return result sets from the database and are then displayed with a report. Queries are edited outside of the catalog and are then imported into the catalog.
  - Formulas that return results required by a report. Formulas are created using the JReport Designer formula editor
– Parameters that pass data to the report at runtime from the Learning system. These parameters are handled and created by the JReport designer

► Report Templates for each report containing:
  – Graphical display elements such as lines
  – Fields that can display data and images

Custom reports are created using JReport Designer. The report file (which has a *.cls extension) uses the resources in your custom report catalog. Once the report is created, it must be stored in a specific directory; the `<WEBROOT>/reports/template` directory. The custom catalog also is stored in this directory. A report file can be created directly in that directory or copied to the location manually.

To modify an existing custom report you must:

1. Modify an existing report.
2. Update the reports.xml to make IBM Workplace Collaborative Learning aware of the new report, making it available to the Learning system.

Refer to the IBM Redbook *IBM Lotus Learning Management System Handbook*, SG24-7028, “Chapter 13 Custom Reports” for further detail on creating and modifying custom reports.
Collaborative aspect of learning

In this chapter we discuss two areas within the Learning component that interact with other IBM Workplace Collaboration Services components. The first component we cover is the Course Collaboration Space component. This is a forum-type component that can be linked to any Learning module. When we cover this component in detail during the course of this chapter, you will notice that the functionality is leveraged from the Team Collaboration Workplace component. The second area we cover in this chapter is Notifications, primarily an e-mail-based mechanism through which information is relayed to the participants. This second topic builds on the discussion in 3.2.2, “Resource Access Control List” on page 85.
8.1 Course Collaboration Spaces

This section discusses Course Collaboration Spaces in detail.

8.1.1 Introduction to Course Collaboration Spaces

IBM Workplace Collaborative Learning 2.6 introduces Course Collaboration Spaces as a way for participants of a course to communicate, share resources and messages, and discuss topics of interest. This collaboration component can be used to store documents or training material associated with an offering. They can also act as a discussion forum for any questions students have about course material.

As we mentioned in 4.3, “Setting up learning modules” on page 111, all types of offerings can be set up to utilize a discussion component. This discussion component can be either a Domino Discussion Database or it can be an instance of a Workplace Course Collaboration Space.


(http://www.redbooks.ibm.com/abstracts/sg247028.html?Open)

The Course Collaboration Space leverages the functionality available in the Workplace Team Collaboration component of IBM Workplace Collaboration Services, specifically the Team Project template. The core functionality within the Team Collaboration area is to provide a application that facilitates collaboration between team members through the use of a number of shared components. For example, members of a particular Team Collaboration application have the ability to create and store documents, use discussion forums, assign tasks to team members and use a shared chat area to discuss and save real-time instant messaging discussions between members, among other features. The Team Collaboration component uses a number of application templates that are designed for a number of typical usage patterns, such as sample call centers. As mentioned previously, the Course Collaboration Space used within Learning is similar in available functionality to the Team Project in the Team Collaboration template catalog. Section 8.1.4 will describe the functionality available in the Course Collaboration Space in detail. For more information about the Team Collaboration area, see the book IBM Workplace Collaboration Services: Release 2.5 Deployment Guide, SG24-6777-00.

Section 8.1.2, “Creating an offering with a Course Collaboration Space” on page 263 describe how you create the Course Collaboration Space in conjunction with a Learning offering.
8.1.2 Creating an offering with a Course Collaboration Space

**Important:** If an offering is to have a reference to a Course Collaboration Space, this must be specified at the time when the offering is created. You cannot update an existing offering to add a Course Collaboration Space. Therefore, you must plan ahead which offerings will use this functionality.

When creating a master in the Masters Catalog for any type of Learning module (course, curriculum or certificate), there is an option in the Details page where you can specify that a discussion component must be specified when creating an offering from this master. This option is shown in Figure 8-1. By default, this Requires Discussion option is *not* selected when you first enter the Master Details page.

![Table]

<table>
<thead>
<tr>
<th>Delivery Medium</th>
<th>Physical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requires Discussion</td>
<td>□</td>
</tr>
<tr>
<td>Requires Chat</td>
<td>□</td>
</tr>
</tbody>
</table>

*Figure 8-1  ‘Requires Discussion’ check box in the Master Details page*

After you select this **Requires Discussion** option, the rest of the steps to create a master are the same as those covered in 4.3, “Setting up learning modules” on page 111.

When you create an offering from an item in the Masters Catalog where this **Requires Discussion** option has been selected, you are presented with a field for the discussion type. Based on the discussion type selected, further discussion-related fields are presented for you to complete.

Figure 8-2 on page 264 shows the discussion area of the Course Details page for an online course having chosen the **Course Collaboration Space** for the Discussion Type field.
Figure 8-2  Course details for an online course with Course Collaboration Space

The Discussion Type field defaults to Course Collaboration Space, but this can be switched to Domino Discussion if you want to utilize an external Domino server that has been added to the Workplace system.

Table 8-1 describes the options available within the Discussion area of the Course Details page.

Table 8-1  Options available in the Discussion area of the Details page

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>A name associated with the Course Collaboration Space.</td>
</tr>
<tr>
<td>Description</td>
<td>A brief description of the Course Collaboration Space.</td>
</tr>
<tr>
<td>Template</td>
<td>The template to use for the Course Collaboration Space. By default only a single template is listed.</td>
</tr>
<tr>
<td>Additional Moderator</td>
<td>Field whereby you can add another user to the Course Collaboration Space with a role of Instructor.</td>
</tr>
<tr>
<td>Designate a new Collaboration Space for each offering</td>
<td>Only applies to modules that can be scheduled (classroom, blended and LVC courses). Choosing this option will imply that a separate Course Collaboration Space will be created for each individual scheduled offering.</td>
</tr>
<tr>
<td>Use this Collaboration Space for all offerings</td>
<td>Only applies to modules that can be scheduled (classroom, blended and LVC courses). Choosing this option will imply that all scheduled offerings will share a single Course Collaboration Space.</td>
</tr>
</tbody>
</table>
The Name and Template fields within the Discussion area of the Course Details page are mandatory. If you have updated a copy of the Course Collaboration template, this entry will also appear in the Template area. The Description field is not mandatory, but you should enter information about which module the Course Collaboration Space is linked. When you are in the Course Collaboration Space interface, you can see both the Name and Description fields you specified while creating the offering, as highlighted in Figure 8-3.

![IBM Workplace interface](image)

**Figure 8-3** The Name and Description fields when creating course

The Moderator area of the discussion details specifies which users will have overall administrator rights over the content of the Course Collaboration Space, i.e. users that have the 'Instructor' role. The user specified as the course contact when creating the offering always gets added to the Course Collaboration Space as an Instructor, as are any users assigned as instructors in the offering details. Optionally the user creating the offering can add an additional moderator by selecting the 'Additional Moderator' check box and searching for a user. As with all other user searches in the IBM Workplace Collaborative Learning interface, only rostered users are returned from the search. See 3.1.2, “Rostering” on page 75, for more information about User Management and User Rostering.

The Course Details page when creating a classroom course with a Course Collaboration Space is slightly different to the Course Details page shown in Figure 8-2 on page 264, due to the additional schedule options. Figure 8-4 on page 266 shows the interface for this option.
Here you will either specify that either a single Course Collaboration Space is created and shared between all scheduled offerings, or that a separate Course Collaboration Space is created for each individual scheduled offering. If the **Designate a new Collaboration Space for each offering** option is selected, then the user will specify the standard Course Collaboration Space details when the offering is scheduled.

**Tip:** It can be worthwhile to reuse a Course Collaboration Space between scheduled offerings, because documents posted and questions submitted previously are likely to be relevant to the same course run at different times.

When a course with a Course Collaboration Space in the Offerings Catalog is subsequently put into edit mode, the user can only update the Name and Description fields associated with the Course Collaboration Space.

If an offering is to have a reference to a Course Collaboration Space, this must be specified at the time when the offering is created. A user will not be able to add a Course Collaboration Space to an existing offering by putting it into edit mode.

Also when the instructors are updated while the offering is in edit mode and the offering is saved, the membership of the associated Course Collaboration Space will be updated with details of the instructors.
8.1.3 Roles in a Course Collaboration Space

There are two distinct roles used within the Course Collaboration Space: Instructors and Participants. These roles in the Course Collaboration Space are completely independent of the roles defined in the IBM Workplace Collaborative Learning interface, as described in 3.1.1, “Roles and permissions” on page 68.

- Users that have the Instructors role have access to administer all content within the Course Collaboration Space. They will have access to add, edit, and delete content from the various portlets within the Course Collaboration Space.

- Users that have been assigned the Participants role will see the same set of portlets but have less functionality available, typically they are only allowed to add content.

Any instructors that you specify when creating the offering are added to the Course Collaboration Space with the Instructors role. The user defined as the course contact for the offering that references the Course Collaboration Space will automatically be added to the Course Collaboration Space and are assigned the Instructors role. If you specified an additional moderator when creating the offering, this user will also be added to the Course Collaboration Space with the Instructors role.

When a student enrolls in an offering that has a linked Course Collaboration Space, they will gain access to that Course Collaboration Space with the Participants role. Similarly, withdrawing from an offering removes a student’s access to the Course Collaboration Space.

8.1.4 Using Course Collaboration Spaces from Workplace Learning

In the IBM Workplace Collaboration Services Learning page, students access the Course Collaboration Space component by selecting the discussion icon link from one of the views containing the discussion link. Figure 8-5 on page 268 shows the discussion icon link from a classroom course in the Enrolled Courses view.
When you select the discussion icon link and are in the Course Collaboration Space, the way to return to the Learning page is to select My Work at the top of the page, as shown in Figure 8-6. This will return you to the area in the IBM Workplace Collaboration Services Learning interface from where the discussion icon link was selected.

The instructors access the Course Collaboration Space through a discussion link in the IBM Workplace Collaborative Learning interface. When they are in the Home page they select the link Courses I'm Teaching. Here you see the list of courses you are assigned as instructor. If any of these courses have a discussion component associated with them, a discussion link will be present.

### 8.1.5 Functionality available within Course Collaboration Space

This section introduces the portlets available within the Course Collaboration Space and gives guidelines on how each area can be utilized to enhance the learning experience for students on an associated Learning module.

Table 8-2 on page 269 gives a summary of the functionality available within each page of the Course Collaboration Space. Further detail on the content of each page is covered in the sections that follow.
As mentioned in the section on Roles in a Course Collaboration Space, all users who have access to the Course Collaboration Space will see all of the pages. Those users in the Participants role (Students) will be able to contribute to the areas in the Course Collaboration Space. Those users in the Instructors role (Instructors and Course Contact) will have additional access rights to create, update, and delete content within the portlets in each of the pages in Table 8-2.

The next set of sections cover the areas described in Table 8-2 in further detail.

**Course Collaboration Home page**

The opening page of the Course Collaboration Space holds the Home, Announcements, Members, and Links portlets. These are suitable locations to display informational messages to the students.

The Home portlet contains the name of the Course Collaboration Space, and the description entered during the offering creation process. The description can relate to the course itself, or it can be used to explain the purpose of the collaboration space to students who might be unfamiliar with the concept.

The Announcements portlet is particularly suitable for presenting news to enrolled students. The announcements that display in the portlet are visible to all users that have access to the Course Collaboration Space. This behavior is not the same as announcements in the rest of the IBM Workplace Collaborative Learning interface, where a matching string is specified to target the announcement to specific users, groups, or against a particular user repository attribute.

---

### Table 8-2 Areas within the course collaboration space

<table>
<thead>
<tr>
<th>Course Collaboration Space area</th>
<th>Functionality available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Collaboration Home</td>
<td>View course announcements, Course Collaboration Space membership and links of interest.</td>
</tr>
<tr>
<td>Course Calendar</td>
<td>View Course Calendar, Course Tasks and Course Outline.</td>
</tr>
<tr>
<td>Documents</td>
<td>Use Workplace Document Manager for document creation and storage.</td>
</tr>
<tr>
<td>Discussion</td>
<td>Contribute to any Discussion Forums created by course instructors.</td>
</tr>
<tr>
<td>Chat Room</td>
<td>Instant Messaging facilities available to instructors and students enrolled in course.</td>
</tr>
<tr>
<td>Search</td>
<td>Full text search on content of Course Collaboration Space.</td>
</tr>
</tbody>
</table>
The Members portlet displays the names of all users that have access to the Course Collaboration Space. Users that have been enrolled in the associated offering are listed beneath the Participants section. The course contact and any assigned instructors are listed beneath the Instructors section. For more information about the Participants and Instructors roles see section 8.1.3, “Roles in a Course Collaboration Space” on page 267.

The Links portlet is used to display any links of interest, perhaps links to information related to the associated course.

Figure 8-7 shows a sample instance of the Course Collaboration Home page.

![Figure 8-7](image)

**Course Calendar page**

The Course Calendar page of the Course Collaboration Space holds the Course Calendar, Course Tasks and Course Outline portlets. This area of the Course Collaboration Space is used to store schedule-based information relating to the linked offering.
The Course Calendar in IBM Workplace Collaboration Services 2.6 will act as an individual calendar for users until you make the following change:

1. Go to the Administration User Interface. Log in as the main administration user and select Administration.

2. Select Portlets → Manage portlets.

3. Select Course Calendar.

4. Select Modify parameter.

5. Add new parameter, calendar_type, with the value team.

6. Click Save.

When this has been implemented, the calendar will be a resource where updates by any user who has access to the Course Collaboration Space will be seen by all other users.

Instructors can add required course work to the Course Tasks portlet. Tasks placed in this portlet will be visible to all students. Instructors of scheduled courses should, after giving a day's lecture, or as appropriate to their course, add the day's required course work to the Course Tasks portlet. A course task can however serve as a useful reminder to students visiting this page, of work due for their course.

**Tip:** Instructors should not rely solely on the Course Tasks portlet to inform students of required work, because students cannot be guaranteed to visit the Course Calendar page. A course task can however serve as a useful reminder to students of work due for their course.

Instructors can add the course's schedule to the Course Outline portlet. This portlet accepts dated entries describing the course topics or activities for a particular day.

Figure 8-8 on page 272 shows a sample instance of the Course Calendar page.
Documents page

The Document Library in the Course Collaboration Space is typically utilized as a place to store learning materials for the students to read or download. An instructor might use this library to store reference material not presented in the course itself. They might also use it to make a presentation available to students.

Figure 8-9 on page 273 shows a sample instance of the Documents page.
The Documents page is split into two sections. In the left pane there is a tree structure representing various views and directory structures. The left pane displays the content. The Document Library in the Course Collaboration Space comes preloaded with folders in which instructors put their course materials. Within the Course Materials folder, instructors and students will find Assignments, Course Readings, and Reference Materials folders. Instructors should place exercises in the Assignments folder. Handouts, transcripts, and required reading go into the Course Readings folder, while supporting documents go into the Reference Materials folder. Instructors are free to edit or add to the default directory structure as appropriate to their requirements.

**Discussion page**

Discussion forums are used to facilitate discussion between users enrolled in a course on topics relating to the course.

Instructors should create discussion forums before students start enrolling, because the students will not have the ability to create forums themselves. Instructors should attempt to target discussion forums towards particular topics of interest, or a particular group of users.
Tip: Depending on the course, it can be appropriate for the instructor to create a forum for each of the course's themes, or sections. You might also find it useful to create a help desk or troubleshooting forum where students can post questions relating to technical difficulties they might experience with the course. Instructors can also set up a discussion forum for course feedback.

Figure 8-10 shows a sample instance of the Discussion page.

Chat Room page

The Chat Room page facilitates real-time collaboration within the Course Collaboration Space through instant messaging. These chat sessions can be between any set of users that have access to the Course Collaboration Space and are currently accessing this page, be they students or instructors. Instructors have the facility to archive any chat sessions that they want to store for future reference. These archived chat sessions can be accessed through the Archive tab of the Chat Room page.

Figure 8-11 on page 275 shows a sample instance of the Chat Room page.
Search page
The Search page facilitates a full text search for terms stored in any area of the Course Collaboration Space. For example, the results returned for a search on a particular term may return the title of a document in the documents area, several topics referenced in discussion forums, plus references made in chat archives. Selecting any of these returned results will bring you to the area where the match was found.

Figure 8-12 shows a sample instance of the Search page.
8.1.6 Course Collaboration Space maintenance

For Course Collaboration Spaces that are shared across multiple offerings of a course, some maintenance of the content of the Course Collaboration Space can be required across offerings. As one offering ends, the instructor should visit the shared Course Collaboration Space before students start enrolling in the next offering. Those students will be using the same Course Collaboration Space, so the Instructor should take steps to ensure the contents are in a suitable state for the incoming students. This can require editing or removing content which is not relevant to the needs of future offerings, or content which should not yet be revealed to students, such as exercise solutions, examples developed through course, and so forth.

Students will lose their membership of the Course Collaboration Space as they unenroll from the course. This will be handled automatically by the Learning system. Similarly, instructors will become disassociated from the Course Collaboration Space as they are unassigned from the course. Hence students or instructors unenrolled or unassigned from the course will no longer be able to access a course's collaboration space.

However, students who complete the course will still be able to review the Course Collaboration Space's content from the collaboration link in their Completed Courses view. Instructors will continue to be able to review the Course Collaboration Space until they are unassigned from the course, or until the course is deleted from the Learning system.

8.2 Notifications and iCals

This section describes both Learning Notifications and Learning iCal functionality available within the IBM Workplace Collaboration Services system. It extends on the discussion on the configuration of notifications covered in Chapter 3, “Base configuration” on page 67, to discuss additional notifications that can be customized outside of those set in the IBM Workplace Collaborative Learning interface. This section also briefly introduces the Notification Templates used before finally covering the iCal functionality area.

8.2.1 Introduction to Notifications

Notifications are primarily an e-mail based mechanism through which information is relayed to the participants using the Learning component of the IBM Workplace Collaboration Services system. Notifications also refer to messages available for viewing through the IBM Workplace Collaborative Learning interface in the Home page Notifications link. This area is also referred to as the Learning Inbox.
There are two distinct types of notification within the system:

- The most common type of notification is based on a specific event occurring in the user interface, such as a student enrolling in a course. This type of notification is called an *automatic* notification. Examples of automatic notification are reminder e-mails to a course approver, if they have not actioned the initial request for approval.

- The second type of notification is the *system* notification. These system notifications are run as server tasks, which are essentially jobs we ask the server to perform at a given time interval.

The notifications are built from notification templates stored as files on the IBM Workplace Collaboration Services server. This allows for some degree of customization to the static text within the templates. When a notification is triggered, the specific template is read and populated with the information specific to the particular notification type.

### 8.2.2 Configuration of Notification types

As mentioned in the section on Notifications in the 3.3, “E-mail and notifications” on page 88, there are settings that must be completed to enable e-mail for Learning in IBM Workplace Collaboration Services (Table 3-3 on page 92). Once these e-mail settings have been specified, the students will receive mails based on Learning event triggers.

Also in 3.3, “E-mail and notifications” on page 88, Table 3-4 on page 93 covers the Automatic Notification settings that can be customized through the IBM Workplace Collaborative Learning interface. To check the set of events that will trigger these notifications, an administrator user goes to the General Notifications Settings area of the IBM Workplace Collaborative Learning interface.

As shown in Figure 8-13 on page 278, all events listed are selected by default for both E-Mail and Learning Inbox. The administrator user can choose to deselect some of these.
There are two ways to configure automatic notifications, by:

- Going directly through the IBM Workplace Collaborative Learning interface
- Modifying the settings.xml file directly

This settings.xml file is referenced by the application at startup to determine if a particular behavior is to be executed. The notification settings in the settings.xml file are represented as an attribute-value relationship, as illustrated by this example for module reschedule based notifications:

reschedEmail="yes" reschedInbox="yes"

Table 3-2 on page 89 in Chapter 3, “Base configuration” on page 67 covers the Notification settings in the IBM Workplace Collaborative Learning interface. There are a number of notification settings that are only present in the settings.xml file. These settings do not display in the IBM Workplace Collaborative Learning interface. Table 8-3 on page 279 describes these settings and their default values.
8.2.3 Notifications that run as server tasks

We mentioned in the introduction section that system notifications are run as server tasks, which are essentially a job we ask the server to perform at a given time interval. The settings.xml file contains three such server tasks associated with notifications. Table 8-4 names and describes these tasks.

<table>
<thead>
<tr>
<th>Task</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>EnrollmentCheckTask</td>
<td>Checks if the number of enrollments is less than the minimum number of enrollments required for the course or certificate (set at time when offering is created) and if the registration period has ended. The Course Contact is sent a ‘Course Does Not Meet Minimum Number of Students’ notification.</td>
</tr>
<tr>
<td>CertificateCheckTask</td>
<td>Checks for expiring certificates and sends out a warning ‘Certificate Program Ends Soon’ notification to enrolled students based on three predefined warning periods. Students are notified of expiration three times prior to expiration of a certificate.</td>
</tr>
</tbody>
</table>
These default values for these three server tasks display in the settings.xml file as in Example 8-1.

**Example 8-1  Server tasks default values**

```
<!-- ==== task to check for minimum enrollment condition after registration period === -->
<task name="module.EnrollmentCheckTask.1"
  ownerId="module.EnrollmentCheckTask"
  taskId="1"
  hours="6" />

<!-- ==== task to check for certificate expiration condition === -->
<task name="module.CertificateCheckTask.1"
  ownerId="module.CertificateCheckTask"
  taskId="1"
  hours="6" />

<!-- ==== task to check for approval requests sent but not responded to after certain period === -->
<task name="module.ApprovalRequestCheckTask.1"
  ownerId="module.ApprovalRequestCheckTask"
  taskId="1"
  hours="6" />
```

As seen in these samples, by default these tasks are all scheduled to run every six hours. This default schedule can be changed by entering a different hours value, and then restarting the server. Any of these tasks can be disabled completely by entering comment delimiters around the task you want to disable: start comment “<!" and end comment “-->“

### 8.2.4 Notification templates

When a notification is triggered, the matching template is read from the file system. The template read is based on the locale of the request, the user locale. Once loaded the template resides in memory from where it will be read upon subsequent calls.
The notification templates are all located in the following directory on the server:

AppServer\installedApps\<cell>\LWP_LMS_LMM.ear\lmmWeb.war\WEB-INF\classes\resources\templates

This directory contains template files (.txt) for all supported languages, where the “xx<XX>” values in the list represent language versions of the template files. The format of these template files will be similar to the following extract in Example 8-2, taken from the notificationEnrollmentEnrollConfirm.txt file:

Example 8-2   Template files

```xml
<!--text_message_start-->
  {T_header}
  {T_introText}
  {T_courseNumber} {courseNumber}
  {T_courseName} {courseName}
  {T_closingText}
<!--text_message_end-->
```

Also contained in this directory are the templates_xx<XX>.properties files that contain the actual strings that are imported into the template at runtime. The placeholders in the sample that begin with “T_xx” are taken from this properties file. Other placeholders are taken from parameters passed to the template through the code. The format of the strings in the template_xx<XX>.properties file are shown in this sample, where the variable is preceded by the template file name:

```
notificationEnrollmentEnrollConfirm_T_header = Enrollment Notice
notificationEnrollmentEnrollConfirm_T_introText = You have been successfully enrolled in the following Course:
```

For example, when a you enroll in a course with an English locale for your language preference, a notification e-mail is sent to your Mail Portal in Workplace. When you open the mail, you see the name of the course that you have enrolled in within the e-mail body, as shown in Figure 8-14 on page 282.
8.2.5 iCals

In addition to the standard notification mails, there are also a specialized form of mails associated with scheduled offerings. These mails have an additional button that allows the user to add the schedule information about the course to their Calendar portal. These types of mails are known as iCals.

iCal is a standard (RFC 2445) for calendar data exchange. From a user's perspective, its just another e-mail, although its not tied to the e-mail protocol. The calendaring information is passed as an attachment. This attachment is assembled for example if creating an invitation, etc. In Workplace we create an invitation when enrolling into an offering. Upon receipt of the iCal the information in the attachment is used to update the recipients calendar if the recipients mail client supports iCal. For most mail clients the ability to process iCals is enabled by default, such as Workplace Collaborative Services and Lotus Notes. However, Microsoft Outlook® requires you to enable iCal mails, they are not processed by default.

Example 8-3 shows sample content of iCal attachment.

**Example 8-3  iCal sample**

```vcalendar
BEGIN:VCALENDAR
X-LOTUS-CHARSET:UTF-8
VERSION:2.0
PRODID://Lotus Development Corporation//NONSGML Notes 6.0//EN
METHOD:REQUEST
BEGIN:VEVENT
```
The complete set of events that trigger an iCal mail is listed here.

- iCal is sent to a user upon enrollment in a physical classroom course (meeting invitation).
- iCal is sent to a user upon enrollment in an LVC course (meeting invitation).
- iCal is sent to an instructor upon addition to a physical classroom course (meeting invitation).
- iCal is sent to an instructor upon addition to an LVC course (meeting invitation).
- iCal is sent to a user upon rescheduling or update of a physical classroom course in which he or she is enrolled (meeting rescheduled).
- iCal is sent to a user upon rescheduling or update of an LVC course in which he or she is enrolled (meeting rescheduled).
- iCal is sent to an instructor of a physical classroom course which has been rescheduled or updated (meeting rescheduled).
- iCal is sent to an instructor of an LVC course which has been rescheduled or updated (meeting rescheduled).
- iCal is sent upon cancellation of any the above (meeting cancelled).

For example, when a user enrolls in a classroom course that has full schedule information provided (date, location, room, instructor and time-slot), the iCal mail is sent to the user's Workplace Mail portal. An icon as in Figure 8-15 on page 284 identifies the iCal mails.
Figure 8-15  *iCal mail in the user's mail inbox*

Figure 8-16 displays the entry in the users Calendar portal when the 'Add to Calendar' button is selected from within the iCal e-mail.

*Figure 8-16  Calendar portal with iCal entry added*
Learning scenario

This chapter provides a realistic scenario to demonstrate typical usage pattern for students using the IBM Workplace Collaboration Services version 2.6 user interface.

Through the progression of the scenario, you will see the work flows involved in these typical usage patterns, where students find courses available on the system, enroll, and take the courses.
9.1 IBM Workplace Collaborative Learning scenario

In this section, we describe the IBM Workplace Collaborative Learning scenario we used to develop this book.

9.1.1 Scenario overview

The purpose of this scenario to demonstrate typical usage pattern for students using the IBM Workplace Collaboration Services version 2.6 user interface.

This scenario is intended to show various features available to you, the student, and at what stage you can expect to see content in various views. Throughout the scenario, references are provided to relevant chapters within this book where you can find details on subjects discussed in depth.

Initially we outline the business environment where a system is in place, and how it is used within that environment. This is covered in 9.1.2, “Business case” on page 286. Following on from this, we provide a list of items that an administrator user would follow in order to configure the system and prepare content on the server. These steps ensure that the system is ready for you to log in to the IBM Workplace Collaboration Services user interface and use the Learning component. This is covered in 9.1.3, “Prerequisites” on page 287. Finally, 9.1.4, “Scenario steps” on page 288, cover the actual steps involved in the typical usage of the IBM Workplace Collaboration Services user interface.

9.1.2 Business case

The IBM Workplace Collaboration Services version 2.6 system is in place in a software development company with a workforce of 1,000 staff. The company has offices based in New York, US; Paris, France; and Berlin, Germany.

This company uses the Learning component of IBM Workplace Collaboration Services to offer both online and classroom based training to its staff. The online training modules are available for all of the staff to take, but the classroom courses are restricted to staff within their own geographic location. The LDAP server that is configured with the IBM Workplace Collaboration Services system has divided all staff members by branches, one branch per office. Staff in each office want to see the IBM Workplace Collaboration Services user interface in their native language, so the records in the user repository contain a Preferred Language attribute that allows users to store this preference. The Learning Skills Management feature in IBM Workplace Collaborative Services has not been implemented for students in the company.
9.1.3 Prerequisites

The following set of prerequisites are performed by an administrator user through the IBM Workplace Collaborative Learning interface:

- Roster users: Setting for automatic rostering enabled, authenticated users automatically rostered as per default. Users to be assigned roles other than student are explicitly rostered (e.g. content creators, administrators, instructors, etc.). This can be done through IBM Workplace Collaborative Learning user interface or through script provided with Learning Client utility. For details on rostering see 3.1.2, “Rostering” on page 75.

- Roles assigned: Those with roles higher than student are explicitly assigned the appropriate role. For details on roles, see 3.1.1, “Roles and permissions” on page 68.

- Resource and Catalog Access Control Lists (ACLs) defined: Define set of users that need appropriate access (read or write or manage) to the resources area and the two catalogs (masters catalog and offerings catalog). In this case we will have four folders beneath the offering catalog folder which we will set read access to. First, we will have a shared folder for the online courses, everyone within the organization will have read access to this folder. We will then set up three separate access control lists for the classroom courses. This will result in users in a particular location only being able to find classroom courses within their location in a search in the Learning component of IBM Workplace Collaboration Services. For details on configuring access control lists see 3.2, “Access Control Lists” on page 84.

- Notifications enabled: SMTP server(s) specified and administration e-mail account specified. Notification triggers left as default values of all enabled. For details on notifications see 3.3, “E-mail and notifications” on page 88.

- Resources created: Locations for the three offices created, then rooms created and assigned to each of the locations. Instructors created, both internal and external. For details on setting up resources see 3.4, “Resources” on page 94.

- Online courses created: Online course packages created and imported into the IBM Workplace Collaboration Services system. Masters created from these packages, then offerings created specifying the “Allows Self-enrollment” and “Allows Self-unenrollment” to allow students to enroll and withdraw from the course. These online courses saved into the “common” folder that all users have read access to. In this scenario, the online course that we have set up is called “Developing an OO Application with Java”. Details on creating online courses are in 4.3.2, “Online and Lotus Virtual Classroom courses” on page 131.

- Classroom courses created: Classroom course masters and offerings created, saved into the appropriate area of the offerings catalog. These
Offerings are then scheduled and booking block details specified to assign resources (location, room, instructor) and a specified start and end time. In this scenario, the classroom course that we have set up is called “Java 2 Programming: Objects and Classes” and will run for 3 days in the New York office, starting on February 24 2006. For details on creating classroom courses see 4.3.1, “Classroom and blended courses” on page 111. Also specific to this scenario, we have decided to link a Course Collaboration Space to this classroom course in order to facilitate discussion and collaboration between course members and the assigned instructor. The instructor has created announcements and added material to the Course Collaboration Space. For details on creating an offering with a course collaboration space see 8.1.2, “Creating an offering with a Course Collaboration Space” on page 263.

- Announcements created: Company-wide announcements created about new online course offerings created. Announcements for new classroom course offerings available are targeted at individual offices. In this scenario, you will see the company-wide announcement and the one targeted at users in New York office, but not those targeted at users in the Paris or Berlin offices. For details on creating announcements see 4.3.1, “Classroom and blended courses” on page 111.

### 9.1.4 Scenario steps

For this scenario, we use an employee from the New York office who wants to further develop their skills in the Java programming language. The employee’s name is Jane Doe. She wishes to attend at least one classroom course and take an online course in this particular area of interest.

The steps in the remainder of this scenario outline one path that this user could follow using the IBM Workplace Collaboration Services interface to achieve her goal.

**Logging into IBM Workplace Collaborative Services**

Jane Doe selects the Log in link in the initial IBM Workplace Collaborative Services screen to display the log in screen. She then logs into IBM Workplace Collaborative Services interface using the user ID and password that she has been assigned for the system. When she enters these details into the appropriate fields, she then selects the Log in button. This is shown in Figure 9-1 on page 289.
After authentication has completed for the user ID and password provided, Jane Doe is brought to the Welcome page of the IBM Workplace Collaborative Services interface. From here, Jane Doe goes to the Learning portal by selecting the **Learning** link from the list of components along the left side of the My Work page, as seen in Figure 9-2 on page 290. This is the area where all the Learning activities takes place.
Searching for and enrolling in courses

Jane Doe decides she would like to find and enroll on some courses to help her advance her programming knowledge. To enroll in courses, she will first need to search in the course catalog for courses available in the system that are of interest to her learning objective: courses in Java programming. Jane will assess which courses on the system are most suited for her requirements and then enroll in these courses.

To begin this process, Jane first selects the **Search Catalog...** button within the My Learning portlet, which brings her to the Search page.

All available search fields can be combined. Jane decides to search by combining Type, where she selects **course** as the type to search on and also enters the keyword Java into the Search all field, as seen in Figure 9-3 on page 291.
Figure 9-3  Search fields with data entered in the 'Search all' and 'Type' fields

Figure 9-4 shows the table of results returned for this search and Jane can see that there are five courses relating to Java programming.

![Course Catalog for Java](image)

<table>
<thead>
<tr>
<th>Score</th>
<th>Name</th>
<th>Number</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Java 2 Programming: Streams and Networking</td>
<td>12555</td>
<td></td>
<td>This course teaches learners advanced topics English that will help them implement Java 2 functions. It covers using the Streams version of the java.io package, writing threads, and networking in Java.</td>
</tr>
<tr>
<td>97</td>
<td>Java 2 Programming: Threads and Exceptions</td>
<td>14332</td>
<td></td>
<td>This course covers the function of packages in Java, including how to create packages and how to use the existing core packages included with the Java 2 SDK. It also covers using exceptions to manage error conditions.</td>
</tr>
<tr>
<td>94</td>
<td>Java 2 Programming: Objects and Classes</td>
<td>12455</td>
<td></td>
<td>This course teaches learners the general concepts of object-oriented programming and how Java implements these concepts. It also covers designing, creating and using classes; declaration and access control; garbage collection; and inner classes. Topics: Unit 1: Classes, Methods, and Objects Unit 2: OOP: Advanced Concepts English</td>
</tr>
<tr>
<td>88</td>
<td>Developing an OO Application with Java</td>
<td>47564</td>
<td></td>
<td>Move beyond the fundamental skills of Java syntax and logic flow into concepts: Design flexible and maintainable applications with interfaces. Learn to manipulate and manage data using Java's Collection Application Programming Interface (API) Networking API and Java Remote Method Invocation (RMI).</td>
</tr>
<tr>
<td>80</td>
<td>Java for OO Programmer</td>
<td>57569</td>
<td></td>
<td>Java Programmer courses including Objects and Classes, Threads and Exceptions, RMI, EJB's, J2EE</td>
</tr>
</tbody>
</table>

Figure 9-4  Searching for courses

The first three courses are classroom courses while the last two are online courses (icon in the type field). Jane wants to check the details of each of these
courses: time, date, description of content and so forth. To view details for each course, she selects the name link in the results table and views the details for each course in turn. Figure 9-5 shows the details page for the Java 2 Programming: Objects and Classes classroom course.

Jane wants to know what time the classroom courses are, the start date, the duration, who is teaching the courses, and a description of the course content. To find this information, she views the schedule details for each classroom course. This enables Jane Doe to determine if the courses are suitable for her. Also, she can check that the courses do not overlap with each other if she wants to take more than one classroom course at a time.

After reviewing the details, Jane has decided to enroll in two courses returned by the search: an online course called Developing an OO Application with Java and a classroom course called Java 2 Programming: Objects and Classes.

To enroll on the two courses she has chosen, Jane will select the **Enroll** button or link from the course details page, as seen in Figure 9-5.

<table>
<thead>
<tr>
<th>Name</th>
<th>Java 2 Programming: Objects and Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>12455</td>
</tr>
<tr>
<td>Type</td>
<td>Physical Classroom</td>
</tr>
<tr>
<td>Keywords</td>
<td>java; course;</td>
</tr>
<tr>
<td>Description</td>
<td>The Java platform is based on the idea that the same software should run on many different kinds of computers, consumer products, and other devices. Java software works on any device from mobile phones to supercomputers and is incorporated into all major Web browsers. This course teaches learners the general concepts of object-oriented programming and how Java implements these concepts. It also covers designing, creating and using classes; declaration and access control; garbage collection; and inner classes. Topics: Unit 1: Classes, Methods, and Objects Unit 2: OOP: Advanced Concepts</td>
</tr>
<tr>
<td>Language</td>
<td></td>
</tr>
<tr>
<td>Instructors</td>
<td>Sandy Wilson1</td>
</tr>
<tr>
<td>Course Contacts</td>
<td>wps admin</td>
</tr>
<tr>
<td><strong>Offerings</strong></td>
<td></td>
</tr>
<tr>
<td>Enrolled Dates</td>
<td>24/02/2006 - 26/02/2006</td>
</tr>
<tr>
<td>Enrollment Window</td>
<td>Schedule Details</td>
</tr>
<tr>
<td>Activities</td>
<td>Enroll</td>
</tr>
</tbody>
</table>

*Figure 9-5  Course Details page for a classroom course*
When Jane has enrolled in both these courses, a message is displayed to confirm successful enrollment.

Jane goes back to the **Enrolled Courses** view, and can see that both these courses are now listed as enrolled, as shown in Figure 9-6.

![Enrolled Courses view](image)

**Figure 9-6  Enrolled Courses view**

Jane notices that there is a discussion icon present in the table for the classroom course in which she has enrolled. She enters the discussion component by clicking this **icon** and is brought to the Course Collaboration Space interface as shown in Figure 9-7 on page 294.
In the Home area of the Course Collaboration Space Jane sees an announcement for students enrolled in the course. The announcement mentions that precourse material has been posted to the Documents area of the Course Collaboration Space, both in the Reference Materials and Assignments folders. She goes to these locations in the Course Collaboration Space saves a copy of the documents posted by the instructor onto her local machine. Having finished with the Course Collaboration Space for now, she selects the My Work link to return to the Enrolled Courses view in the Learning page again.

If Jane Doe checks her mail by selecting the Mail portal within IBM Workplace Collaborative Services, she will see that she has received several automated e-mails from the system. These e-mails are sent as notification of successful enrollment in the two courses. Also there is another e-mail sent that has an iCal attachment. When Jane opens this e-mail she can see that there is an additional button present compared to standard e-mails, as seen in Figure 9-8 on page 295. Jane selects the Add to Calendar button and this action adds the classroom course information to her Calendar portlet.
Jane now decides that she wishes to start the self-paced online course in which she has enrolled. In the Enrolled Courses view within the Learning portal, Jane selects the **Launch** button which initiates the course launch. A new window is opened where the online course is staged. Jane takes one of the activities which lasts about an hour. She decides to leave the course partially complete as she has some urgent work to do. She closes the window and this returns her to the IBM Workplace Collaboration Services interface. She logs out and attends to her other work.

**Schedule details**

In a few days, Jane remembers that her classroom course Java 2 Programming: Objects and Classes starts soon, but is unable to remember the location and room number where the course is taught. To find the location and the time, she logs in to the IBM Workplace Collaboration Services interface again and selects the **Learning** portal. Within the My Learning portlet, Jane selects the **Schedule List** view from the drop-down list.

---

**Invitation**

vpsadmin has invited you to a meeting.

Subject: Java 2 Programming: Objects and Classes

Start: 24 Feb 2006 14:00:00
End: 24 Feb 2006 17:00:00
Duration: 3 Hours 0 Minutes

Location: Walton Room New York Office
Repeat: Daily For 3 Days

Required: "Susan Adams1" <susanadams1@nonlocal.com>

The Java platform is based on the idea that the same software should run on many different kinds of computers, consumer products, and other devices. Java software works on any device from mobile phones to supercomputers and is incorporated into all major Web browsers. This course teaches learners the general concepts of object-oriented programming and how Java implements these concepts. It also covers designing, creating and using classes; declaration and access controls; garbage collection; and inner classes. Topics Unit 1: Classes, Methods, and Objects Unit 2: OOP: Advanced Concepts

---

**Figure 9-8 Mail Portal: add course details to your calendar**

**Launching an online course**

Jane now decides she wishes to start the self-paced online course in which she has enrolled. In the Enrolled Courses view within the Learning portal, Jane selects the **Launch** button which initiates the course launch. A new window is opened where the online course is staged. Jane takes one of the activities which lasts about an hour. She decides to leave the course partially complete as she has some urgent work to do. She closes the window and this returns her to the IBM Workplace Collaboration Services interface. She logs out and attends to her other work.

**Schedule details**

In a few days, Jane remembers that her classroom course Java 2 Programming: Objects and Classes starts soon, but is unable to remember the location and room number where the course is taught. To find the location and the time, she logs in to the IBM Workplace Collaboration Services interface again and selects the **Learning** portal. Within the My Learning portlet, Jane selects the **Schedule List** view from the drop-down list.
The schedule information for the course is now displayed, as seen in Figure 9-9 on page 296 and she is able to locate the location information for the appropriate course.

![Schedule information for Java 2 Programming: Objects and Classes course](image)

This view also displays a room name link which can be selected to find information about the room assigned to the scheduled offering. Jane selects this room name link and sees the information about the room, such as the location of the room, capacity it holds, telephone number, address of the location, and so forth. This Room Details page is shown in Figure 9-10 on page 297.
Checking progress

At this stage, Jane has started but not fully completed her online course and a few days later has begun her classroom course. Jane decides to check her progress on both of these courses, so she selects Progress Summary view within the My Learning portlet. When this page is displayed, Jane finds out not only the status of the courses, but also the date she started these, the time when she last accessed the online course, the total time spent taking the course so far (online), the number of times she has accessed the course so far (online) and the score she has achieved (online course assessment), as seen in Figure 9-11 on page 298.
Jane Doe selects the status icon to view detailed information of the status of the individual activities within the courses. She sees that Developing an OO Application with Java course (online) state is set to in progress as seen in Figure 9-12 on page 299. One of the activities has been completed, while the second activity has not been started.
Completed courses

After a few weeks of working with IBM Workplace Collaboration Services system, Jane had now completed the two courses she enrolled in: Developing an OO Application with Java an online course and Java 2 Programming: Objects and Classes, a classroom-based course that lasted three days.

When Jane Doe logs in to IBM Workplace Collaboration Services and selects the Learning portal, she notices that the courses are not in the Enrolled Courses view any more because they are completed. Jane selects the Progress Summary view and sees that both courses have a status of complete. Jane now selects the Learning History view, displayed here are the two courses that she has completed for her records, as seen in Figure 9-13 on page 300. Any courses, curriculums or certificates that Jane completes will be stored here as a record of all Learning modules in which she has participated.
Adding courses to folders

At the beginning of this scenario, we saw that Jane found five courses within the Course Catalog that relate to her chosen area to advance her skills. She decided to take two of these courses as that is all that time would permit for her at this time. However, she would like to keep a reminder or bookmark of the other three courses, so that she can participate in these at a later stage. She had seen that the classroom courses within this list run all year round at different times so she wishes to add them to her own customized folder created in the Learning component of IBM Workplace Collaboration Services. This allows her to retain the link to courses available on the system which relate to her area of interest.

Within the My Learning portlet, Jane selects the Manage Folders button to display the Folder Details page. Here she can add a name for her folder and a description. She calls her folder Java Courses and gives it a description Java courses available. She now selects Add and then Done. Her folder is now created, so Jane uses the search catalog again and does the exact same search as she had done before, entered Java as keyword to search and selected course as a type to search. This again returns the five courses that she viewed previously. She views the course details for each of the three courses in which she did not enroll. Here instead of selecting the enroll button, she selects the Add to Folder button. Jane selects the name of her newly created folder and selects Ok. She does this for each of the three courses.

Now to ensure that all the three course have successfully been added to the folder, Jane selects the My Folders view from My Learning portlet. Displayed is
her folder name as a link, so she clicks this link. Now she sees the contents of
her folder which has stored the three courses she has added, as seen in
Figure 9-14.

![My Learning](image)

Figure 9-14 Contents of Susan’s “Java Courses” personal folder

Whenever Jane would like to enroll in these bookmarked courses, all she must
do is view her folder contents and enroll from the Course Details page that is
displayed when the course name link is selected. At any time, Jane can choose
to remove courses from the folder by selecting the trash can icon in the table
row corresponding to the course she wants to remove.
Content creation with the Authoring and Assembly Tool

The authoring tool is used to create course packages that can be imported into the Workplace Server. The tool collects all the text, media, HTML, and XML for a course and packages the files into a single .zip file. IBM Workplace Collaboration Services System imports the package, then extracts the course files in the correct directories and on the right servers. The imported course becomes a part of the Masters Catalog, to be used as a template for course offerings.

When you use the authoring tool to either create courses or to work with existing courses, you can add IBM Workplace Collaboration Services System features that would otherwise not be available in your course. Such features include the use of the Lotus Virtual Classroom (live, instructor-led training), the offline learning client, student preview, and automatic distribution of course updates.
A.1 What does the authoring tool do?

Here are a few questions and answers about the authoring tool.

A.1.1 You can create assessments and other course content

In addition to its packaging facility, the authoring tool provides a comprehensive user interface for building new course content pages by yourself. You create pages by manipulating objects in the graphical layout window and setting properties for the objects and the pages. The authoring tool provides some ready-made designs that don't need much customizing, but you can also design your own content pages. After you design the pages, the authoring tool automatically generates HTML pages, with the appropriate JavaScript™ code to make the pages interactive. These pages are included in the course package that is sent to the Workplace Collaboration Services System.

A.1.2 You can add sequencing to your course

The authoring tool also gives you the ability to add sequencing instructions to the items in your course. Sequencing is an instructional design technique that allows you to present or hide learning material when certain conditions are met. You can use sequencing to provide remediation or to mark sections that can be skipped entirely, based on students' work in other sections.

A.1.3 You can reviewing your content

After a user creates a course they may want to print out the course and review it. The course can be displayed and printed. The page that is to be printed is found in the course folder. All the pages in the course can be printed in sequence from this print page.

A.2 What about standards?

The Advanced Distributed Learning (ADL) initiative (www.adlnet.org) issued a standard, known as the Sharable Content Object Reference Model (SCORM), to guide the development of online learning material. The authoring tool creates SCORM-based course packages. Content you develop in the authoring tool automatically adheres to the SCORM 1.2 runtime standard and is packaged appropriately for importing into the IBM Workplace Collaboration Services System. The authoring tool also lets you add meta-data elements to describe and catalog a course and its course items. The authoring tool has all the
meta-data elements required by the SCORM 1.2 standard to make your course SCORM-compliant.

Courses that aren't supplied as SCORM 1.2 packages must be imported into the authoring tool to convert them to correctly formatted packages. This requirement applies to courses you've purchased from vendors or created with course development software. The authoring tool allows you to import courses that are contained in AICC files or SCORM 1.2 packages. Courses that are already packaged as SCORM 1.2 course packages can be imported directly into the IBM Workplace Collaboration Services System through the Authoring tool import facility or alternatively, with the Command Line IMport Utility (CLIMP).

A.3 Planning your course

Here are a few considerations to help you plan your course:

- Determine the tracking and measurement requirements for the course.
- Define the proper course structure (topics, subtopics, and so forth).
- Define proper settings for the Activities.
- Define the proper settings and rollup rules for topics and course levels.
- When creating a course we have to determine what is needed
- Is there a test?
- Does a student need to pass the tests to complete the course?
- For multiple tests, will the parent's normalized score be the measuring stick?
- If using a normalized score, will the tests be weighted differently?
- Do you need to track completion of every lesson?

Table A-1 is intended to guide you in determining what is needed to set up your course.

<table>
<thead>
<tr>
<th>Table A-1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Question</strong></td>
</tr>
<tr>
<td>Is there a test?</td>
</tr>
<tr>
<td>Does a student need to pass to complete the course?</td>
</tr>
</tbody>
</table>
### A.4 Introduction to sequencing and objectives

Sequencing is the path taken through a course. This path is based on information. This is information is taken from objectives. Examples of objectives could be the score on a test or its status of passed or failed.

When applying sequencing and objectives it is helpful to think of the course as a tree. There is a default path that the user can take through the course. This path can be modified using sequencing. Traversal is triggered by a sequencing request which is triggered by the user or delivery server. Sequencing behavior is described in terms of traversing the nodes of the tree in order to determine which activity to deliver to the user. Sequencing rules are evaluated at runtime and can be conditional based on tracking status.

#### A.4.1 What is Sharable Content Object (SCO)?

The content objects that can exchange data with a SCORM conformant runtime environment are called **Shareable Content Objects** (SCOs). The runtime environment launches the SCOs one at a time, according to a particular activity prescription included in the package. The user can also navigate from SCO to SCO through controls provided in the runtime environment’s user interface. The SCORM specifies how a SCO must behave within the runtime environment.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you need to track completion of every lesson?</td>
<td>Set “Rollup Progress Completion” to true for every lesson. Place Lessons under a parent topic. Set “if all children complete, then satisfied” for the parent.</td>
<td>Set “Rollup Progress Completion” to false for every lesson.</td>
</tr>
<tr>
<td>For multiple tests, will the parent’s normalized score be the measuring stick?</td>
<td>Create a Primary Objective at the Parent Level. Set a normalized score for mastery.</td>
<td>Do not create a Primary Objective.</td>
</tr>
<tr>
<td>If using a normalized score, will the tests be weighted differently?</td>
<td>Set a Rollup Objective Measurement Weight between 0 – 1.000 for each test.</td>
<td>Stay with the defaults for Rollup Objective Measurement Weight.</td>
</tr>
</tbody>
</table>
There are three ways to affect sequencing:

- **Control mode**
  How the Learner experiences the content
  - Navigational requests
    Continue to the next lesson based on a condition.

- **Sequencing rules**
  Sequencing rules can be used in two ways:
  - To alter the linear path through a course.
  - To alter the sequencing state of a SCO conditionally. For example, they can disable a SCO B if SCO A is completed.

- **Limit conditions**
  - Conditionally limit the learner’s access to a SCO. For example, specify that the user can only attempt the SCO twice.

### A.4.2 Sequencing rules

Sequencing rules are specified for an activity to prescribe the sequencing behavior for the activity. Rules have conditions that are based on the tracking status. The tracking status can be passed, complete/incomplete and so forth. There are three types of rules:

- **General**
  - A general rule evaluates a condition and then takes an action
  - If... then Disable this activity

- **Blocking**
  - These rules stop forward traversal through a course.
  - If ... then Deny Forward Progress

- **Sequencing**
  - The action taken when the sequencing condition is true.
  - If ... then continue
  - If ... then Exit.

### A.4.3 Choice and Flow

*Choice* and *Flow* are two basic sequencing directives. These control how learning objectives are presented to the user. The settings are located in the sequencing tab for a Topic in the Course planner. These values can be set at Course level or at subtopic level.
By default Choice is set to true and Flow is set as false. This default behavior allows the user to choose any activity in the Course or Topic. Flow tells the IBM Workplace Collaborative Learning that the learner can only move from one SCO to the next. When flow is enabled the IBM Workplace Collaborative Learning display two additional buttons: Continue and Previous. Choice lets the learner choose any activity in the topic.

A.4.4 Combining Choice and Flow

There are two options when combining Choice and Flow.

**Choice first then Flow**

When combining Choice and Flow you enable Choice at the Course level and then enable Flow at the subtopic level. This lets a learner choose what topic they wish to take. Once inside this topic they flow through the activities.

**Choice and Flow**

You enable Choice and Flow for all topics. This gives the learner the freedom to choose any activities. For example, the learner can take an activity in the first topic and then skip to the last topic. The learner will also have the choice of the Continue and Previous buttons in order to flow through a topic.

When should Choice and Flow be used? There are four combinations and each combination will determine how a course is taken by a learner.

- **Choice all**
  Choice all is a good strategy when presenting information for general references. It is particularly appropriate for content that has no prerequisites. A course which contains an overview of a system for educational purposes only is an example where the learner can choose activities without restriction. It is normally applied to a course with no assessments, just information. The learners are free to choose any topics and activities they need to gather the information required.

- **Flow all**
  Good strategy if you have a structured course where you require the learners to view material in a specific order. They type of course were flow maybe set to true for all nodes is a course detailing a maintenance procedure. In this type of course it is essential to the course that the Learner follows instructions in the same order that the maintenance needs to be performed.

- **Choice then Flow**
  A good strategy if the material within a topic requires sequential reading, but the topics themselves are not prerequisites to each other.
For example a course in a software application that has several wizards. Each wizard is different and the learner does not need to know about other wizards when learning about a particular wizard. However once inside the wizard the learner needs to follow a fixed order.

- **Choice and Flow**

  If you have a course where it is not necessary to take activity in any order, but it is suggested that taking activity sequentially would be of benefit. This may be in a course that is targeted at a first time user and a refresher. You want the first time user to start at the top of the course and follow in order. You want the refresher to have the freedom to pick the bit's they don't remember.

**Important:** It is possible to have a topic with neither Choice nor Flow set, meaning both values are set to false for a topic. If this is done, the planner will not catch it as an error. The topic will be unable to launch the learning objects in Workplace Collaborative Learning.

It is also possible to set flow for the top-level topics and choice for the lower-level topics. The result is you can flow through the top level topics but you can choose the node in the lower level topic. After you choose a lower-level learning object you can no longer flow out of it. You are stuck.

### A.4.5 What is an objective?

An objective stores information. The two types of information an objective can store are score and pass/fail status. These are now explained:

**Score**

This has several names, for example, Normalized score or Objective measure. It is a percentage mark for a test.

**Pass/Fail status**

This has several names, Pass/Fail, Objective status or satisfied etc. It is a boolean that determines whether objective was met. If an assessment is passed this boolean would be true. A status could be met by reaching a certain score, visiting a SCO and so forth.

Sequencing decisions are based on the status of current SCO’s or information from other SCO’s. Need to demonstrate this using one of the sample courses.
A.5 Roll up results to the course

Rollup is the process of sending results up to the next level in the outline so that results from each part of the course can contribute to the entire course's results. This simple course has only one scored item (the assessment), but you'll make sure all three items in the outline roll up their progress by setting rollup controls for each course item and then creating a rollup rule for the course.

The icons displayed in the Workplace Collaborative Learning user interface can be somewhat misleading. Students see progress icon that shows Not Started, Incomplete, Not Satisfied, Satisfied or Complete. In reality, Activities, Topics and Courses are measured on two levels:

- Completion: (not started, incomplete and complete)
- Mastery (undefined, not satisfied and satisfied)

Mastery takes precedence in the status bar, unless it still in an undefined state. Also completion, mastery and score track separately. The learner can have a topic that is satisfied but not completed. Therefore you must match the rollup rules you set in your courses to the goals of your tracking. This enables students to easily chart their progress.

A.5.1 What information can be tracked?

<table>
<thead>
<tr>
<th>Activity type</th>
<th>Examples</th>
<th>What is tracked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-standard Powerpoint, PDF</td>
<td></td>
<td>Completion is tracked</td>
</tr>
<tr>
<td>AICC or SCORM standard lesson</td>
<td>AAT, Dreamweaver</td>
<td>Completion</td>
</tr>
<tr>
<td>Assessment</td>
<td>AAT</td>
<td>Completion, Mastery of Primary Objective, Objectives</td>
</tr>
<tr>
<td>Survey</td>
<td>AAT</td>
<td>Completion</td>
</tr>
<tr>
<td>LVC</td>
<td>Virtual classroom</td>
<td>Completion</td>
</tr>
</tbody>
</table>

The Progress Icon in the student interface is the same for Incomplete and Complete if a Mastery Level has been determined. The icon is displayed if the course is passed and complete and also if the course is passed and incomplete. Similarly, the icon for failed and complete is the same as failed and incomplete. If a student completes a test prior to its sibling lessons, they might erroneously believe the topic or test is completed when in fact it might only be passed. A course can be passed even if it is not completed.
A.5.2 Roll up results to the course

This next section shows how roll up works using the course created in “Creating a course” on page 319. The student takes Lesson 1 and it completes the lesson. This completion is tracked by IBM Workplace Collaborative Learning.

Results of Lesson are passed to Parent Levels (Study Topic and Course). Completion status changed (by Rollup Rule) from Not Started to Incomplete.

Rollup is the process of sending results up to the next level in the outline so that results from each part of the course can contribute to the entire course's results. This simple course has only one scored item (the assessment), but you'll make sure all three items in the outline roll up their progress by setting rollup controls for each course item and then creating a rollup rule for the course.

The icons displayed in the Workplace Collaborative Learning user interface can be somewhat misleading. Students see a progress icon that shows Not Started, Incomplete, Not Satisfied, Satisfied or Complete. In reality, Activities, Topics and Courses are measured on two levels:

- Completion (not started, incomplete and complete)
- Mastery (undefined, not satisfied and satisfied).

Mastery takes precedence in the status bar, unless it still in an undefined state. Completion, Mastery and Score track separately so the course author must match the rollup rules set in the courses to the goals of their tracking. Students must easily chart their progress. Data must be correct for reporting.

Examples of Course Structure
Course 1 is a simple course with no assessment. All we need to measure is completion.

Course 2 includes a test. If the goal is to synchronize the completion of the course with the mastery measurement, we need to add a Study Topic and apply a special rollup rule to it.

In the authoring tool the activity settings control how content is delivered, measured and tracked (what's sent to the IBM Workplace Collaborative Learning and when). Another function of the activity settings is to control the rollups (what info will be sent to the Parents). Activity settings are found in the sequencing and properties tabs of the Authoring tool.

In Table A-3, the activity settings and recommend values are displayed. The value of these settings depends on the nature of the content. Also the values for lessons and tests are different.
<table>
<thead>
<tr>
<th>Properties</th>
<th>Non-Standard Lesson</th>
<th>Standard (AICC/SCORM) Lesson</th>
<th>Standard (AICC/SCORM) Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mastery Score - sets the required score to pass the test</td>
<td>Blank</td>
<td>Blank</td>
<td>0-100</td>
</tr>
<tr>
<td>Tracking - Standard will automatically measure AICC or SCORM.</td>
<td>Standard or User Sets Completion</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td>Rollup Controls</td>
<td>False</td>
<td>False</td>
<td>True</td>
</tr>
<tr>
<td>Rollup Objective Satisfied - When True, activity will be used in calculating the Parent's Satisfied/Not-Satisfied Objective Status. Passes its Pass/Fail result to Parent.</td>
<td>0.0000</td>
<td>0.0000</td>
<td>1.0000</td>
</tr>
</tbody>
</table>
### Rollup Progress
Completion - When True, activity will be used in calculating the Parent’s Completion Status. Passes its Attempted, Incomplete, Complete status to Parent.

<table>
<thead>
<tr>
<th>Non-Standard Lesson</th>
<th>Standard (AICC/SCORM) Lesson</th>
<th>Standard (AICC/SCORM) Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>True</td>
<td>True</td>
<td>True</td>
</tr>
</tbody>
</table>

### Delivery Controls

| Tracked - IBM Workplace Collaborative Learning will monitor and register completion and objective status. If you just want info for study materials with no tracking, you can set this for false. No progress icon will appear. |
|---------------------|-----------------------------|-----------------------------|
| True                | True                         | True                         |

| Completion Set by Content - When False, IBM Workplace Collaborative Learning marks activity Complete as soon as student closes the content. When False, IBM Workplace Collaborative Learning waits to receive completion status from the content. |
|---------------------|-----------------------------|-----------------------------|
| False               | True(AAT)                   | True(AAT)                   |
So what can be tracked at the parent level? A parent can be either a course node or a topic. If the course or topic contains only lessons and no assessments, only completion is tracked. However, if the course or topic contains assessments, the following items are tracked:

- Completion
- Objectives
- Mastery of primary objective

Table A-4 contains recommended Parent settings. These settings should not be set at the course level.

### Table A-4  Parent-level settings

<table>
<thead>
<tr>
<th></th>
<th>Non-Standard Lesson</th>
<th>Standard (AICC/SCORM) Lesson</th>
<th>Standard (AICC/SCORM) Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective Set by Content - When False, IBM Workplace Collaborative Learning calculates student's score versus the Mastery Score to determine Pass/Fail status. When True, the IBM Workplace Collaborative Learning must receive status from the content</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>Parent Topic of Lessons Only</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent Topic of Tests</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent Topic where Completion of Lessons = Satisfaction *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rollup Controls (DO NOT ENTER AT COURSE LEVEL)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
This is used to delay the measurement of Course Satisfaction until all lessons are complete. The lessons are placed under a parent topic that uses a custom rollover to measure mastery. While Satisfaction and Completion status is passed, no scores are passed from this topic to its parent.

These rules are only applied Parent or Course Level. They can be used to override the default Rollup Settings for Completion or Mastery. An example of these rules is:

If At Least Count 2 Children Satisfied, then Satisfied.

This rule states that the parent or course is passed if 2 of its assessments are passed.

- Completion Actions are measured against children that have “Rollup Progress Complete = True”
- Satisfied Actions are measured against children that have “Rollup Objective Satisfied = True”

<table>
<thead>
<tr>
<th>Rollup Objective Satisfied - When True, activity will be used in calculating the Parent’s Satisfied/Not-Satisfied Objective Status. Passes its Pass/Fail result to Parent.</th>
<th>Parent Topic of Lessons Only</th>
<th>Parent Topic of Tests</th>
<th>Parent Topic where Completion of Lessons = Satisfaction *</th>
</tr>
</thead>
<tbody>
<tr>
<td>False</td>
<td>True</td>
<td>True</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rollup Progress Completion - When True, activity will be used in calculating the Parent’s Completion Status. Passes its Attempted, Incomplete, Complete status to Parent.</th>
<th>Parent Topic of Lessons Only</th>
<th>Parent Topic of Tests</th>
<th>Parent Topic where Completion of Lessons = Satisfaction *</th>
</tr>
</thead>
<tbody>
<tr>
<td>True</td>
<td>True</td>
<td>True</td>
<td></td>
</tr>
</tbody>
</table>
A.6 Content creation scenarios

Course developers can create content using the IBM Workplace Collaborative Learning Authoring & Assembly Tool (referred to as the Authoring Tool). Here are typical scenarios for creating and putting content into the environment.

- Scenario 1:
  Content can be created outside of the Authoring Tool, then sent directly to the Workplace server with FTP or the authoring tool, then imported through Command Line Import (CLIMP).

- Scenario 2:
  Content can be created outside of the Authoring Tool, for example, with a third-party tool, then made to be SCORM-compliant by applying extensions available in the third-party tool. This content can then be imported directly to the server through either the use of CLIMP or through the Authoring Tool. In this scenario, the third-party tool is still necessary if editing is desired on any of the elements created outside of the Authoring Tool.

- Scenario 3:
  Content can be created within the Authoring Tool, a package interchange file can be sent to the Workplace server, then the Authoring Tool can be used to do the server import step necessary to create an unregistered course master.

The authoring tool creates course packages that can be imported into the IBM Workplace Collaboration Services system.

The authoring tool is very flexible about the kinds of course content it can package. A course bought from a training vendor, created by a third party tool, a course created from scratch in the authoring tool - all of these sources, and many more, are valid content. You can even merge course content from several different sources into a single course.

A.7 Courseware

Courses that are brought into the system are called packages. Packages must adhere to the SCORM (Sharable Content Object Reference Model) Version 1.2 Content Aggregation Model standard.

Packages are important for the following reasons:

- The learning system only accepts SCORM packages.
- Any existing courses you have must be converted to the SCORM 1.2 format.
The content packages are the interface between the authoring tool and the IBM Workplace Collaborative Learning system. Courses created using the Authoring Tool are packaged prior to acceptance into the learning system. Packages that are not SCORM-compliant cannot be deployed. The Authoring Tool has a verification mechanism that checks validity of the package prior to sending to the IBM Workplace Collaborative Learning system.

A.7.1 Guidelines for creating course packages

The following are some guidelines and rules for course packages.

- The Authoring Tool is the primary tool used to create and assemble course content for the learning environment. Any tool that produces SCORM 1.2-compliant packages can be also be used.

- Course package files can be imported into the system, using either the Authoring Tool, or the command-line import utility (CLIMP).

- All package files must adhere to the SCORM standard.

- There should only be one course master per package, even though SCORM allows a package to contain multiple courses.

- Imported course packages can be used either to create new courses or update existing courses.

- Only authorized users can import course packages.

- Each course package contains a globally unique package identifier (GUID) and package version. Packages without this information are accepted, however they cannot be subsequently updated.

- Course content updates are propagated to the server.

- In some cases, course content that doesn't comply with SCORM 1.2 can be imported by the Authoring Tool and converted to the appropriate format.

A.7.2 Content guidelines

The following are important rules you need to keep in perspective when planning and deploying courses.

- An offering for any course can be deployed to one delivery server.

- A single offering cannot be deployed to multiple delivery servers.

- The content manager can be configured to use a physical file system other than its local file system, so that it can be used in a server cluster.

- There can be one or more logical delivery servers in each deployment.

- Exactly one logical delivery server is designated as the content manager.
This enables the sequencing options for the AAT.

**Note:** Show Quick Start on Startup enables the help information to be displayed through the default browser. The splash screen shows versioning and licensing information about the AAT.

### A.7.3 Installing the sample courses

Sample courses are accompanied with IBM Workplace collaboration Services application. They are available in the Learning Client install. Go to ‘Samples’ folder to find the below mentioned courses.

This guide explains several sample courses that were created in the authoring tool and uses them to illustrate concepts and procedures:

- Authoring - New Course Sample (ex_newcoursesample.zip)
- Authoring - New Style Sample (ex_newstylesample.zip)
- Sequencing - ChoiceAll Sample (ex_choice_all.zip)
- Sequencing - FlowAll Sample (ex_flow_all.zip)
- Sequencing - ChoiceFlow Sample (ex_choice_flow.zip)
- Sequencing - PrimaryObjective Sample (ex_primary_objective.zip)
- Sequencing - MultipleObjectives Sample (ex_multiple_objectives.zip)
- Sequencing - GlobalObjective Sample (ex_global_objective.zip)

Follow these steps to import each sample from the guide’s zip file into the authoring tool on your machine. You can only import one course at a time.

1. Copy the zip file for the course you want to see to a temporary directory on your local machine.
2. Create a directory called `Courses` and then create a `Samples` directory under it.
3. In the authoring tool, choose **File → New** and click the **Import** tab.
4. Select **Import SCORM Package** and click **OK**.
5. For the Course Folder name, enter a name that represents the sample you are installing, for example:
   - NewCourseSample
   - NewStyleSample
   - ChoiceAllSample
   - FlowAllSample
   - ChoiceFlowSample
   - PrimaryObjectiveSample
   - MultipleObjectivesSample
   - GlobalObjectiveSample
6. For the new course's Location, select the Samples directory you created under the Courses directory.
   Leave the other selections at default values and click **OK**.

7. Browse to the directory where you extracted the sample course's zip file and select the .zip file for the course you want to import. Then click **Import**.

The authoring tool imports the course into the new course folder and displays it in Planner mode, Planner mode will be described later in the chapter.

### A.8 Creating a course

In this section, a sample course will first be planned and then created using the authoring tool.

### A.8.1 About Planner mode and Authoring mode

The authoring tool has two modes of operation. Before you begin creating a new course, it is helpful to understand these two modes.

- **Planner** mode is used for planning, creating, and packaging a course.
- **Authoring** mode is used for designing content pages and assessments, but only in those courses that you create from scratch in the authoring tool.

#### Planner mode

The authoring tool opens in Planner mode, by default. You use this mode to add items to a course and set properties for each of the items. You also use Planner mode to package a course for the IBM Workplace Collaboration Services. You know you are in Planner mode because the Go to Planner button is disabled, as shown in Figure A-1 on page 320.
The authoring tool makes you create a course outline before you create any content for the course. If you import a course that was developed elsewhere, you see an outline with course items already in place. If you create a new course, however, you must build the outline yourself.

**Saving and undoing your work**

The authoring tool automatically saves your work as you make changes. You do not need to remember to save the course as you are working. However, this behavior also means that there is no automatic undo feature, as there would be in a word processor or drawing program.

**Setting Planner options**

The Tools - Options box (Figure A-2 on page 321) has two sections that are appropriate for your work in Planner mode. The Toolbox tab allows you to move the Planner Item toolbox to a location on your screen that is comfortable. The Planner Options tab has selections for viewing or hiding tools and properties.
**Adding new items**

To create an outline, you use the Planner Item toolbox (shown in Figure A-3 on page 322) to select the type of item to add. Drag it to the outline in the order and at the indent level you need.
Authoring mode

Authoring mode is only applicable to Content Pages and Assessment items created while in Planning mode in the authoring tool.

**Note:** The content and design for imported course items cannot be edited in the authoring tool. You must return to the original development tool to make changes.

When you click a Content Pages or Assessment item in a course outline in Planner mode, the **Go to Authoring** button is enabled. See Figure A-4 on page 323. You can click the button to switch to Authoring mode. At all other times, it is disabled.
Appendix A. Content creation with the Authoring and Assembly Tool

A.8.2 Steps to create a sample course

The steps to create a sample course are:

1. Plan the course materials.
2. Use the authoring tool to create a course.
3. Add course items to the course outline.
4. Change the master layout for content pages.
5. Add content pages.
6. Build the content pages.
7. Publish the content pages.
8. Preview the course as it will appear to students.

Step 1. Plan the course materials.
Designing an effective online course requires some advance planning. Questions to answer before you start include:

- What will students learn in this course?
- How will I organize these objectives into discrete learning activities?
- What materials do I need to present the lessons?
Is there a test for the learner?

*Your course plan*

The course that is used for illustration here, teaches students how to find up-to-date information about Lotus products. There are two learning activities:

- Learn how to find the latest news on the Lotus Web site.
- Learn more about what the developerWorks site offers.

The materials you use are a Welcome page and a menu page that contains links to the two learning activities.

**Step 2. Use the authoring tool to create a course**

Before you begin, create a directory named Courses. Each new course you create is stored in a subdirectory of the Courses directory. This is not required, but it is a good practice for keeping courses organized on your local workstation.

Follow these steps to create a new course using the Authoring Tool.

1. Select **File → New** from the Authoring Tool menu bar. The Welcome to IBM Lotus Workplace Collaborative Learning Authoring Tool window opens (Figure A-5 on page 325).
2. The **New** tab is selected by default. Ensure the New Course option is highlighted and click **OK**. The Create a Course window opens.

3. Enter the Course Folder name as **WebInfo** as shown in Figure A-6 on page 326.

4. Enter the Style as **Corporate**.

5. Define the Location as the Courses directory created earlier and click **OK**.

*Figure A-5  New course dialog*
Figure A-6  Create a course

The authoring tool creates a new directory called WebInfo in the Courses directory. Examine the WebInfo directory on the file system at this point. Notice that the Authoring Tool has already created a number of files belonging to the course. These files are required by the Authoring Tool as you add pages to the course in later steps.

**Step 3. Add course items to the course outline**

The authoring tool uses an outline structure for creating and organizing parts of a course. The outline is not only a visual representation of the parts of the course, it also affects which properties are inherited from other components in the outline and how statistics for scoring and completion are calculated. For this reason, it is important to map out the parts of the course in advance to ensure that you create a meaningful structure. When you create a course, the authoring tool automatically opens in Planner mode, where you create the course outline and assign properties to each of the items in the outline. Use the Planner Item Toolbox to drag course items to the outline at the appropriate place and level, as described earlier in this chapter. This planner Item Toolbox is shown in Figure A-7 on page 327.
Appendix A. Content creation with the Authoring and Assembly Tool

Drop the course items onto the outline

When you first create a course, the course plan is the only item in your outline. In this sample, you are going to add two course items to the outline.

1. Select the **Content Link** icon from the Planner Item Toolbox and drag it over the Course Plan item's name in the Course Outline window pane. Drop the Content Link on the Course Plan. The Course Outline should appear as shown in Figure A-8.

By dragging the icon over the Course Plan name, you indicate that it should be placed as the next item in the outline, under the Course Plan. Content Link is indented under the Course Plan item, indicating that it is a child of the Course Plan.

This hierarchy becomes important for courses with multiple topics and levels where an item's scoring and navigation results are determined by the item's location in the course outline.

2. Select the **Content Pages** icon from the Planner Item Toolbox and drag it over the Content Link icon in the Course Outline window pane. Drop the Content Pages icon on the Content Link. The Course Outline window pane should appear as shown in Figure A-9 on page 328.
The Content Link is not a parent item, so the Content Pages item becomes the next item in the outline at the same level as the Content Link.

**Edit the properties for the course**

Now we change the default properties for the course. This information is transferred to the IBM Workplace Collaborative Services System course catalog eventually, so it should match whatever naming conventions you use at your site. The course plan is at the top level of the outline. It is a parent item to course items that are indented at the next level. Settings invoked for the parent are inherited by its children unless you explicitly override the parent's setting for an individual item.

1. Click the Course Plan item in the course outline to make it active. The Properties page shows the default settings, as shown in Figure A-10.

![Properties page with default values](image)

2. Select the **Title** property and replace Course Plan with IBM Web Info.
3. Select the **Course Number** property and replace Course ID goes here with IWeb1.

4. Select the **Description** property and replace the default text with Lotus information online.
   
The Properties page should appear as shown in Figure A-11.

![Figure A-11 Property fields](image)

5. Select the **Announcement Page** property, then click the ... button. The Launch and Add Content to Course window opens.

6. Click the **Modify** button to enable editing mode.

   
   You must use a fully qualified URL to specify a complete Web address for the page, which students will be able to access from their browsers. You can click **Preview** to make sure the URL is correct.

   The Launch and Add Content to Course window should appear as shown in Figure A-12 on page 330.
8. Click the **OK** button.

9. Select the **Time Estimate** property and click **...** button. The Time Picker window opens.

10. Set the minutes value to **12** and close the box to return to the Properties page. This is shown in Figure A-13.

11. Select the **Allow Preview** property and change the setting from False to **True** using the drop down menu. This setting allows students to preview the course before they enroll in it. You can turn previewing off for individual parts of the course outline later if you wish.

12. Select the **Allow Offline Use** property and change the setting from False to **True**. This setting allows students to download the course to their local machine and take the course without being connected to the Internet. You will still need to select these settings for each of the individual course items that should allow Preview and Offline Use. The settings now appear as shown in Figure A-14 on page 331.
Now change the settings for the Content Link item.

1. In the course outline, click the Content Link item to make it active.

2. Change the Title, Description, and Time Estimate to the values shown in Figure A-15 on page 332.
3. Remove the values for Announcement Page and Remote Tracking API Address by following these steps for each field:
   
a. Click the field to the right of the name of the setting.
   
b. Click the **ellipses** button (...) that appears when the field is ready for editing.
   
c. Click **Delete**.
   
d. Click **Yes** to confirm.
   
e. Close the Launch and Add Content box.

Removing these fields avoids the spurious errors you would get when you validate the course materials before packaging them.

**Note:** For more information about the Remote Tracking API Address field, see “About the SCORM-based Tracking Frameset” in the Content Guide that comes with the Learning Client CD.

4. Change Launch in New Window to **False**.

   With this set to False, the content pages launch within the same window in the student's browser.
5. Under Delivery Settings, change Allow Preview to \textbf{True}.
6. Change Allow Offline Use to \textbf{True}.

\textbf{Edit the properties for the Content Pages item}

Now you'll change the general settings for the Content Pages item.

1. In the course outline, click the \textbf{Content Pages} item.
2. Change the Title, Description, and Time Estimate to the values shown in Figure A-16.
3. Delete the values for Announcement Page and Remote Tracking API Address as you did for the Content Link item.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure.png}
\caption{Content page properties}
\end{figure}

4. Change \textbf{Launch} in New Window to False.
5. Under Delivery Settings, change Allow Preview to \textbf{True}.
6. Change Allow Offline Use to \textbf{True}.

\section*{A.8.3 Create a link that launches a Welcome page}

The Welcome Page is a Content Link item, a general item that represents any kind of content page that wasn't created in the authoring tool. The critical settings for this item are the Content Type and the location of the content files. For
Web-based content links, you specify the location by changing the value in the Address field for the item, located on the right side of the screen in the Properties page when the course item is active.

1. Select **Welcome Page** in the course outline to make it active.

2. Click the field next to the Address label, then click the **ellipses** button (...) that appears.

3. When the Launch Content dialog box opens, click the **Modify** button to reveal the content selection fields.

4. Click **Files to Add**.

   You are going to use this option to include in the course package a specific file selected from your local machine or a mapped network drive. Keep in mind that students need the appropriate viewers or players on their machines to view files created with programs that aren't installed on their local machines.

5. Click **Select** button

6. Browse to the Courses\Sample Courses\NewCourseSample\Source Files directory.

7. Select the **Welcome.html** file and click **OK** as shown in Figure A-17.

![Figure A-17 Selecting welcome file](image)

8. Click the **Select a Content Directory** button

   Use this option to create a directory for content files you want included in the course package. When you import the course to the Learning Management System, the content files accompany the course. If you have installed content files on a separate content server or if you have specified a Web address for the content, this selection is not necessary.
9. Click the Select button below the check box.

Browse to the Courses\Samples\NewCourseSample\Source Files directory and click OK, as shown in Figure A-18.

![Select the content directory to include in the course.](image)

**Figure A-18  Sources directory**

10. Return to the Launch File Path field and select *Source Files\Welcome.html* from the drop-down list.

You should include the content directory with the file name when you use a content directory; otherwise the authoring tool makes duplicate copies of the launch file, one in the content directory and one in the resources directory.

11. Click **Preview** to make sure that the page launches correctly.

12. Click **OK** to close the Launch Content dialog box and return to the course outline.

13. Notice that *SourceFiles\Welcome.html* now displays in the Address field as shown in Figure A-19.

![Welcome - Microsoft Internet Explorer](image)

**Figure A-19  Launch File Path**

14. With the Welcome Page still highlighted in the outline, click the **ellipses** button (...) next to the Address field again.

Because you chose **Select a Content Directory**, the authoring tool made a copy of Welcome.html in the Source Files directory under the course item's
resources directory. The Location field shows the name of the resource directory. This is shown in Figure A-20.

![Launch and Add Content to Course](336.png)

*Figure A-20  Location directory*

### A.8.4 Change the master layout for content pages

The authoring tool allows you to create your own HTML content pages with graphics, text, links, and buttons. You design the pages in Authoring mode, which is only available for Content Pages and Assessment items that you have dragged to the course outline.

1. From Planner mode, select the Course Activities item on the outline and click **Go to Authoring**.

   The authoring tool prompts you to add the first activities page. Notice that the style selected is **Corporate**, which is the design style you chose when you created the course.

2. Choose **Cancel** to dismiss the Add Page dialog box as shown in Figure A-21 on page 337.

You are going to change the master layout before adding pages. The master layout for this group of content pages appears in the layout editor on the right side of the screen. The master layout affects every page that you add to this item and dictates the text for headings on each page, the types of buttons that are available, and other style choices. You should change the master layout before adding content pages; changes made later do not always update to existing pages.
Change the main heading and subheading

You are now going to customize the heading and subheading in the master layout of the Course Activities pages.

These changes will affect the Menu page and the two activity pages.

1. Click the text block called *(Heading goes here)* and replace that text with Lotus on the Web.

2. Replace *(Subheading goes here)* with Getting the latest updates. These changes are shown in Figure A-22 on page 338.
You could also change the color and style of the text or delete text blocks entirely. The layout editor works like a drawing program, in which things can be edited, dragged, deleted, and resized as needed.

**Remove nonessential buttons and text blocks**

While still in the Master Layout (the Course Activities top-level item is still active), we are going to remove the buttons that are not needed for these content pages and adjust the design accordingly. Then you will remove the prompt text block, which is not needed either.

1. Select the **FAQ**, **Glossary**, **Index**, **Menu**, and **Replay** buttons, as shown in Figure A-23 on page 339, then right-click and choose **Delete Layout Object**. Click **Yes** to confirm the deletion.
2. Select the **Exit** button next and drag it close to the Previous and Next buttons so there are no gaps between buttons.

3. Scroll farther down the master layout page until you see the text block for Feedback text goes here. Select the block, then right-click and choose **Delete Layout Object**, then click **Yes** to confirm the deletion. The correct feedback option is shown in Figure A-25 on page 340.
A prompt is used to give additional information or hints to students. You will not need it for this course.

**A.8.5 Add content pages**

Authoring mode offers several kinds of content pages. The type you choose determines what students see and do on the page. For regular (non-assessment) pages, you have these choices: Menu, Text, Text with Image, Text with Video, Reveal Text, Reveal Text with Image, Hotspot Discovery, and Classification. You can also add a Glossary or Frequently Asked Questions page to any group of content pages.

Use the Page Layout toolbox to drop a content page into the course tree. Use your mouse to hover over an icon to see its name. Figure A-26 shows the Page Layout Tool bar.

The Course Activities item in your course outline will have three pages: a Menu page that links to a Text with Image page and a Classification page. The IBM Workplace Collaborative Learning System considers this one learning object, but
students navigate through three separate pages when they launch the item called Course Activities.

You now have the components of the Course Activities pages in place and can start tailoring them to your course.

A.8.6 Preview what you have so far

We will now run the Preview function to see what these content pages look like so far.

1. Select the Course Activities item (the top-level item in the tree).
2. Choose Selected - Preview from the Authoring mode menu.
3. Click OK when you get the default warning about course-level tracking not being enabled.
4. The first page in the group opens in your browser. You can use the Next and Previous buttons to navigate between pages.

If you see missing graphics images, try refreshing the browser window a few times.

A.8.7 Build the content pages

Now we edit the design and properties for each of the content pages you added to the Course Activities item.

Build the Menu page

Each type of page that you add has its own properties and objects, as well as the ones it inherits from the master layout. Your plan calls for only two menu items on the Menu page, so you must remove the objects for additional menu items.

1. Click the Menu icon from the course tree.
   You can its layout in the layout editor. Objects outlined in red are part of the master layout. Other objects are specific to this page.
2. Select the image and the text for the last menu item, then right-click and choose Delete Layout Object.
   Click Yes to confirm as shown in Figure A-27 on page 342.
3. Repeat Step 2 for Menu Items 4, then 3.

4. Now modify the text for the first two menu item links to make them relevant to your course
   - Click the text block **Menu Item 1** and replace the default text with **News about Lotus**. Reduce the size of the text box so there is no extra space after the last letter (otherwise, you will see an extra space in the final HTML page).
   - Click the text block **Menu Item 2** and replace the text with **Just for developers**. Reduce the size of the text box so there is no extra space after the last letter. The links to your menu items now appear as shown in Figure A-28.

**Build the Text with Image page**

A Text with Image page is useful for presenting general information, such as summaries, overviews, or introductions. In this example, the page will be used to highlight the steps for finding out the latest news about Lotus on the Lotus Web site.
Preview the default page

To see how the page works with its default text and images, you can use the Authoring mode Preview feature.

1. Select the entry called News in the course tree.
2. Choose Selected - Preview to preview this page on its own.
3. Click OK when you see the prompt about course tracking. You get that message because you are not connected to the system.

Change the text

We are now going to replace the default text on the Text with Image page.

1. Select the News entry, if it is not already selected in the course tree, to see the layout for this page.

   Objects outlined in red are part of the master layout; other objects are unique to this page.

2. Click the text block (Paragraph 1 goes here) to select it.

3. Highlight the default text and delete it. Then type in some text, with a paragraph return after each sentence as shown in Figure A-29.

   ![Figure A-29 Paragraph text](Technical resource for Lotus software is available at developerWorks. Log on to www.ibm.com/developerworks/lotus)

4. Change the formatting of the first line.
   a. Highlight the first line.
   b. Choose Layout - Text Properties. In the Font Style tab, leave Arial as the font and select 12 as the text size.
   c. Select Bold.
   d. Select Peach as the text color, if it is not already selected.
   e. Close the properties box.
5. Change the formatting of the steps to make them a numbered list:
   a. Highlight the second and third lines of text. (Important: Highlight the extra blank space after the last character in the third line. Otherwise, the last number might not change to the correct style.)
   b. Choose Layout - Text Properties. In the Font Style tab, leave Arial as the font and select 12 as the text size.
   c. Make sure Bold is not selected.
   d. Select Peach as the text color, if it is not already selected.
   e. Click the Bullet/Number tab. Click the 1 button to activate the numbered list.
   f. Close the properties box.
6. The text block now appears as in Figure A-30.

![Figure A-30](image.png)

Use the Preview function again to see how these changes have affected the content page. Refresh the browser window if the prompt about Course Tracking is not enabled.

**Change the graphic**

The photograph associated with the Text with Image page is a .jpg file that is provided with the design style you chose. You are going to replace it with another image file. We assume you have a file called textimagenew.gif on your local machine that is the same size as the sample picture (386 x 386 pixels).

1. In the layout window, click the photograph to select it.
2. Choose Layout → Layout Properties to see the properties.
3. Select the Graphic Filename field value **photo_1.jpg**. See Figure A-31 on page 345.
Appendix A. Content creation with the Authoring and Assembly Tool

4. Click the **ellipses** button (...) next to the file name.

5. Browse to the Image Files directory in the NewCourseSample directory.

6. Select **textimagenew.gif** and click **OK**.

7. When you are prompted to copy the file to the media path for the authoring tool, click **Yes** (Figure A-32).

8. Close the Layout Properties box.

    The layout window reflects the change to the graphic file associated with the page, as shown in Figure A-33 on page 346.
We can use the **Preview** function again, to see how these changes have affected the content page. Refresh the page if you do not see the latest changes.

**Tip:** To add a hyperlink to www.lotus.com for this graphic, select the graphic and choose **Layout → Layout Properties.** In the Action field, enter:

```javascript
    g_openWin('http://www.lotus.com/newsevents', 'new', '');
```

When a user clicks the graphic, the browser opens a new window and jumps to www.lotus.com. To open the link in the same window, use this instead of new in the action file.

**Tip:** The authoring tool copies your file to a graphics directory under an items directory in the WebInfo course folder. If you make changes to this file in the future, repeat the process of selecting and copying the file from its original location. This ensures that the authoring tool overwrites the older version in its items directory with your most recent changes.

**Build the Classification Page**

A Classification page gives students links on the page that cycle through different text and images. It's a useful page for teaching a group of related concepts and will be used in this example to introduce students to what the developerWorks Web site offers.
**Preview the default page**

1. Select the entry called **Developers** in the course tree.
2. Choose **Selected → Preview** to preview this page on its own.
3. Click **OK** when you get the prompt about course tracking.
   - Refresh the browser page if necessary.
4. Click the **Classification Button** lines to see how the page changes with each click.

**Change the text on the Classification page**

To customize the page, add your own text.

1. Select the **Developers** entry in the course tree, if it is not already selected, to see the layout for this page.
2. Change the default text blocks as follows:
   a. Click the text block called (**Definition Box Title goes here**) and replace that text with developerWorks (www.ibm.com/developer).
   b. Replace **Definition goes here** with **What does it offer for Lotus products?**
   c. Replace **Initial Description goes here** with **Click each item below before returning to the Menu page.**

The text blocks now displays as shown in Figure A-34 on page 348.
Change the Classification button text
Modify the text blocks for the three Classification buttons to summarize the concepts you are presenting on this page.

Click each button’s text block and replace the text as follows:

- (Classification Button 1 goes here) - Product information
- (Classification Button 2 goes here) - LDD Today: A technical journal
- (Classification Button 3 goes here) - Lotus Documentation Library

The button text blocks now appear as shown in Figure A-35 on page 349.
Change the button response text

Feedback text is special text that changes as the student clicks on parts of a content page. The Initial Description text block has feedback text associated with the three numbered items on the page.

1. To see the different text states, select the text block that reads Brief description goes here, and choose Layout → Add/Edit Feedback Text from the menu, as shown in Figure A-36.
2. To change the first button's feedback text, choose `ItemParagraph1.text` from the Add/Edit Feedback Text menu, as shown in Figure A-37. The layout editor now reveals the text (Button Response 1 goes here).

![Figure A-37  Edit Button response](image)

3. Change the feedback text to read Product descriptions and downloads.

4. Select `ItemParagraph2.text` from the Add/Edit Feedback Text menu and change the text to In-depth technical articles written for developers and administrators.

5. Select `ItemParagraph3.text` from the Add/Edit Feedback Text menu and change the text to Documentation, white papers, and Redbooks for all Lotus products. See Figure A-38.

![Figure A-38  Button responses](image)

You can use the Preview function again, if you wish, to see how these changes have affected the content page.
Appendix A. Content creation with the Authoring and Assembly Tool

**Tip:** To add another feedback text item to the Classification page, use Edit - Copy Layout Object to copy the three objects associated with feedback (the check mark, the number button, and the button text). Use Edit - Paste Layout Object to paste the objects on the page. ItemParagraph4.text now appears on the Add/Edit Feedback Text menu. Change the feedback text for the new entry, as well as its number graphic and button text, to complete the layout change.

**Change the images associated with the page**
The photographs associated with the Classification-type page are *.jpg files included with the design style you chose. The first photo you see when the page opens is a special image called the *Initial Graphic*. The other photographs you see when you click links on the page are called *Feedback Image Files* and they are associated with the numbered buttons on the page. Next, you are going to change the image associated with each of these by modifying the layout properties for the initial graphic and each of the numbered buttons.

**About the Layout Object bar**
Design objects in the layout editor are called *layout objects*. You can view a list of them or select them by using the object bar that appears above the layout window. Each drop-down list shows a category of layout objects that are appropriate for the page: Text, Graphics, Audio/Video, Button, and Miscellaneous. The words On Canvas next to a name indicate that the layout object is already on the page, shown in Figure A-39.

If you select the object's name in the list, you select it automatically in the layout editor. Names of objects below the horizontal line in the drop-down box show objects that you may add to the page. Do so by selecting the object type from the list and then moving and resizing the new object that appears on the page.

![Figure A-39  Adding text objects](image)

Tip: To add another feedback text item to the Classification page, use Edit - Copy Layout Object to copy the three objects associated with feedback (the check mark, the number button, and the button text). Use Edit - Paste Layout Object to paste the objects on the page. ItemParagraph4.text now appears on the Add/Edit Feedback Text menu. Change the feedback text for the new entry, as well as its number graphic and button text, to complete the layout change.

**Change the images associated with the page**
The photographs associated with the Classification-type page are *.jpg files included with the design style you chose. The first photo you see when the page opens is a special image called the *Initial Graphic*. The other photographs you see when you click links on the page are called *Feedback Image Files* and they are associated with the numbered buttons on the page. Next, you are going to change the image associated with each of these by modifying the layout properties for the initial graphic and each of the numbered buttons.

**About the Layout Object bar**
Design objects in the layout editor are called *layout objects*. You can view a list of them or select them by using the object bar that appears above the layout window. Each drop-down list shows a category of layout objects that are appropriate for the page: Text, Graphics, Audio/Video, Button, and Miscellaneous. The words On Canvas next to a name indicate that the layout object is already on the page, shown in Figure A-39.

If you select the object's name in the list, you select it automatically in the layout editor. Names of objects below the horizontal line in the drop-down box show objects that you may add to the page. Do so by selecting the object type from the list and then moving and resizing the new object that appears on the page.
Change the initial graphic

Change the graphic students see when they launch this content page. For this example, we assume you have a file called lotusdevsite.gif on your local machine that is the same size as the sample picture (386 x 386 pixels).

1. From the object bar, select the **Graphics** list and select **Initial Graphic** from the list, shown in Figure A-40.

![Figure A-40 Adding graphics objects](image)

This action selects the Initial Graphic object on the layout editor and makes its layout properties available.

2. Choose **Layout → Layout Properties** from the authoring tool menu to see the properties, shown in Figure A-41.

3. Select the Graphic Filename field value **photo_4.jpg**.

![Figure A-41 Layout properties](image)

4. Click the **ellipses** button (...).

5. Browse to the Image Files directory in the NewCourseSample directory.
6. Select *lotusdevsite.gif* and click **OK**.

7. When you are prompted to copy the file to the media path for the authoring tool, click **Yes**.

   The authoring tool copies your file to a graphics directory under an items directory in the LWebInfo course folder and the layout changes to reflect the new initial graphic.

8. Close the Layout Properties box.

**Change the feedback images**

The three photographs that change as you click links on the page are not standalone layout objects like the initial graphic. Instead, they are feedback images associated with each of the numbered button objects. To change these, you must edit the layout properties for each numbered button. For this example, we assume you have called graphics files named feedback1.gif, feedback2.gif, and feedback3.gif on your local machine that will replace the default feedback images.

1. From the object bar, select the Miscellaneous list and select **Button 1** from the list.

2. Choose **Layout → Layout Properties** from the authoring tool menu to see the properties, shown in Figure A-42.

   ![Figure A-42   New layout properties](image)

3. Select the Feedback Image Filename field value **photo_1.jpg**.

4. Click the **ellipses** button (...).

5. Browse to the Image Files directory in the NewCourseSample directory.

6. Select **feedback1.gif** and click **OK**.
7. When you are prompted to copy the file to the media path for the authoring tool, click **Yes**. If you change feedback1.gif in the future, select and copy the file again to make sure the authoring tool has the latest version.

8. Change the feedback images for Buttons 2 and 3 in the same way, using **feedback2.gif** and **feedback3.gif** as the file names, then close the Layout Properties box.

If you preview this page again, you can see that the original images have been replaced with your new ones.

### A.8.8 Publish the content pages

Publishing generates HTML pages for the content pages you have designed. Previewing in Authoring mode also generates a publishing operation, but when your work in Authoring mode is complete, you should do a full publish operation to validate all the content included in your Course Activities pages.

1. Select the top-level item in the course tree, the Course Activities item.
2. Choose **Selected → Publish** from the authoring tool menu to open the Publish dialog box.

![Publish dialog box](image)

**Figure A-43 Publish dialog box**

3. Click **Run Media Check**.
This verifies that all the files needed for the HTML pages are present and in the correct directories. Fix any problems with missing media before continuing, then close the message box.

4. (Optional) Click the Unreferenced Media tab to view files not in use by these content pages. Click Close when you are finished. (For this sample course, you will not delete any unreferenced files.)

5. Click Close.

6. When you are ready to publish, leave Smart Copy Media selected and click Publish. This option copies any new or updated media files to the published directory, but does not remove any that have not changed. The published directory is shown in the Publish Path message above the radio button choices.

7. When you are prompted about launching the course, click Yes.

8. Click OK when you get the warning about course tracking not being enabled and then click through the set of content pages to ensure that it runs the way you intended.

If there are missing images, try refreshing the browser window one or more times.

A.8.9  Preview the course the way students will see it

You can use the Course Preview function in Planner mode to make sure that the course looks and runs the way you expect. This builds a complete course for all items in the course outline, unlike the Preview feature in Authoring mode, which only builds HTML files for the content pages you designed in Authoring mode.

1. In Planner mode, choose Tools → Course Preview from the authoring tool menu.

   The course outline launches in a new browser window and contains links to the course items.

   The files used by the Preview function have been created in the CoursePreview directory under the resources directory of the Lotus Web Info course. This directory contains the ancillary files the authoring tool needs to display the course in preview mode. The file named main.htm is the launch page for the course.

2. Click the Welcome page link to open the first course item.

2. Proceed through the course pages as a student would. Click OK if you receive messages about tracking not being enabled.
Offline Learning Client

IBM Workplace Collaboration Services provides a standalone application that allows students to take online courses while disconnected from the IBM Workplace Collaboration Services system. This application is called the Offline Learning Client. This appendix will demonstrates the usage of the Offline Learning Client application by students on their personal workstation.
B.1 Introduction to the Offline Learning Client

The Offline Learning Client lets students download online-type courses to their workstation and then take the course while they are disconnected from the IBM Workplace Collaboration Services server. Once they reconnect to the server, the progress data created while taking the course in offline mode can be synchronized back to the IBM Workplace Collaboration Services system.

**Note:** Provisioning of the Offline Learning Client is optional, you can choose not to allow students to take modules in disconnected mode.

Students download the installation package for the Offline Learning Client from the IBM Workplace Collaboration Services server and install it on their Windows workstations.

**Note:** See 2.8.2, “Tools Available” on page 49 for information about downloading and installing the Offline Learning Client. This Offline Learning Client is only available to install and run on a machine using a Microsoft Windows operating system.

After the Offline Learning Client application is installed on a student’s machine, he or she can use the application to download one or more courses flagged as available for offline use (explained in 4.3.2, “Online and Lotus Virtual Classroom courses” on page 131) and then work offline.

Any course that is enabled for the offline learning client can be downloaded. The course package also must contain all the files the course material needed to run locally. While the student is working offline, tracking information (progress and scores) for each downloaded course is stored on the workstation. When the user reconnects to the IBM Workplace Collaboration Services system, the course can be reset to online status and the corresponding tracking information uploaded to the system.

**Note:** IBM Workplace Collaboration Services does not support multiple installations of the Offline Learning Client on the same client machine. Also, a single installation of the Offline Learning Client will be dedicated to the first user that you have authenticated with. A second user will not be able to authenticate and use the Offline Learning Client.

B.2 Using the Offline Learning Client

The following sections describe using the Offline Learning Client.
B.2.1 Starting the Offline Learning Client

After the installation has completed, you can start the Offline Learning Client, as follows:

Start Menu → Programs → IBM → Offline Learning Client → Start Offline Learning Client

When starting the Offline Learning Client, several services start in the background. The first time you launch the application, you are prompted for your user name and password as seen in Figure B-1. On subsequent occasions when you start Offline Learning Client again, you will need to enter the same user name and password as the first time you authenticated. The implication of this is that your workstation is dedicated to this installation of the Offline Learning Client and this particular user.

![Log In](image)

Figure B-1 Offline Learning Client Log In screen

B.2.2 Taking a course offline

When a user wants to take a course in offline mode, they first must be enrolled in the course that has been configured for offline use. Also you must have access to the zip file that corresponds to the course you want to take offline. The course must also appear in the table of courses that you can choose to take offline, as shown in Figure B-2 on page 360.
The steps to take a course offline are as follows:

1. When logged into the Offline Learning Client and connected to the IBM Workplace Collaboration Services system, select the **Update Course Data** button, to synchronize the latest enrollment data.

2. This will launch a download status window for few seconds while the Offline Learning Client retrieves all of the information relating to online courses that this user is enrolled in that are available for offline use.

3. When this has completed, the Enrolled Courses table of the Offline Learning Client user interface will resemble something like that shown in Figure B-2, with courses that can be taken offline listed.

4. From that list of courses, the user can choose to take a given course offline by selecting the check box beside the course or courses that you wish to take offline and then selecting the **Take Offline** button.

When the course is offline, you will see that the status icon has changed to green and now says **offline** as seen in Figure B-3 on page 361.
### B.2.3 Sending data back to server

When a course is taken offline, the Next Step column of the table corresponding to that course contains a Launch link. Select **Launch** to can take the course in disconnected use. When you have the course either completed or partially completed, you can send the new progress data back to server to update the server copy of the course tracking information for this user. The steps to send tracking data back to the server are:

1. When you have completed or partially completed a course offline, the New Progress Data column will contain Yes, indicating there is new data that can be sent back to server copy, as shown in Figure B-4.

2. Select the check box next to the course with new progress data to send back to the IBM Workplace Collaboration Services server.

---

**Figure B-3**  *When course is taken offline the status will change*

**Figure B-4**  *New Progress Data available to be sent back to the server*
3. Select the **Send Data** button.

   This sends the progress data back to IBM Workplace Collaboration Services server and synchronizes the tracking data between the Offline Learning Client and the server. After you send data back to the server, the Last Data Sent column will then be populated with the date on which the data was sent.

4. You can choose to delete the local copy of the course by selecting **Delete** in the Local Copy column of the Enrolled Courses table.

### B.2.4 Importing a course from a file

The Offline Learning Client has a function that allows you to import a course directly into the Offline Learning Client from a file on your local system. If the course that you wish to take offline is large or if your connection is particularly slow, then taking offline could take quite a long time to transfer the course from the server to your machine. In this scenario importing a course package file directly into the Offline Learning Client from your local machine would be preferable, as long as you have direct access to the course package. This file that you import will be a course package (SCORM) that can then be launched within the Offline Learning Client. The steps to import a course from a file are:

1. Select the **Import Course From a File** button.

2. A dialog box will open as seen in Figure B-5. In this dialog box, select a course from the list of courses present.

   ![Figure B-5 ‘Import from File’ dialog box](image)

3. Select the **Browse** button, then find this course on your local machine.

4. Select **Import**.

   The course should now be visible on your list of courses available offline.
B.2.5 Importing an anonymous course

If the course is marked as allowing anonymous use then the user can import from the file system and it will appear in the list of enrolled courses but progress will not be sent to the Workplace Collaborative Learning. The steps to import an anonymous course are as follows:

1. Select the **Import Anonymous Courses** button.
2. A dialog box will appear, select **Browse** and find the course that allows anonymous access on your local machine.
3. Select the **Import** button.

The course now appears in your list of courses available for offline use, but progress will not be restored for this course.

B.2.6 Putting a course back online

If you wish to put the course back online so that you can use the copy on the server again, there are two ways of doing this. You can either

- Put the course back online using the Offline Learning Client or
  - Putting the course back online from the Offline Learning Client is preferable.
- Force the course back online from the IBM Workplace Collaborative Learning interface.

If you choose to force the course back online, then any updates to the tracking data since the last synchronization (the last time you selected Send Data) will be lost. For the force online option to be available, you must have enabled this option when creating the course offering. See 4.3.2, “Online and Lotus Virtual Classroom courses” on page 131 for information on the options when creating an online course offering.

The steps to put the course back online from Offline Learning Client are:

1. Select the check box beside the course that you wish to put back online.
2. Select the **Put Online** button.
3. The status for the course in the Offline Learning Client will now change to online and the course should be available to use on server again. The launch link will no longer be present. If you check the IBM Workplace Collaboration Services interface, notice that the Launch button is present again.

The steps to force course back online again from the IBM Workplace Collaborative Learning interface are:

1. Log in to the IBM Workplace Collaborative Learning interface with the same user ID as you were using with the Offline Learning Client.
2. On the Home page select the **Enrolled Courses** view.

3. In the Next Steps column, **Force Online**, as seen in Figure B-6. This will change the status of course to online again and the Launch link is visible again. If you check the status of the course in the Offline Learning Client, notice that the status has also changed to online.

![Enrolled Courses Table](image)

*Figure B-6  Force Course online from Workplace Collaborative Learning*

### B.2.7 Stopping the Offline Learning Client

To stop the Offline Learning Client, you should select the appropriate option from the start menu, as follows:

**Start** → **Programs** → **IBM** → **Offline Learning Client** → **Stop Offline Learning Client**

Stopping the Offline Learning Client this way also stops the background services associated with the application. Simply closing the browser window where the Offline Learning Client interface displays will not end these background services.
Sample configuration files

The following sample files are included in this appendix for reference:

- Sample XML file for Skills Dictionary
- Sample Archive-Options file
- Sample Restore-Options file
C.1 Sample XML file for Skills Dictionary

Example C-1 is a sample file for the Skills Dictionary.

Example: C-1 Skills Dictionary sample file

```xml
<SkillsDatabase LanguageId="en">
  <Position>
    <Folder name="Information Technology">
      <FolderId id="Folder101" />
      <TaxonomyId id="MyCompany" idOwner="MyCompany" description="Information Technology Jobs" />
    </Folder>
    <JobCategory>
      <TaxonomyName version="4.0">MyCompany</TaxonomyName>
      <CategoryCode>JOB001</CategoryCode>
      <CategoryDescription>Junior Programmer Analyst</CategoryDescription>
      <Comments>The Junior Systems Analyst job role contains the key competencies associated with programming software. This may include such tasks as software design and development, testing and writing documentation.</Comments>
    </JobCategory>
    <Competency name="Data Analysis">
      <CompetencyId id="SKILL001" idOwner="MyCompany" description="None" />
      <TaxonomyId id="MyCompany" idOwner="MyCompany" description="None" />
      <CompetencyInJobDescription>Data refers to values without regard to the meaning of the values as understood by some user. Data Analysis is the process involved in studying those values to determine how a customer can store, share, integrate and use them in their business activities.</CompetencyInJobDescription>
    </Competency>
    <Competency name="Develop Software Requirements">
      <CompetencyId id="SKILL002" idOwner="MyCompany" description="None" />
      <CompetencyWeight>
        <NumericValue minValue="0" maxValue="90" proficiencySet="Exceed Standard Scale">10</NumericValue>
      </CompetencyWeight>
      <CompetencyInJobDescription>Developing Software Requirements encompasses gathering and validating requirements in the form of specifications for use by software developers, clients, and the software development organization's management.</CompetencyInJobDescription>
    </Competency>
  </Position>
  <RatingScale>
    <Set name="MyCompany Scale">
      <SetId id="SET101" />
      <Level value="0" description="You have no training or experience.">No Skill</Level>
      <Level value="10" description="Basic training has been received. The only experience gained has been in a classroom and/or experimental scenarios, or as
```
a trainee on-the-job. You would be expected to need some help when performing the Competency.">Conceptual</Level>
  <Level value="30" description="Repeated successful experiences have been completed. Help from an expert may be required from time to time, but you can usually perform the competency independently.">Experienced</Level>
  <Level value="70" description="You can perform the actions associated with this competency without assistance. You are certainly recognized within your immediate organization as when difficult questions arise regarding this competency. You are probably also known outside your organization as an expert. You have extensive experience and could teach the subject if you had teaching skills.">Expert</Level>
</Set>
</RatingScale>
</SkillsDatabase>

---

**C.2 Sample Archive-Options file**

Example C-2 is a sample Archive-Options file.

*Example: C-2 Archive-Options file sample*

```xml
<?xml version="1.0" encoding="UTF-8"?>
<settings>
  <connections>
    <connection name="default" type="basic" vendor="DB2" driver="COM.ibm.db2.jdbc.app.DB2Driver" url="jdbc:db2:databasename" username="user" password="password" />
  </connections>

  <archive>
    <data name="progress" state="enabled" type="backup" expirationDays="1" toTable="yes" toXML="yes" xmlLocation="d:\archiving\archive_lms\progress\" />
    <data name="enrollment" state="disabled" type="backup" expirationDays="1" toTable="no" toXML="yes" xmlLocation="d:\archive_lms\enrollment\" />
  </archive>
</settings>
```

---

**C.3 Sample Restore-Options file**

Example C-3 is a sample Restore-Options file.
Example: C-3  Restore-Options file

```xml
<?xml version="1.0" encoding="UTF-8"?>
<settings>
<logging></logging>
<connections>
<connection name="default" type="basic" vendor="DB2"
driver="COM.ibm.db2.jdbc.app.DB2Driver" url="jdbc:db2:databasename"
username="user" password="password" />
</connections>
<restore>
<data name="progress" state="enabled" />
</restore>
</settings>
```
Related publications

The publications listed in this section are considered particularly suitable for a more detailed discussion of the topics covered in this redbook.

IBM Redbooks

For information on ordering these publications, see “How to get IBM Redbooks” on page 369. Note that some of the documents referenced here may be available in softcopy only.

- *IBM Lotus Learning Management System Handbook*, SG24-7028-00
- *IBM Workplace Collaborative Learning V2.5 - A Guide to Skills Management*, REDP-4034-00
- *IBM Workplace Collaboration Services: Release 2.5 Deployment Guide*, SG24-6777-00

Online resources

These Web sites and URLs are also relevant as further information sources:

- Lotus Workplace Collaborative Learning Page
  

How to get IBM Redbooks

You can search for, view, or download Redbooks, Redpapers, Hints and Tips, draft publications and Additional materials, as well as order hardcopy Redbooks or CD-ROMs, at this Web site:

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Install and configure IBM Workplace Collaborative Learning 2.6

Manage course offerings, skills, and resources

Generate performance and resource reports

IBM Workplace Collaborative Learning is an enhanced IBM Workplace product and part of the integrated collaborative environment delivered by IBM Workplace Collaboration Services. It provides learning services that help organizations manage their training programs more efficiently and integrates learning resources on the desktop. Integration with other Workplace Collaboration Services capabilities delivers blended learning experiences and provides students with enhanced tools such as course discussion areas, document sharing, Web conferencing, and chat rooms.

This IBM Redbook serves as a comprehensive and in-depth guide to IBM Workplace Collaborative Learning, discussing how to install, configure, and effectively manage learning modules, resources and, skills within your IBM Workplace Collaborative Environment.

This IBM Redbook provides details on how to manage skills effectively within the system, and how to leverage built-in reporting capabilities. Finally, it provides a realistic scenario to demonstrate the typical usage pattern for students using the IBM Workplace Collaboration Services version 2.6 user interface.

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