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# Learning Management System (LMS) Guide

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Version 5.0

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# Chapter 1

## Learning Management Overview

### Introduction

Aptify's Learning Management System (Aptify LMS) is an add-on application for Aptify Education Management and E-Business that can automatically track a student's progress when enrolled in an on-line course.

Aptify LMS is a SCORM-compliant solution and accepts uploads of any content that complies with a SCORM specification (SCORM 1.2 and SCORM 2004). Other features include automatically recording test scores (as determined by the SCORM content) and preventing a student from completing a section without first completing the prior sections within the course.

This guide describes how to install Aptify LMS and how an organization can use Aptify LMS in conjunction with Aptify E-Business and Education Management to manage on-line courseware.

Aptify LMS is an add-on application for Aptify 5.0 that requires the E-Business and Education Management add-on applications. Therefore, this application may not be available on your system if your organization has not installed this module. Contact your administrator for assistance.

This introduction contains the following sections:

- [Installing the Module](#)
- [Using Aptify LMS](#)
- [Aptify LMS Topics](#)

## Installing the Module

The Learning Management System application is an add-on module for Aptify. Therefore, it is not included in the standard Aptify system and must be installed separately. The Aptify LMS installation program adds new components to the Aptify database, a SCORM engine to the E-Business Web site and also runs the Aptify Object Repository Synchronization tool to update the E-Business Web site with the latest components from the database server. While the Aptify LMS installation program can be run many times (for example, if you need to reinstall the Web components on a Web server), you must install the server components to the Aptify database when installing Aptify LMS for the first time.

This section includes the following topics:

- [Aptify LMS Installation Options](#)
- [Note Concerning Installation With A Local Trusted User](#)
- [Steps to Install the LMS Module](#)

### Aptify LMS Installation Options

The Aptify LMS setup program is broken down into three different actions; installing the necessary database server components, installing the necessary web server components and running the Aptify Object Repository Synchronization tool to update the web server's bin folder. When installing Aptify LMS for the first time, the standard installation option is to install the necessary components for both the database and the web server (as described in [Steps to Install the LMS Module](#)). However, depending on your environment, you can also perform each step of the installation process separately by simply checking (or unchecking) the appropriate options. Below is a description of each installation step and where to locate the action in [Steps to Install the LMS Module](#) if you choose to install the LMS components separately:

#### Installing the Database Components

When installing each step of the Aptify LMS setup program separately, this option must be performed first. Web server components can only be installed after the database server components.

This step installs the LMS database and the necessary database server components, including the Course Import Wizard and supporting entities and objects. See Step 14 in [Steps to Install the LMS Module](#) for more details about the information required to complete this part of the install.

## Installing the Web Server Components

This step creates the *Aptify LMS* application pool in IIS (that is run by the LMS User specified in the step), installs the Aptify LMS web services and also creates the necessary folders to import courses. See Step 12 in [Steps to Install the LMS Module](#) for more details about the information required to complete this part of the install.

## Running the Object Repository Synchronization Tool

This step updates the bin directory of the E-Business site with the latest components in Aptify's Object Repository Object service (see the "Working with an E-Business Site" chapter in the *Aptify E-Business Developers Guide* for details about this tool). See Step 16 in [Steps to Install the LMS Module](#) for more details about the information required to complete this part of the install.

## Note Concerning Installation With A Local Trusted User

The standard Aptify LMS install uses a domain user to communicate between the E-Business server (where LMS will be installed) and the Aptify database server. However, if your E-Business site is running in a DMZ and you are unable to specify a domain user, a local user can be used instead. Note that in this type of install, a local user with matching username and password must exist on both the web server and the database server. The same user that is already running the Aptify E-Business site can be used. In this scenario, select the local user on the web server to run the Aptify LMS application pool as the LMS User Name when installing the web server components (for example, if the Web server's machine name is *webserver*, *webserver/LMSuser* or *webserver/ebizuser*) and select the equivalent local user that exists on the database server as the Database User Name when installing the database components (for example, if the Database server's machine name is *server*, *server/LMSuser* or *server/ebizuser*). Note that the passwords for both users must be the same.

If you have questions about installing Aptify LMS in the scenario above, please contact Aptify Technical Support or your Aptify Consultant.

## Steps to Install the LMS Module

Follow these steps to install the add-on application:

1. Confirm that your Aptify system already has Education Management and E-Business installed. These add-on applications are required to use Aptify LMS.

Your E-Business installation must be running E-Business 5.0 or later to successfully install and use Aptify LMS.

2. Identify/create the required user account that will be used during the LMS setup.
  - This can be the same user that runs EBusiness.
  - If you are unable to specify a domain user for both the Database User and the LMS User, see “Note Concerning Installation With A Local Trusted User” on page 6 for more information.
3. Add/verify the designated domain account/local users has a trusted user in Aptify, with the appropriate privileges.
  - Note that this user must be assigned a valid user license to successfully communicate with the database server.
4. Using Microsoft SQL Server Management Studio, back up the APTIFY database before continuing.
5. Log in to the Web server that hosts the E-Business site as a user who has administrative privileges.
  - If you are installing the database server components only, you can log into the database server.
6. Download the installation ZIP file to a folder on the Web server that is hosting the E-Business site (or database server if installing database server components only) and unzip its contents.
  - Run the installation program locally on the server; do not run it over the network.
7. Close the Aptify desktop application on the computer, if currently running.
8. Run **Setup.exe** to launch the installation program.
9. Log in to Aptify as an administrative user when prompted.
  - Specify the name of the Aptify database server.
  - Specify a user account that has system administrator permissions on the database server.

Figure 1.1  
Enter  
Database  
Login  
Information for  
Administrative  
User

10. Review the information on the Welcome screen and click **Next** to continue.

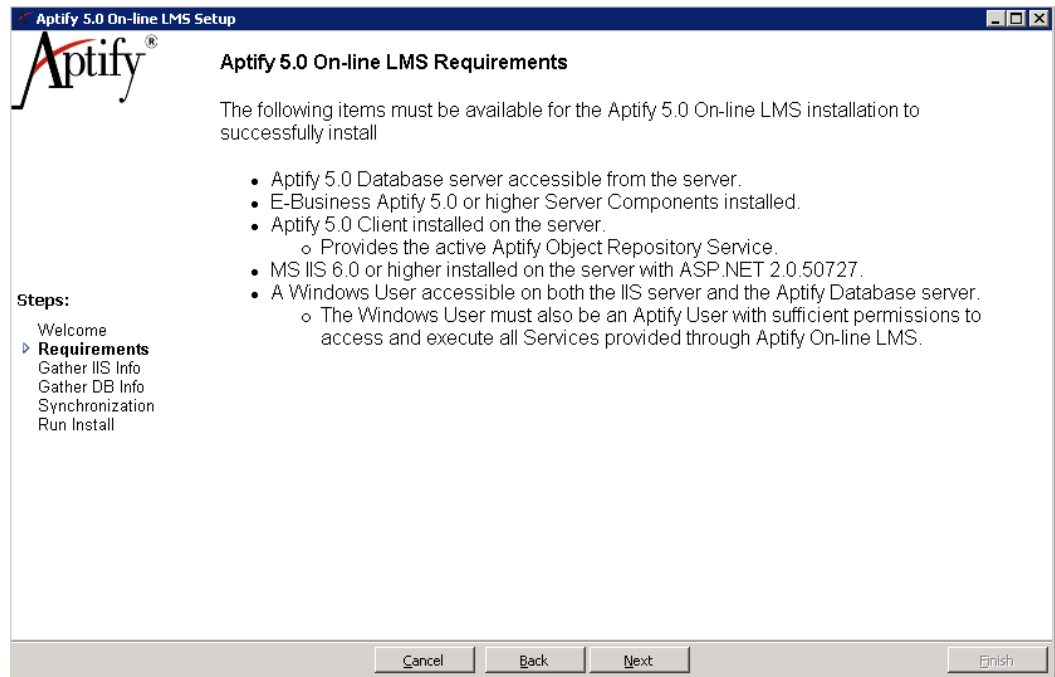
Figure 1.2  
Aptify LMS  
Welcome  
Screen

11. Review the installation requirements for Aptify 5.0 LMS and click **Next** to continue.

- Since Aptify LMS leverages Aptify E-Business, it has many of the same requirements as E-Business.



Figure 1.3  
Aptify LMS  
Installation  
Requirements



12. If you want to install the web server components, select the **Install to Web Server** check box and complete the following fields (If you do not wish to install the web server components at this time, continue to Step 13):

- **LMS User Name:** Specify the name of a trusted user account that will run the E-Business piece of Aptify LMS (this user will run an *Aptify LMS* application pool in IIS). This can be the same user that is already running the Aptify E-Business site or another local User created on the server where IIS is installed. Note that the user you specify must meet the following requirements:
  - Have the appropriate User Licenses including Ebusiness, Education and LMS Module Licenses. Note that the appropriate LMS licenses should be imported and assigned prior to installation of the LMS module.
  - Have sufficient permissions in Aptify to access and update all services that can be modified using Aptify LMS (such as the Education Management services).

When installing LMS with a local user, the same user must be available on both the web server and the database server. See “Note Concerning Installation With A Local Trusted User” on page 6 for more information.

- **LMS User Password:** The password for the trusted user or the local user specified in the *LMS User Name* field.
- **Confirm Password:** Re-enter the password you entered in the *LMS User Password* field.

- **Web Service Directory:** Specify a folder location on the Web server where the files to be used by Aptify LMS should be installed. This can also be the same default location where EBusiness is installed.
- During installation, the installer copies two folders and associated files to the location you specify on the server that hosts the EBusiness site (the folders are named *ScormContentPlayerCentral* and *ScormContentPlayerRemote*) to be used by the LMS User to run the SCORM engine. The installer adds the required permissions for the LMS User. Therefore, the user who is currently logged into the Web server and the LMS User specified above must have Modify permissions to the target folder prior to running the installer.
- Note that if the proper permissions on the target folder is not configured prior to installation, an administrator will need to manually update the appropriate folders and associated files after the installation is complete to ensure that the SCORM engine works as expected. See “How To Manually Set SCORM Folder and File Permissions” on page 14 for details.

Figure 1.4  
Specify IIS  
Installation  
Details Option

The screenshot shows the 'Specify IIS Installation Details' window of the Aptify 5.0 On-line LMS Setup wizard. The window title is 'Aptify 5.0 On-line LMS Setup'. The Aptify logo is in the top left. The main text reads: 'Check the 'Install To Web Server' checkbox and provide the Aptify On-line LMS user credentials and the Scorm Web Engine installation details to install Aptify LMS to the Web Server. Enter the user credentials to be used to run the new AptifyLMS application pool and web services. The two new web services will be installed to the specified Web Service Location. Two new Virtual Directories will also be created in a new Application Pool, AptifyLMS, for the two web services. Another folder will be created in inetpub/wwwroot which will be used to upload the imported On-line courses.'

On the left, a 'Steps:' list shows: Welcome, Requirements, **Gather IIS Info** (selected), Gather DB Info, Synchronization, and Run Install.

The 'Web Server Settings' section contains:
 

- Install to Web Server
- LMS User Name: [Aptify User to Run SCORM Engine]
- LMS User Password: [\*\*\*\*\*]
- Confirm Password: [\*\*\*\*\*]
- Web Service Directory: C:\Program Files (x86)\telerik\Sitefinity3.5 Community\WebSites\

At the bottom are buttons for Cancel, Back, Next, and Finish.

13. Click **Next**.

14. Review the Specify Database Installation Details step and choose one of the following options:

- If this is the first time you are installing Aptify LMS for your Aptify system, place a check mark in the **Install Server Components** box to install the components to the Aptify database server and complete the following fields.

- **Database User Name:** The trusted user entered in the LMS User Name field, appears in the Database User name field by default and is disabled as shown in Figure 1.5. Note that if several different active user records exist in the Aptify database with the same user name, they will appear in the drop down list. If the LMS User is a local user and an equivalent user is found on the Aptify database, this field will automatically select that user as the default Database User to be used by the installer.

When installing LMS with a local user, the same user must be available on both the web server and the database server. See “Note Concerning Installation With A Local Trusted User” on page 6 for more information.

- **Web Server URL:** Specify the URL for the Web server. When installing the server components, this path is automatically appended to the Aptify LMS attributes found on the Aptify LMS Learning Management Systems record in Aptify.
- If you have previously installed the Aptify LMS components on the database server during an earlier run of the Setup program and now you want to install or reinstall just the SCORM engine for an E-Business site or re-synchronize the object repository, make sure the check mark is removed from the Install Server Components box and then continue to Step 15.

Figure 1.5  
Specify Data-  
base Install-  
ation Details  
Option

**Aptify 5.0 On-line LMS Setup**

**Specify Database Installation Details**

Check the 'Install Server Components' checkbox and provide the database user credentials and Web Server URL to install the Aptify LMS database components.  
NOTE: The Aptify On-line Learning Management System Server Components must be installed once and only once on the Aptify Database Server.

Enter the user credentials to be used to access the Aptify database. Enter the Web Server's URL (ie: http://localhost or http://www.demo.org). The Aptify Ebusiness Directory field is used to synchronize the E-Business bin folder with the latest assemblies in Aptify.

**Steps:**

- Welcome
- Requirements
- Gather IIS Info
- ▶ **Gather DB Info**
- Synchronization
- Run Install

Install Server Components

Aptify Database User Credentials

Database User Name: DOMAIN\LMSUser

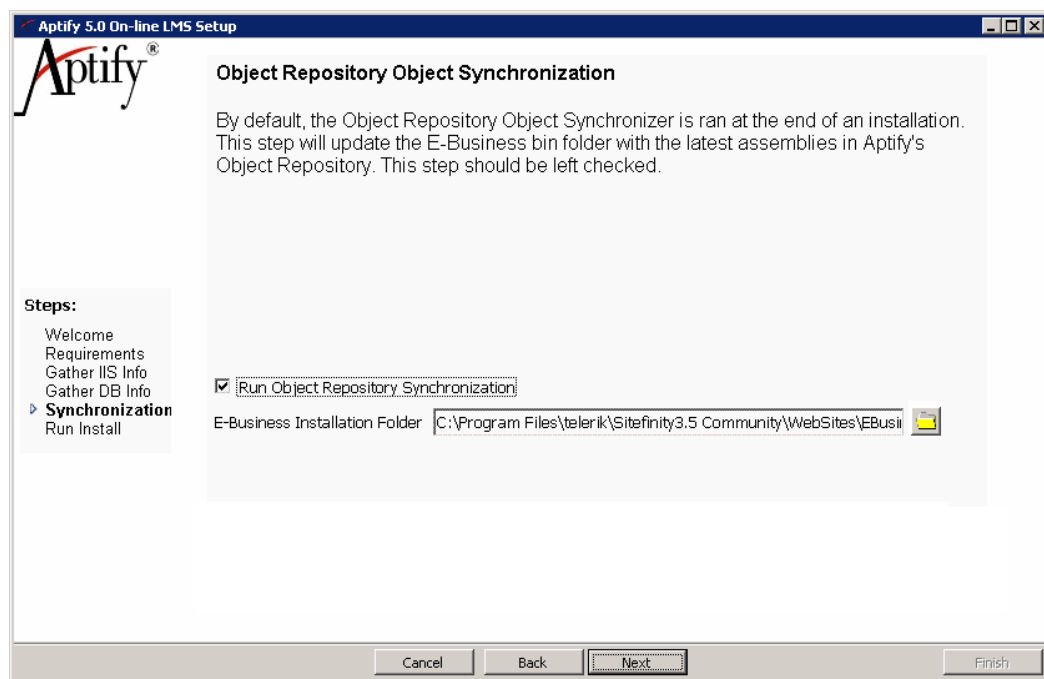
Web Server URL: http://localhost

Cancel Back Next Finish

15. Click **Next**.

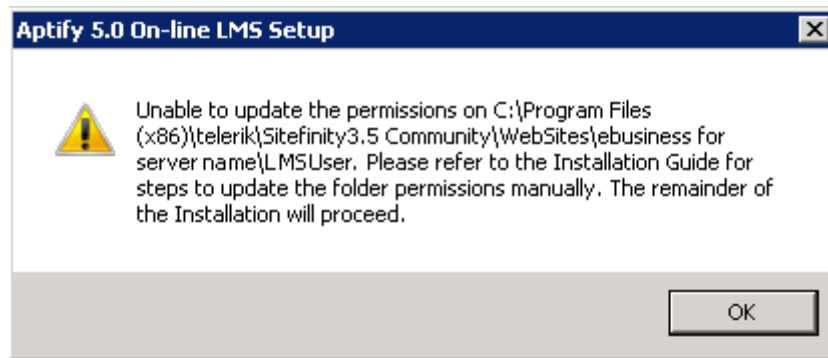
16. If you want to update the E-Business bin folder with the latest components in Aptify's Object Repository, make sure the **Run Object Repository Synchronization** option is selected and complete the following field:
  - **Ebusiness Installation Folder:** Specify the location where the E-Business files are installed on the Web server. For example, if E-Business is installed in the default location with Sitefinity, this would be *C:\Program Files\telerik\Sitefinity[Version] Community\WebSites\[Name of Site]*. Figure 1.6 is an example of an Aptify 5.0 E-Business site installed in the default location with Sitefinity 3.5. The path to the installation folder is *C:\Program Files\telerik\Sitefinity3.5 Community\WebSites\EBusiness*.

Figure 1.6  
Object Repository  
Object Synchroniza-  
tion Option



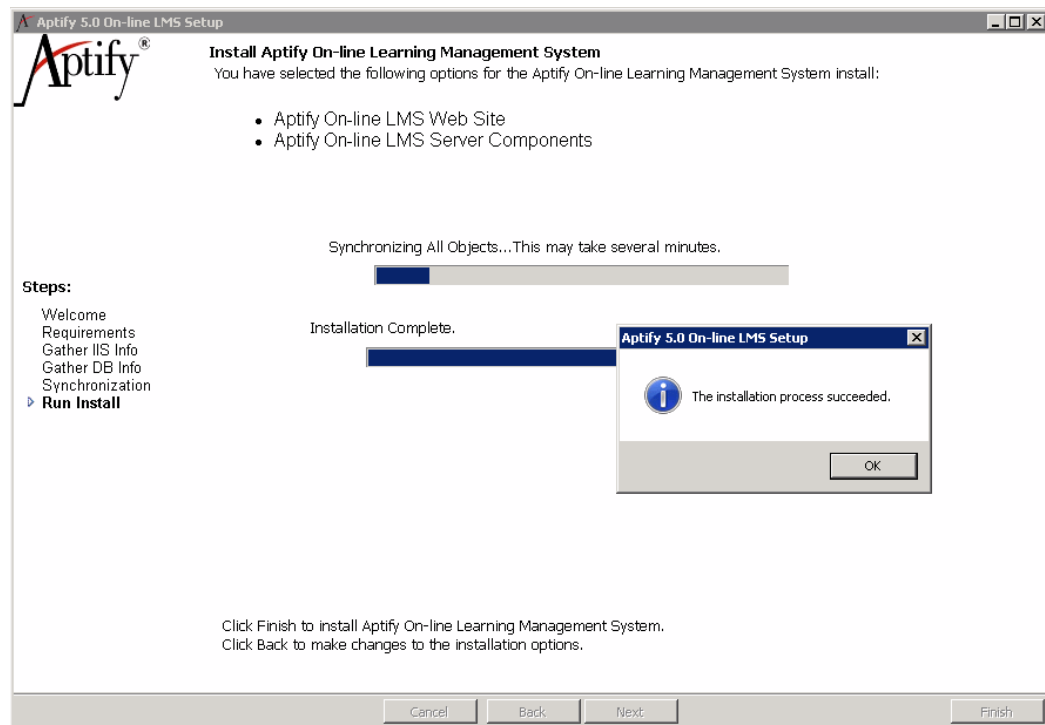
17. Click **Next** to continue.
18. Click **Finish** to begin the installation.
19. If you are prompted with a screen similar to below, click **OK** to continue. However, note that additional actions will be required after the installation is complete. See “How To Manually Set SCORM Folder and File Permissions” on page 14 for details.

Figure 1.7  
Permissions  
Error Message



20. Click **OK** when prompted that the installation is complete to close the wizard.

Figure 1.8  
Installation  
Complete



21. Restart the IIS service.

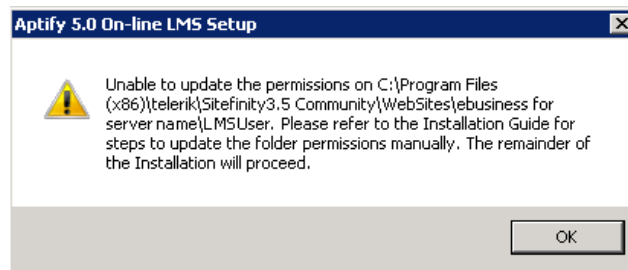
- Although technically not required, restarting the IIS service will ensure that all existing sessions connected to the Web server are terminated before the Web site is used.
- You can restart the IIS service from either the Internet Information Service (IIS) Manager or from the Windows Services dialog.

22. Begin importing SCORM compliant content into Aptify. See “Using Aptify LMS” on page 15 and “Managing LMS Content” on page 17 for details.

## How To Manually Set SCORM Folder and File Permissions

If a dialog similar to the following appears when attempting to complete the installation of the Aptify LMS setup, the account that is currently logged into the Web server does not have the proper Modify permissions to the target folder specified in Step 12 of the [Steps to Install the LMS Module](#) and thus cannot update the permissions for the LMS User specified in the setup program.

Figure 1.9  
Permissions  
Error Message



When this occurs, the installation proceeds as normal, however, to ensure that the SCORM engine works as expected, an administrator must manually set the Read/Execute permissions on the following folders and associated file for the LMS User specified in the setup program. Both the folders and file can be found in the target folder once the install is complete.

The following folders must have Read/Execute permissions for the LMS User:

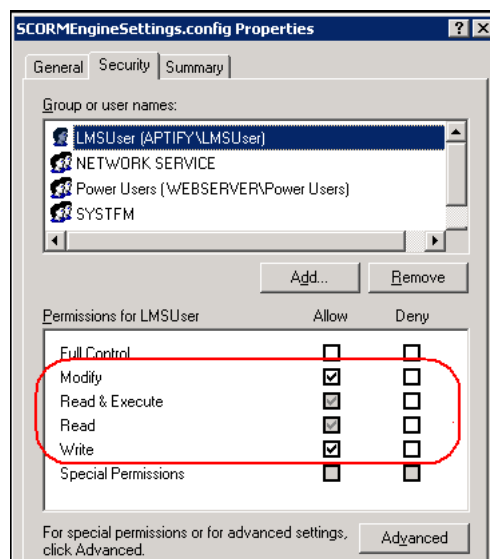
- ScormContentPlayerCentral folder
- ScormContentPlayerRemote folder

The following file must have Read/Execute permissions for the LMS User:

- SCORMEngineSettings.config

Figure 1.10 is an example of the proper permissions for the SCORMEngineSettings.config file.

Figure 1.10  
Manually  
Updated Per-  
missions for  
the LMS User



## Using Aptify LMS

This section provides an overview of the general process for setting up and using Aptify LMS:

1. An organization identifies the type of material that it wants to provide as on-line courseware.
2. An organization uses a third party authoring tool that is capable of generating SCORM-compliant content to create on-line courseware.
  - SCORM (Sharable Content Object Reference Model) is a standard for developing and deploying on-line/e-learning courseware.
  - See <http://en.wikipedia.org/wiki/SCORM> for general information about the SCORM standard.
  - Aptify LMS supports content that complies with SCORM 1.2 or SCORM 2004.
  - Aptify LMS provides an interface for students to interact with SCORM compliant content. Aptify LMS does not create SCORM content. An organization needs to use a third party authoring tool to create SCORM content.
    - For example, Articulate® offers a set of products that create SCORM compliant presentations and quizzes. See <http://www.articulate.com>.
    - Note that the specific properties of a SCORM-compliant content file are defined within the selected authoring tool and not within Aptify LMS.
  - When creating content for Aptify LMS, keep in mind that each SCORM ZIP file will correspond to one Course Parts record in Aptify. Therefore, if you want to display each lesson as a separate link on an E-Business Class page, then each lesson would need it's own SCORM file.
3. A course administrator imports the SCORM-compliant content files into Aptify. See “Importing On-line Course Content” on page 17 for details.
4. A course administrator creates Courses and Classes in Aptify as needed.
  - See the *Aptify Education Management Guide* for details.
5. A course administrator links the on-line content's Course Parts records to Aptify Courses and Classes as applicable. See “Importing Large SCORM Files” on page 21 for details.
6. Students register for on-line classes and access the SCORM-compliant content over an E-Business site. See “How Students Access On-line Content” on page 27 for details
7. After a student completes an on-line course, a course administrator evaluates the student's results and processes the student's Class Registrations record as necessary. See “Evaluating a Student's Results” on page 34 for details.

## Aptify LMS Topics

This guide provides information on using Aptify LMS in conjunction with Education Management and E-Business. It contains the following chapters:

- [Managing LMS Content](#): This chapter describes how to import SCORM-compliant courseware into Aptify and how to link it to Aptify Courses and Classes.
- [Tracking Course Progress](#): This chapter describes a student's experience with on-line courseware that uses Aptify LMS and how the system tracks a student's progress within the on-line courseware.



# Chapter 2

## Managing LMS Content

### Introduction

This chapter describes how to import SCORM-complaint content into Aptify so it can be displayed on an E-Business site's Education Center. It also describes how to add this content as Course Parts to Aptify Courses and Classes.

- [Importing On-line Course Content](#)
- [Importing Large SCORM Files](#)
- [Adding On-line Content Parts to Courses and Classes](#)

This chapter describes how to import SCORM-compliant content and add it to existing Courses and Classes. See the *Aptify Education Management Guide* for instructions on creating Courses and Classes and for information on how to display Courses and Classes on an E-Business Web site.

### Importing On-line Course Content

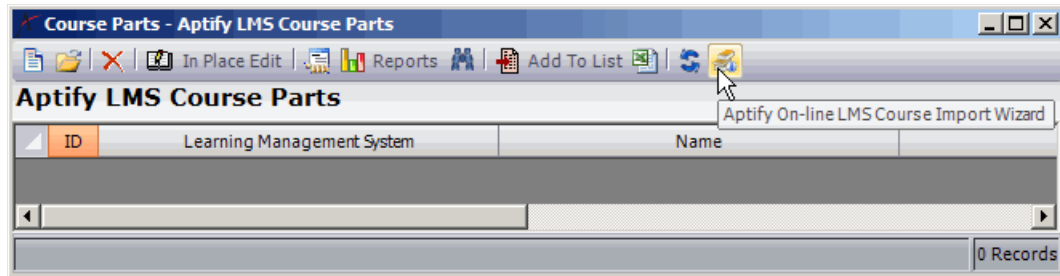
Aptify provides the On-line LMS Course Import wizard to import SCORM-compliant content (contained in ZIP files) into Aptify LMS.

Depending on the size of your SCORM file, you may modify the maximum file size limit in both the IIS service and the SCORM central web config file. See "Importing Large SCORM Files" on page 21 for more details.

Follow these steps to run the wizard to import course content and create corresponding Course Parts records:

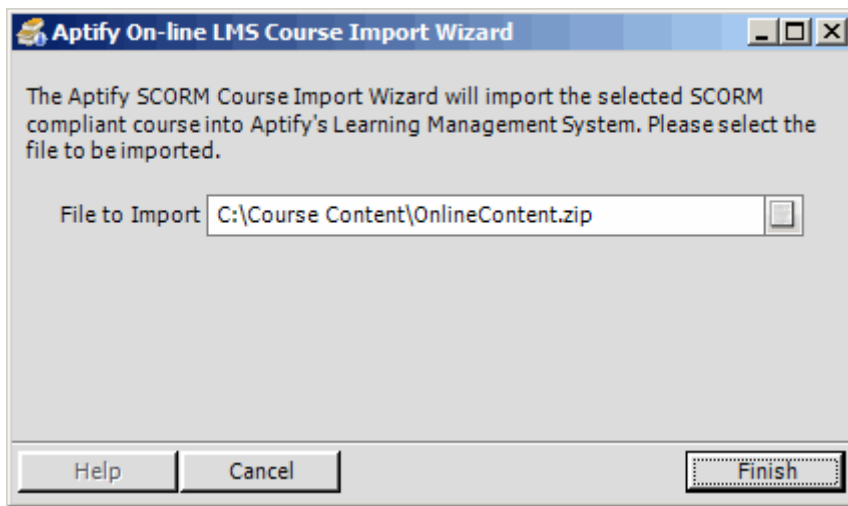
1. Open or create a list view of Course Parts records.
2. Click the **Aptify On-line LMS Course Import Wizard** icon in the view toolbar to launch the wizard.

Figure 2.1  
Course Import  
Wizard Icon



3. Click the icon to the right of the **File to Import** field to browse for the ZIP file that corresponds to the SCORM-compliant content you want to upload to the LMS.

Figure 2.2  
Specify File to  
Import



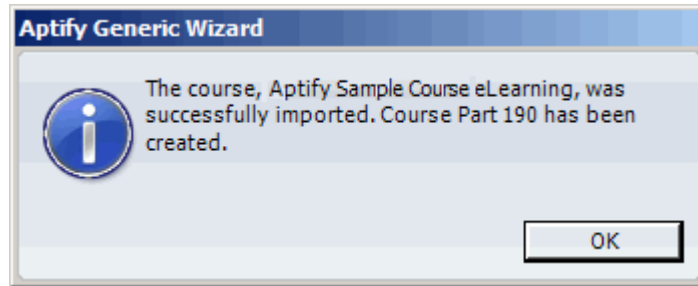
4. Click **Finish** to begin the import process.
  - If an error occurs while attempting to import the SCORM file, a generic error is displayed as shown below. Review the Session Exceptions Log and/or the system's Event Viewer for more details about the error. One possible reason for the error is that the size of the SCORM file being imported is greater than the maximum file size allowed in IIS. See "Importing Large SCORM Files" on page 21 for more details.

Figure 2.3  
Error Mes-  
sage When  
Importing  
SCORM File



5. When prompted that the process is successful, make a note of the Course Parts record that was generated and click **OK**.

Figure 2.4  
Course  
Successfully  
Imported  
Message



6. Review the Course Parts record generated by the import wizard and modify it as necessary.
  - The generated Course Parts record has the **Learning Management System** field set to **Aptify On-line Learning Management System**.
  - By default, the generated Course Part has the following settings that you can modify as needed. Note that these fields are for tracking purposes only and do not drive additional functionality. For example, a Course Part can appear on-line even if its Status is Pending, the Web Enabled box is not checked, or if the current date is after a specified Date Expires.
    - **Type:** Lesson
    - **Category:** Defaults to the Course Part Categories record with ID=1.
    - **Status:** Pending
    - **Duration (in minutes):** 0
    - **Date Expires:** Blank
    - **Web Enabled:** The box is checked by default.

Figure 2.5  
Generated  
Course Parts  
Record

The screenshot shows a web browser window with the title 'Course Parts ID: 190'. The browser's address bar and toolbar are visible at the top. Below the toolbar, there are several tabs: 'General', 'Web', 'Courses', 'Classes', 'Comments', and 'Attachments'. The 'General' tab is selected, and it contains the following fields:

- Name:** Aptify Sample Course eLearning
- Parent:** (empty field with a tree icon and a close button)
- Description:** (empty text area)
- Type:** Lesson (dropdown menu)
- Learning Mgmt Sys:** Aptify On-line Learning Management System (dropdown menu)
- Status:** Pending (dropdown menu)
- Category:** Business (dropdown menu with a tree icon and a close button)
- Duration:** 0.0000
- Date Added:** 1/5/2010 9:47:43 AM (calendar icon)
- Date Available:** 1/5/2010 9:47:43 AM (calendar icon)
- Date Expires:** (empty field with a calendar icon)

See the “Education Management Forms” appendix in the *Aptify Education Management Guide* for more information on the fields that appear on a Course Parts record.

## Importing Large SCORM Files

The IIS service has a default maximum file size limit of 20 MB (20,480 KB). When a SCORM file is imported that exceeds this limit, a generic error is displayed as in Figure 2.3. If it is determined after reviewing the Session Exceptions Log and/or the system's Event Viewer that the file size has been exceeded, an administrator can follow the steps below to make the necessary to increase the size limitations imposed on import file sizes.

It may be necessary to restart the IIS after making any of the changes below.

### IIS 6.0

The file size limit set for the SCORM courses is defined in the ScormContentPlayerCentral's web.config file. The file import size can be increased or decreased by changing this value. By default the size maximum is 20 MB (20,480 KB). Increasing or decreasing the highlighted value below will change the maximum file size. For example, changing the maxRequestLength value to 2097151 will increase the import file size limit to approximately 2048 MB (2,097,151 KB). Depending on the size maximum, the executionTimeout value may need to be increased as well.

- `<httpRuntime maxRequestLength="20480" executionTimeout="300"/>`

### IIS 7.0

The file size limit set for the SCORM courses is defined in the ScormContentPlayerCentral's web.config file. The file import size can be increased or decreased by changing this value. By default the size maximum is 20 MB (20,480 KB). Increasing or decreasing the highlighted value below will change the maximum file size. For example, changing the maxRequestLength value to 2097151 will increase the import file size limit to approximately 2048 MB (2,097,151 KB). Depending on the size maximum, the executionTimeout value may need to be increased as well.

- `<httpRuntime maxRequestLength="20480" executionTimeout="300"/>`

In addition, IIS 7.0 also manages the maximum file size that must be updated in order to import a large SCORM file. The default size allowed by IIS 7.0 is 30MB. The value must be changed through appcmd by altering the requestLimits.maxAllowedContentLength parameter. AppCmd.exe is the single command line tool for managing IIS 7.0.

- `C:\>%systemroot%\system32\inetsrv\appcmd set config "http://localhost/ScormContentPlayerCentral/aptify/AptifyUpload.aspx" -section:requestFiltering -requestLimits.maxAllowedContentLength:2048576000 -commitpath:apphost`

More information regarding the management of Post file sizes can be found at:

- <http://weblogs.asp.net/jgalloway/archive/2008/01/08/large-file-uploads-in-asp-net.aspx>

## Adding On-line Content Parts to Courses and Classes

After you have imported SCORM-compliant courseware into Aptify, the next step is to link the generated Course Parts to Courses and Classes as applicable. Refer to the following sections for details:

- [Adding to Courses](#)
- [Adding to Classes](#)

### Adding to Courses

Follow these steps to add Course Parts to Courses. These Course Parts then automatically flow down to any Classes created for that Course.

These instructions assume that you have already created the Courses record to which you want to link a Course Part. See the “Courses” chapter in the *Aptify Education Management Guide* for instructions.

1. Open the Courses record to which you want to add one or more Course Parts.
2. Click the **Parts** tab and click the **New** icon in the toolbar to open a new Parts record.
3. Enter the name of the part you want to add in the **Course Part** field.
  - This field links to the Course Parts service.
4. By default, the **Require Prior Parts Complete** box is checked. You can uncheck this box, if appropriate.
  - For Aptify LMS, this field specifies that a student needs to complete the prior Course Parts linked to the same course before he or she can access this part’s content on-line. When this box is checked, a student taking a course on-line will not be able to access this part’s content (that is, the hyperlink to the content is disabled) until the prior parts have been completed.
5. Enter any relevant comments.

Figure 2.6  
Parts Record  
for Course

6. Click **OK** to save and close the form.
7. Add additional course parts to the Courses record as necessary.
8. Organize the Course Parts within the Parts grid so that they appear in the order in which you want them to be appear to the student on-line.

Figure 2.7  
Course Parts  
Linked to  
Course

Course Part	Comments
Aptify Sample Course eLearning	
Aptify Quiz	This quiz should only be available after the student completes the r...

9. Save and close the Courses record.

## Adding to Classes

The Parts tab of the Classes record lists the course parts that make up the class, including lessons, quizzes, and labs. Each Classes record can have multiple course parts associated with it. By default, a Class inherits all of the Class Parts specified at the corresponding Courses record when you save the Classes record for the first time, but you can also modify the Parts as needed. Follow these steps to add or modify Course Part information for Classes.

These instructions assume that you have already created the Classes record to which you want to link a Course Part. See the “Classes” chapter in the *Aptify Education Management Guide* for instructions.

1. Open the Classes record to which you want to add or edit one or more Course Parts.
  - If the Course to which the Class is linked has one or more Course Parts associated with it, these Course Parts should have flowed down to the Class automatically when the Classes record was created.
2. Select the **Parts** tab and review the set of existing Course Parts linked to it.
3. Add additional Course Parts to the class as necessary.
  - Click the **New** icon in the toolbar to open a new Parts record.
  - Enter the name of the part in the **Course Part** field. This field links to the Course Parts service.
  - By default, the **Require Prior Parts Complete** box is checked. You can uncheck this box, if appropriate.
    - For Aptify LMS, this field specifies that a student needs to complete the prior Course Parts linked to the same course before he or she can access this part’s content on-line. When this box is checked, a student taking a course on-line will not be able to access this part’s content (that is, the hyperlink to the content is disabled) until the prior parts have been completed.
  - Specify a **Start Date** and **End Date** for this part.
    - If left blank, the Course Part content will be available on-line to students for as long as the class is available (based on the Class’s End Date and the dates specified in the Class Registrations record) and prior parts have been completed (if *Require Prior Parts Complete* is checked).
    - If a Start Date and End Date are specified, the Course Part hyperlink to the on-line content will only be available to students for the date range specified (typically, the Start and End Dates will be less than or equal to the class’s Start Date and End Date). Note that prior parts must be completed before the hyperlink is available (if *Require Prior Parts Complete* is checked).



- If a student accesses the Class page on an E-Business site before the part's Start Date or after the End Date, the hyperlink for that part is not available.
- Enter any relevant comments.
- Click **OK** to save and close the form.

Figure 2.8  
Parts Record  
for Class

The screenshot shows a 'Parts Record' dialog box with the following details:

- Course Part:** Aptify Quiz
- Require Prior Parts Complete:**
- Start Date:** 4/1/2010
- End Date:** 4/30/2010
- Comments:** The quiz should only be available after the student completes the main presentation.

4. Modify any existing parts as necessary to specify Start and End Dates, comments, or to modify the *Require Prior Parts Complete* setting.
  - Double-click a row to open its corresponding Parts record.
  - When specified, the **Start Date** and **End Date** indicate when the Course Part's hyperlink is active on the E-Business site. The part's on-line content can only be accessed if today's date falls in the range specified. Note that if the Start and End Date fields are left blank, then the part's hyperlink is always available (assuming that the class is available for the student and that the previous parts have been completed).
5. Organize the Course Parts within the Parts grid so that they appear in the order in which you want them to be appear to the student on-line.

Figure 2.9  
Course Parts  
Linked to  
Class

Exam		Location		Required Designations		Substitute		Comments		Attachments	
General		Parts		Web		Certificates		Expected Students		Schedule	
Answer Sheets		Registrations									
Find											
Course Part	Require Prior Parts Complete	Start Date	End Date								
Aptify Sample Course eLearning	<input checked="" type="checkbox"/>	4/1/2010	4/30/2010								
Aptify Quiz	<input checked="" type="checkbox"/>	4/1/2010	4/30/2010								
											2 Items

6. Save and close the Classes record.

# Chapter 3

## Tracking Course Progress

### Introduction

This chapter describes how a user interacts with on-line SCORM-compliant content over an E-Business site and how Aptify tracks a student's progress while completing a class and records a student's score (when applicable). It includes the following sections:

- [How Students Access On-line Content](#)
- [Evaluating a Student's Results](#)

This chapter assumes that the reader is familiar with the Education Center functionality provided with Aptify E-Business. Refer to the "E-Business and Education" chapter in the *Aptify Education Management Guide* for details.

### How Students Access On-line Content

The following steps provide an overview of how students interact with SCORM-compliant course content on an E-Business Web site:

1. A course administrator or instructor creates Web-enabled Courses and Classes in Aptify.
  - See the *Aptify Education Management Guide* for details.
  - For classes that use Aptify LMS content, the course administrator also needs to import the appropriate SCORM files into Aptify as Course Parts records using the import wizard and then link those Course Parts to the appropriate Course and/or Class. See "Managing LMS Content" on page 17 for details.
2. The student registers for a class that includes LMS content.
  - With Aptify, students can register for classes on-line on an E-Business site or an Aptify user can register students from the Aptify Smart Client interface. See the *Aptify Education Management Guide* for details.
3. Once registered, the student accesses the class's page on the E-Business site.
  - See the "E-Business and Education" chapter in the *Aptify Education Management Guide* for more information.

Figure 3.1  
Class Details  
On-Line

4. To access class content, the student selects the **Syllabus** option from the list on the left side of the page.
  - The E-Business site displays the list of Course Parts associated with the class. For each Course Part, the site displays the following information from the corresponding Course Parts record:
    - Name (with an active hyperlink when applicable)
    - Description
    - Type (such as Lesson or Quiz)
    - Duration (in minutes)
  - In addition, the Course Part list has a **Status** column which indicates the student's current progress within the class material.
    - When a student access the syllabus for the first time, all Course Parts have a Status of *Not Started*.
    - A Course Part's Status is tracked on the Class Registrations record's Part Status tab (described later in this section).
  - Course Parts that have available content have an active hyperlink.
  - Parts that cannot be completed until all prior parts have been completed are not available and a note appears below the part indicating this requirement.


Figure 3.2  
Class Syllabus

**Class Information**






## Aptify Sample Course eLearning


This is an Aptify sample course.

**Student Status: Currently Registered**

 **Schedule**  
*Starts* 1/1/2010  
*Ends* 1/30/2010

---

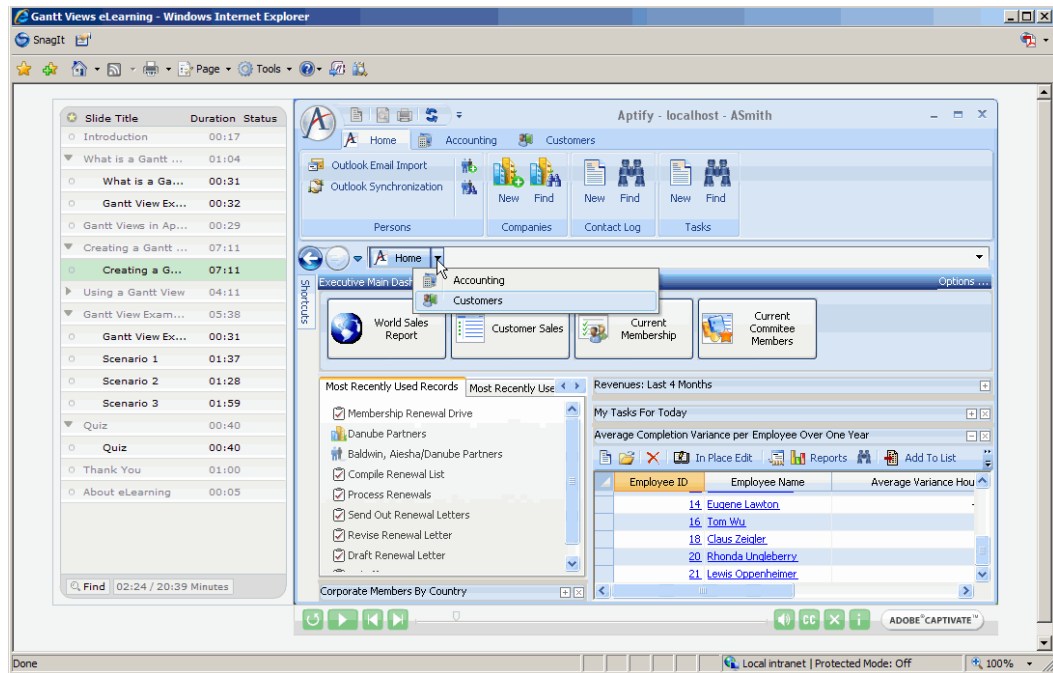
-  [General](#)
-  [Syllabus](#)
-  [My Notes](#)
-  [Discussion](#)
-  [Documents](#)

 **Class Syllabus**

<input checked="" type="checkbox"/>	Item	Description	Type	Duration	Status
<input checked="" type="checkbox"/>	<a href="#">Aptify Sample Course eLearning</a>		Lesson	120 min	Not Started
<input checked="" type="checkbox"/>	<a href="#">Aptify Quiz</a> <small>(All previous parts must first be completed.)</small>		Quiz	30 min	Not Started

5. The student clicks the hyperlink for the first available course part, which opens the content in a separate Web browser window.
  - For Aptify LMS content, E-Business launches the content using the SCORM Content Player (which was added to the E-Business site during the Aptify LMS installation).
  - The example shown in Figure 3.3 is the Aptify 5.0 Gantt View E-Learning course that was created as SCORM-compliant content using Adobe® Captivate (a third-party authoring tool).

Figure 3.3  
Aptify LMS  
Content



6. If the student closes the Aptify LMS content before completing it, the Course Part has a status of *In-Progress* the next time the student accesses the Class's page on the E-Business site.

Figure 3.4  
In-Progress  
Course Part

General		Class Syllabus					
<input checked="" type="checkbox"/>	<a href="#">Syllabus</a>	<input checked="" type="checkbox"/>	<b>Item</b>	<b>Description</b>	<b>Type</b>	<b>Duration</b>	<b>Status</b>
<input checked="" type="checkbox"/>	<a href="#">My Notes</a>	<input checked="" type="checkbox"/>	<a href="#">Aptify Sample Course eLearning</a>		Lesson	120 min	In-Progress
<input checked="" type="checkbox"/>	<a href="#">Discussion</a>	<input checked="" type="checkbox"/>	<a href="#">Aptify Quiz</a> (All previous parts must first be completed.)		Quiz	30 min	Not Started
<input checked="" type="checkbox"/>	<a href="#">Documents</a>						

- Behind the scenes, Aptify created a record on the student's Class Registration Part Status tab to track his or her progress within that Course Part. This record includes the following information:
  - **Course Part:** Link to the Course Parts record accessed by the student.
  - **Status:** Current status of the student within the Course Part's content. The available options are *In-Progress*, *Success*, *Failed*, and *Completed*. Note that if a Course Part is marked as Not Started on the E-Business site, then no Part Status record exists for that Course Part yet on the corresponding Class Registrations record.
  - **Start Date:** The date and time at which the student first accessed the Course Part.

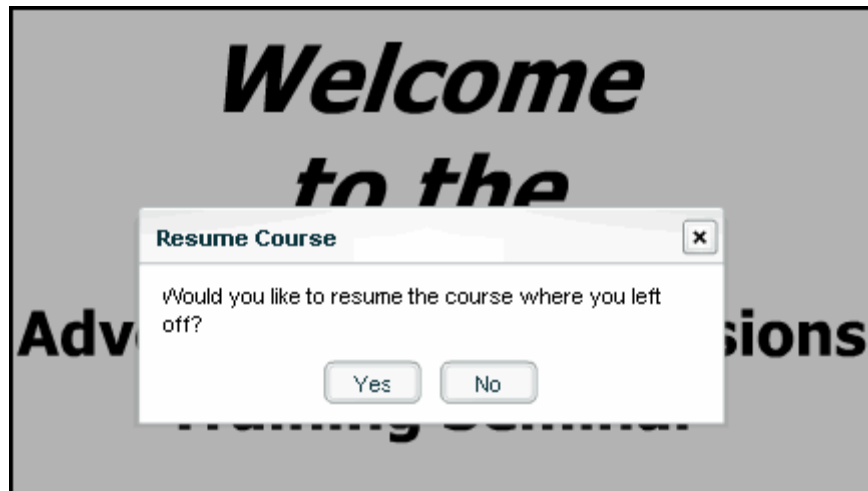
- **End Date:** The date and time at which the student completed the Course Part's content.
- **Time Taken:** The amount of time in seconds that the student has had the LMS content open to date.
- **Score:** If applicable, the student's score for the Course Part once completed. This is normalized on a scale from 1 to 100. This is only applicable for LMS content that has a testing component such as a quiz or exam.
- **Percent Score:** This field stores the same value as Score (since the Score is already normalized on a scale from 1 to 100). As with Score field, this field is only applicable for LMS content that has a testing component such as a quiz or exam.
- **Current Position, Instructor Comments, and Student Comments:** By default, a student's activity on the E-Business site does not populate these fields. An Aptify user can add information to these tab as needed to track any applicable information.

Figure 3.5  
Part Status  
Record

Part Status Record	
General	Current Position   Instructor Comments   Student Comments
Course Part	Aptify Sample Course eLearning
Status	In-Progress
Start Date	1/6/2010 11:33:09 AM
End Date	
Time Taken	432
Score	0
Percent Score	0
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

7. The student returns to the E-Business site at a later point and accesses the incomplete Course Part content again.
  - Depending on how the SCORM-compliant content was developed, the student may be prompted to continue the material from the point at which he or she left off, as shown in the example in Figure 3.6. Note that this is a feature of the authoring tool you select and not configurable within Aptify LMS.

Figure 3.6  
Resume  
Course Part



8. When the student completes a particular course part, he or she closes the part's Web browser and returns to the E-Business site.
  - The Course Part's Status is updated to the appropriate completed status (such as Completed or Success if there is no testing element, or Success or Failed if a test or quiz). Note that the Status options for a particular Course Part is defined in the SCORM content authoring tool.
  - A part that was previously unavailable because the prior parts were not completed is now available for selection (as shown for the Aptify Quiz example in Figure 3.7).
  - If the Class page does not refresh automatically, the student may need to refresh the page manually to update the part's status.

Figure 3.7  
Completed  
Part

Class Syllabus		Item	Description	Type	Duration	Status
<input checked="" type="checkbox"/>	<a href="#">Aptify Sample Course eLearning</a>			Lesson	120 min.	Completed
<input checked="" type="checkbox"/>	<a href="#">Aptify Quiz</a>			Quiz	30 min	Not Started

- Behind the scenes, Aptify has modified the Part Status record to set update the Status, update the Time Taken, and add the End Date.



Figure 3.8  
Completed  
Part Status

The screenshot shows a 'Part Status Record' dialog box with the following fields:

Field	Value
Course Part	Aptify Sample Course eLearning
Status	Success
Start Date	1/6/2010 11:33:09 AM
End Date	1/6/2010 12:42:16 AM
Time Taken	1541
Score	0
Percent Score	0

Buttons: OK, Cancel

- If applicable, Aptify also adds the Score and Percent Score (both normalized out of 100) for Course Parts that include a testing element, like a quiz, test, or exam). The passing score for the test is defined within the authoring tool used to create the LMS content, and Aptify sets the Status accordingly.

Figure 3.9  
Quiz Results

The screenshot shows a 'Part Status Record' dialog box with the following fields:

Field	Value
Course Part	Aptify Quiz
Status	Success
Start Date	1/7/2010 10:33:04 AM
End Date	1/7/2010 10:34:52 AM
Time Taken	77
Score	80
Percent Score	80

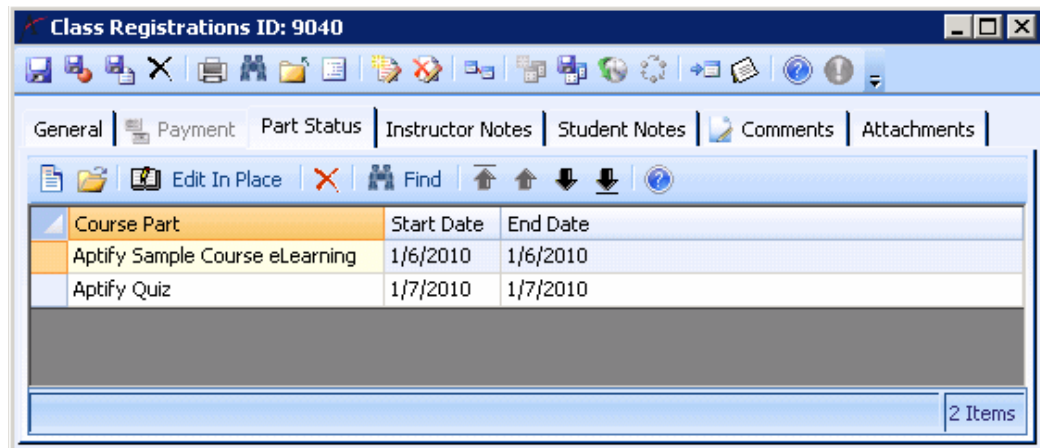
Buttons: OK, Cancel

9. The student continues accessing Course Parts until he or she has completed all of the class material.
10. An instructor or course administrator reviews the student's results, as described in [Evaluating a Student's Results](#).

## Evaluating a Student's Results

When a student completes Course Parts on an E-Business site, Aptify automatically updates the corresponding Class Registrations record for that student to track his or her progress. As described in “How Students Access On-line Content” on page 27, Aptify creates a record on the Part Status tab of a student's Class Registration each time the student accesses a new Course Part for the class.

Figure 3.10  
Completed  
Course Parts



The screenshot shows a web application window titled "Class Registrations ID: 9040". The interface includes a navigation bar with tabs for "General", "Payment", "Part Status", "Instructor Notes", "Student Notes", "Comments", and "Attachments". Below the navigation bar is a toolbar with icons for "Edit In Place", "Find", and other actions. The main content area displays a table with the following data:

Course Part	Start Date	End Date
Aptify Sample Course eLearning	1/6/2010	1/6/2010
Aptify Quiz	1/7/2010	1/7/2010

At the bottom right of the table, there is a button labeled "2 Items".

To process a completed Class Registration, a course administrator (or an instructor) can follow steps similar to what is described below:

1. Student completes an on-line class (that is, the student completes the course parts).
2. Either periodically or at the end of the class period, the course administrator reviews the Class Registrations to determine which ones are complete.
3. For graded classes, the course administrator reviews the student's score on individual Part Status records and determines the student's overall score for the class.
4. The course administrator enters the student's total score on the Class Registrations record's General tab, enters a Date Completed, and modifies the Status accordingly (such as to Passed or Failed, depending upon the student's score in relation to the course's passing score).

Figure 3.11  
Processing a  
Completed  
Class  
Registrations  
record

Class Registrations ID: 9038	
Class	Aptify Sample Course-101-4
Student	Tate, Ian/Continental Airlines, Inc.
Status	Passed
Enrollment Type	Regular
Date Registered	12/15/2009
Date Completed	1/7/2010
Date Available	12/15/2009 3:42:45 PM
Date Expires	1/30/2010
Score	80
Percent Score	80
Order	9863

5. The course administrator saves and closes the Class Registrations record.

See the “Class Registration” chapter in the *Aptify Education Management Guide* for more information on processing Class Registrations records. Note that passing one or more courses can also lead to Certifications, depending on an organization’s Education Management workflow. Working with Certifications is also described in the *Aptify Education Management Guide*.