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# **e-Business Developer Guide**

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Version 5.5

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### Introduction

The Aptify 5.5 e-Business Suite provides a Web interface into the Aptify system. e-Business builds upon the Aptify Framework and Business Applications so that actions performed on the website impact data stored in the Aptify database.

Also, depending on security settings, it allows customer/members direct access to data in Aptify (and the ability to update their contact information when necessary). It also provides the ability for customer/members to place orders and pay for them using credit cards.

Finally, other e-Business functionality, such as Discussion Forums and Surveys, provide a mouthpiece for the community so they can provide feedback to the organization.

Aptify designed e-Business to take advantage of the Microsoft .NET Framework and, specifically, ASP.NET technology. e-Business consists of two major parts:

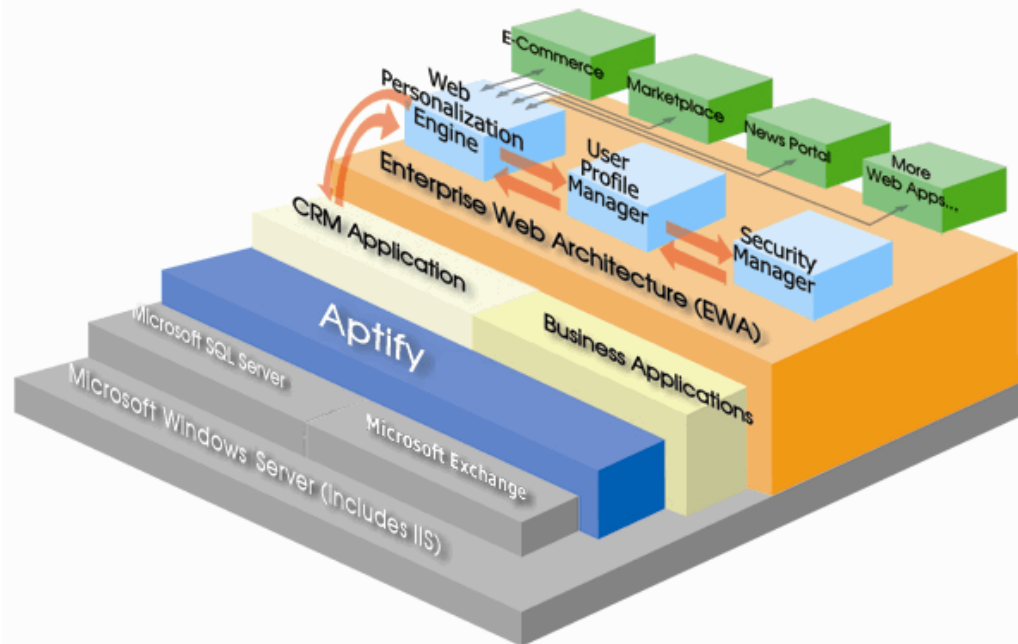
- Aptify Enterprise Web Architecture (EWA)
- Aptify e-Business Sample Site

EWA is the technology that provides extensibility to any Aptify business application to directly connect components to the Web in a secure and defined manner. The EWA technologies are generic in nature, in that they provide services to any Web application that requires functionality, such as user login, authentication, page hit tracking, and personalization.

On the other hand, the sample site includes several business applications that can be used as-is, or configured, for each client using the software. The sample site includes functionality such as e-Commerce (Product Catalog and Shopping Cart), a News Portal, Discussion Forums, Surveys, a Customer Service portal, and Chapter Management (note that Chapter Management is an add-on application for e-Business).

Figure 1.1 shows the overall software architecture for the EWA at a logical level. See the “e-Business Server Requirements” on page 14 for more information about the supported configurations for Aptify 5.5.

Figure 1.1  
Aptify  
Architecture  
with EWA



## e-Business Developer Topics

This guide is specifically focused on the Aptify e-Business Suite and does not cover the fundamentals of the Aptify architecture. Therefore, you should also refer to the *Aptify Developer Guide*, *Aptify Administration Guide*, and *Aptify Software Development Kit (SDK)* as needed for information on the Aptify Framework.

This guide contains the following information:

- [e-Business Developer Requirements](#): This section describes the system requirements and desired skillset for developing and deploying an e-Business website that interacts with an Aptify installation.
- [e-Business Architecture](#): This section describes the architecture of the e-Business Suite in more detail and includes an overview of the out-of-the-box functionality provided with the sample site that can be used as a starting point and as an example when developing your own site.
- [Configuring e-Business through Metadata](#): This section describes how to configure the behavior of the e-Business website using the e-Business entities and the related metadata in Aptify.
- [Integrating with a Content Management System](#): This section describes Aptify's integration architecture for interacting with Content Management Systems (CMS).

- [Integrating with Social Networking Sites](#): This section describes Aptify's framework for integrating with Social Networking sites and details Aptify's out-of-the-box solution for integrating with LinkedIn.
- [Working with an e-Business Site](#): This section describes how to modify the appearance of the sample site and create new content, including how to add new pages, work with existing/create new user controls, and leverage Aptify-generated Web Services. It includes a set of best practice recommendations for working with an e-Business site.
- [e-Business Development Tools](#): This section describes how to open an e-Business website in Visual Studio and provides an overview of the standard user and server controls provided by Aptify for use within an e-Business site.
- [Leveraging the Aptify User Control Generator Wizard](#): This section describes how to use the User Control Generator wizard to create baseline user controls for any entity in Aptify.

# Chapter 2

## e-Business Developer Requirements

### Introduction

The target audience for the *Aptify e-Business Developer Guide* are software engineers who will design and deploy an e-Business website for an organization that leverages the functionality of an Aptify system.

This section describes the assumed skillset of the target audience and the system requirements to successfully develop for e-Business.

- [e-Business Server Requirements](#)
- [End User Browser Compatibility](#)
- [Skills Requirement](#)
- [e-Business Development Requirements](#)

### e-Business Server Requirements

Aptify e-Business provides a self-service Web interface for an organization's customers/members. While e-Business can be hosted on the same computer that is running the Aptify database server (this configuration is suitable for development environments), in general, e-Business is installed on a separate Web server for scalability and security reasons.

This section describes the hardware and software requirements for a computer that will host an e-Business website. Note that these requirements are independent of the requirements for the Aptify database server.

#### Software Requirements

e-Business itself has few specific software requirements, but you should check the software requirements for the CMS (Sitefinity, Ektron or another) that you plan to use.

Aptify certifies on the following:

- Microsoft Windows Server 2008 or Windows Server 2008 R2 operating system running the latest service pack.
- Microsoft IIS 7.0 or higher with ASP.NET 4.0.30319
  - The e-Business installation program will confirm that this software is installed on the computer.

- For new installs, e-Business uses ASP.NET 4.0. If you need to use an earlier version of ASP.NET for your site, you can modify the Aptify e-Business application pool to use a different ASP.NET version after the installation is complete.
- Note that the e-Business installer deploys the ASP.NET 4.0 version of the ComponentArt control for use by the Aptify Web Menu control. If you use this control and need to use an earlier version of ASP.NET, you should replace the deployed version of the ComponentArt control with the one that matches your ASP.NET. You can find other versions of the ComponentArt control in the APTIFY\_550\_eBiz\_UPDATE distribution package.
- To manually confirm that ASP.NET 4.0.30319 is available on the computer, follow these steps:
  - Open the Internet Information Services (IIS) Manager (from *Start > Control Panel > Administrative Tools*).
  - Select the **Default** website in the console tree and open its Properties page.
  - Click the **ASP.NET** tab and confirm that 4.0.30319 appears in the **ASP.NET version** drop-down list.
- Aptify 5.0 Windows desktop application (upgraded to 5.5 by connecting to an Aptify 5.5 database)
- Microsoft .NET Framework v4.0
  - The Web server can be set up with this pre-requisite using the Microsoft .NET Framework Web Installer which can be downloaded at:  
<http://www.microsoft.com/downloads/details.aspx?FamilyID=9cfb2d51-5ff4-4491-b0e5-b386f32c0992&displaylang=en>

## Hardware Requirements

At a minimum, a computer that can run Windows 2008 Server and IIS Server 7.0 can also support the e-Business module. However, Aptify recommends that an organization use a computer with at least the following specifications:

- Dual 3.0 GHz dual-core processor
- 2 GB RAM

# End User Browser Compatibility

This information in this section also appears in the *Aptify e-Business 5.5 Installation Guide*.

Aptify e-Business 5.5 supports the following browsers for end users who will access the site over the Internet:

## Windows Operating System

- Microsoft Internet Explorer 6 to 9
  - Depending on the style sheets and design of your website, you may need to run Internet Explorer 8 and 9 in Internet Explorer 7 compatibility mode.
  - Note that for best results, the e-Business ICE starter site should **not** be set to IE 7 compatibility mode.
- Google Chrome (no reported issues with most recent versions as of March 2012)
- Apple Safari (version 5)
- Microsoft Internet Explorer 9.0
- Mozilla Firefox (no reported issues with most recent versions as of March 2012)

## Macintosh Operating System (OS X)

- Apple Safari (version 5)
- Mozilla Firefox (no reported issues with most recent versions as of March 2012)
- Mozilla Firefox 1.5 and later

Even if a browser, browser version, or operating system is not listed above, this does not necessarily mean that an end user with such a browser will be unable to access an e-Business site.

In the event that a browser or version is not fully compatible with e-Business, the end user should still be able to access the site but may experience a modified visual layout or different behavior when navigating pages than a user who connects to the site with one of the browsers listed above.



## Skills Requirement

This guide assumes that the reader is familiar with the following software tools and design concepts:

- **Microsoft ASP.NET**
- **Microsoft Visual Studio 2010:** The reader should be comfortable writing and compiling ASP.NET code in Visual Studio.
- **Microsoft SQL Server 2008:** The reader should understand entity design and the standard database object types stored in SQL Server 2008 (including Tables, Views, and Stored Procedures). The reader should also be comfortable writing scripts to retrieve data from SQL Server.
- **Aptify Development Practices:** This guide assumes that the reader is familiar with the development practices for Aptify. As needed, refer to the *Aptify Developer Guide*, *Aptify Administration Guide*, and *Aptify Software Development Kit (SDK)* for more information.

## e-Business Development Requirements

This section lists the requirements for developing for Aptify e-Business, including any third party software packages that you may need to obtain. Note that your development computer should meet the software requirements for hosting the e-Business site as described in “e-Business Server Requirements” on page 14.

Aptify recommends that a developer’s computer meet the following minimum hardware specifications:

- Single 3.0 GHz dual-core processor
- 2 GB RAM
- Hard Drive: 200 GB – IDE or SATA

See the *Aptify Developer Guide* for the full set of Aptify developer requirements. This section only addresses those requirements related to e-Business.

The following software is required to modify the sample site or create new content for Aptify e-Business:

- Microsoft® Visual Studio 2010

Additionally, the following products are required to modify certain e-Business controls, as described below:

- Infragistics.WebUI.UltraWebNavigator 8.1
  - Aptify implements functionality from this toolkit in several of the Aptify Web Controls (except the Web menu) and the grid control.
  - You need a license for this toolkit if you intend to modify a Web control that leverages it.
- ComponentArt™ Web.UI Version 2012
  - Aptify developed the web menu control in Aptify e-Business using this tool. You need a license for it if you intend to modify the web menu control in e-Business. The date picker control on the Education Management CEU Submission page also is based on a ComponentArt component.
  - The e-Business 5.5 setup program installs the ASP.NET 4.0 version of the ComponentArt control (version 2012.1.1016.4). However, if your site needs to run on an earlier version of ASP.NET, there is a *ComponentArt Control* folder in the APTIFY\_550\_eBiz\_UPDATE installation package that includes other versions of the ComponentArt control (such as the ASP.NET 2.0 version).

# Chapter 3

## e-Business Architecture

### Introduction

The Aptify e-Business Suite incorporates the Aptify Enterprise Web Architecture (EWA) and the Aptify e-Business Sample Sites. EWA provides a generic services layer that makes it possible for any Aptify-based business application to be leveraged into a Web application. The purpose of the Sample Sites are to provide “out-of-the-box” functionality to users of the software, as well as to provide sample templates, code examples, and projects that can be leveraged for solutions that each installation of the software may need.

In order to provide the appropriate level of architectural understanding of the Aptify e-Business Suite, it is important that the reader of this document have a basic familiarity with the Microsoft .NET architecture and, specifically, have some background on Microsoft ASP.NET and the server control architecture that is prevalent in the ASP.NET architecture.

This architectural review will first discuss how Aptify has extended the Microsoft .NET environment to enable Aptify business applications to directly leverage the .NET architecture. Then, this section will review in detail the Enterprise Web Architecture layer of the e-Business Suite. The chapter ends with a description of the out-of-the-box functionality provided with the Sample Sites.

- [Aptify .NET Architecture](#)
- [Aptify Enterprise Web Architecture \(EWA\)](#)
- [e-Business Sample Sites](#)

# Aptify .NET Architecture

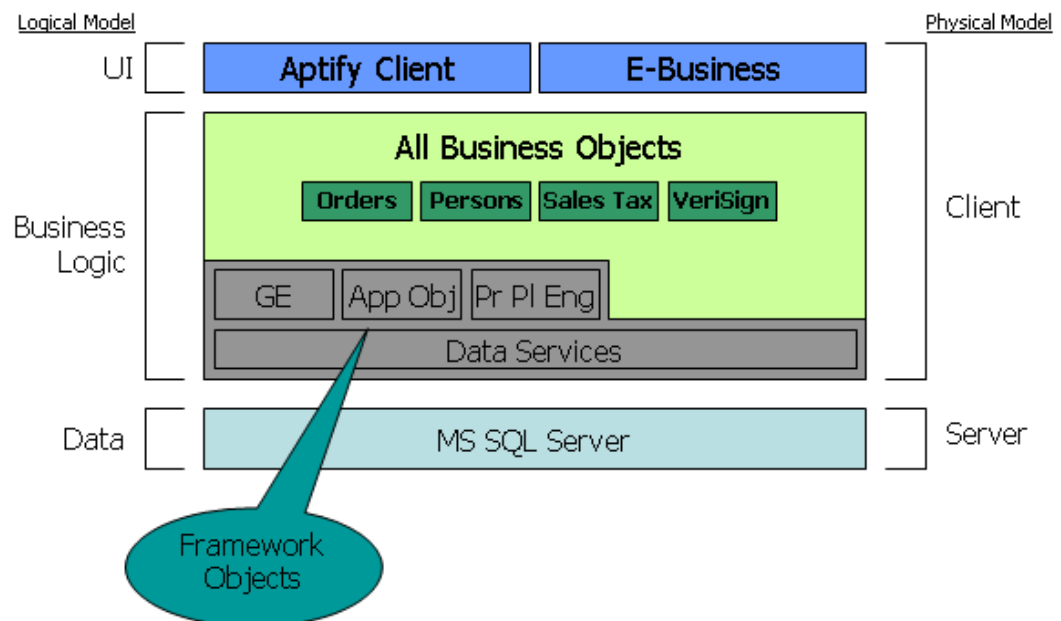
This section of the document describes how Aptify has extended the Microsoft .NET architecture to leverage the Aptify platform technology and take advantage of the best features in the .NET world as well, including the latest advancements in ASP.NET.

Utilizing ASP.NET and the Microsoft .NET framework, e-Business leverages the existing Aptify Framework and Business components to provide an external Web presence for an Aptify system. (Aptify Web Access is available to provide internal users access to the system via the Web.)

e-Business integrates seamlessly with Aptify’s other technologies, as they all rely on a common set of business components and meta-data configurable business logic. Figure 3.1 depicts the layering of components within the Aptify architecture. Note that the architecture follows 3-tier logical development practices, but from a physical deployment perspective, the object layer and user interface layer physically reside in the same location. (In the Business object tier above Data Services is the Generic Entity (GE), Application Object (App Obj), and Process Pipeline Engine (Pr PI Eng).)

Figure 3.1  
Aptify  
Framework  
and Business  
Object Model

## Aptify Framework and Business Objects



The Microsoft ASP.NET architecture represents a major advancement in technology in comparison to its predecessor, Active Server Pages (ASP). Just as ASP provided web developers major improvements compared to technologies preceding it, ASP.NET represents an equivalent leap forward in architecture, scalability, extensibility, and developer productivity.

ASP.NET introduces an environment where web developers creating server-side business applications can create sophisticated functional capabilities more efficiently than ever before. In addition, the ASP.NET environment takes full advantage of the Microsoft .NET Framework and thereby enables all ASP.NET developers to utilize their language of choice using the Common Language Runtime (CLR) in .NET.

Furthermore, since ASP.NET pages are developed using any language that is compliant with the Common Language Specification (CLS) and is designed to run on top of the CLR, ASP.NET pages are “full citizens” in the world of .NET development. In ASP 3.0, developers created pages that were limited to interpreted scripting languages, such as VBScript or JavaScript. While those scripting languages provided substantial productivity enhancements when compared to legacy Web development techniques, such as writing Common Gateway Interface applications, scripting languages provided an environment that was not able to take full advantage of the language capabilities developers of Windows application had long enjoyed. For this reason, the ASP.NET architecture and its full use of the CLR enables Web developers to build applications that are more robust, highly scalable, and more easily modified than ever before. ASP.NET pages also benefit from the fact they are fully compiled components. This has a positive impact on both the security and performance of the site.

One of the most important improvements in the ASP.NET architecture from a developer productivity viewpoint is the advent of Web Forms, and the Server Control Architecture. Web Forms are in many ways like Windows forms. They share a common object model, provide an event-driven programming environment, and are able to be extended through the use of controls. Unlike Windows Forms, Web Forms utilize two different types of controls to render their user interface: Server Custom Controls and User Controls.

For a full description of the difference between User Controls and Server Custom Controls, please refer to *Developing Microsoft ASP.NET Server Controls and Components* by Nikhil Kothari and Vandana Datye (ISBN 0-7356-1582-9). Server Custom Controls are fully compiled, reusable, and abstracted components that can be placed on any Web Form and can be utilized just like any of the built-in Microsoft Server controls. User Controls, on the other hand, are essentially Web Forms that can be embedded inside another Web Form for greater reusability. The Aptify e-Business Suite makes extensive use of both types of controls in the .NET architecture.

## Server Custom Controls

Aptify has developed an extensive set of server-based custom controls that are designed to be directly embedded within the Microsoft Visual Studio environment (although they can be used from any .NET development environment other than Visual Studio, as well) and extend the functionality of Microsoft ASP.NET to be aware of the Aptify platform infrastructure. The general idea is that the Aptify controls are “aware” of the Aptify platform and business applications and can therefore eliminate a great deal of coding that an ASP.NET developer would normally perform.

See “Aptify Server Controls” on page 214 for information on the e-Business server controls provided by Aptify.

## User Controls

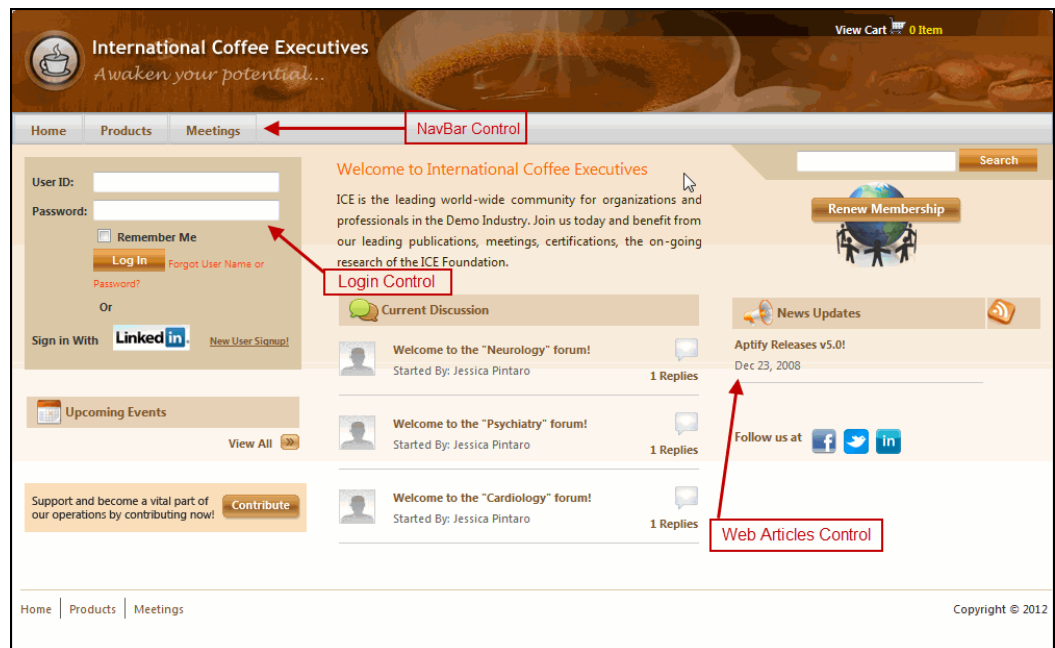
User Controls are a new concept in ASP.NET that are very powerful and can help reduce complexity and improve reuse of web project code. User Controls can be created from any ASP.NET page and are very simple to generate. After taking a page and turning it into a User Control, it is possible to embed that control in any other ASP.NET page. This reusability model eliminates the need for most instances of *#include files* and other similar concepts that are used in traditional ASP code and in other environments such as Cold Fusion.

User Controls are fully compiled components and represent a significant leap forward for web developers as well as site designers who are creating static and dynamic HTML templates. The Aptify e-Business Sample Sites include many example User Controls that the web developer can reuse anywhere they see fit. In addition, it is possible for the web developer to take advantage of these controls by modifying them and thereby having an impact on functionality anywhere the control is used.

Some examples of User Controls in the Sample Sites include the navigation/menu bar, the login, the news section, and more. Figure 3.2 identifies some of the User Controls that are used on the Sitefinity-based Sample Site's Default page. Note that the Header, Footer, and NavBar controls are on the e-Business Default master page.

See "Aptify User Controls" on page 224 for information on the e-Business user controls provided by Aptify.

Figure 3.2  
User Controls  
on Default  
e-Business  
Sample Site  
Page



## Code Behind

ASP.NET introduced a new method for managing code and for separating application code from the layout of the HTML side of the form. This concept is known as “Code Behind” and has been used exclusively within the Aptify e-Business Sample Sites. Traditional ASP code had server and client script code embedded inside of a page as shown in the example below:

### Traditional ASP Inline Code Method

```
<HTML>
  <HEAD><TITLE>DEMO TITLE</TITLE></HEAD>
  <BODY>
    <H1>Heading For Page!</H1>
    <% Server Side Script Goes Here %>
  </BODY>
</HTML>
```

The problem with the above method is that it combines the presentation of the form, such as the HTML tags and layout, with the code in a single file. This makes it harder to manage the code and it also makes it difficult for developers to work with page layout designers since both people need access to the page. Also, in the situation where team development needs to take place, it is difficult for web developers to write complex code and be ensured that it will not be modified in any way by the layout/graphic designers who are focused on the look/feel of the site. The code behind model was developed in ASP.NET to solve these problems.

ASP.NET still supports the model of using in-line code with the `<% %>` tags, however, Aptify recommends only using the code behind technique as it makes pages easier to read and team development more feasible than with the inline code model. In the code behind model, a new file is introduced which is separate from the .aspx file that contains the web form page layout. Depending on the language you are using, the file naming convention will vary, but the idea is that a file will be created with the file name of the aspx file and “.vb” attached, if you are using Visual Basic .NET. An example is shown below.

### Code Behind Model

*File #1 - Demo.aspx (Web Form Layout File)*

```
<HTML>
  <HEAD><TITLE>DEMO TITLE</TITLE></HEAD>
  <BODY>
    <H1>Heading For Page!</H1>
    <asp:Label id=lblDemo runat=Server></asp:Label>
  </BODY>
</HTML>
```

*File #2 - Demo.aspx.vb (Code Behind File)*

```
Public Class Demo
    Inherits System.Web.UI.Page
    'Additional Code Goes Here in a real page
End Class
```

This model results in two distinct .NET classes being created, the first being the class that represents the code in the “code behind” file, and the second class being the page itself, which inherits from the code class. The user controls deployed in the Aptify e-Business Suite Sample Sites were coded in Visual Basic .NET in order to appeal to the majority of the users of the platform and for this reason, all of the code behind files are named with a .vb extension.

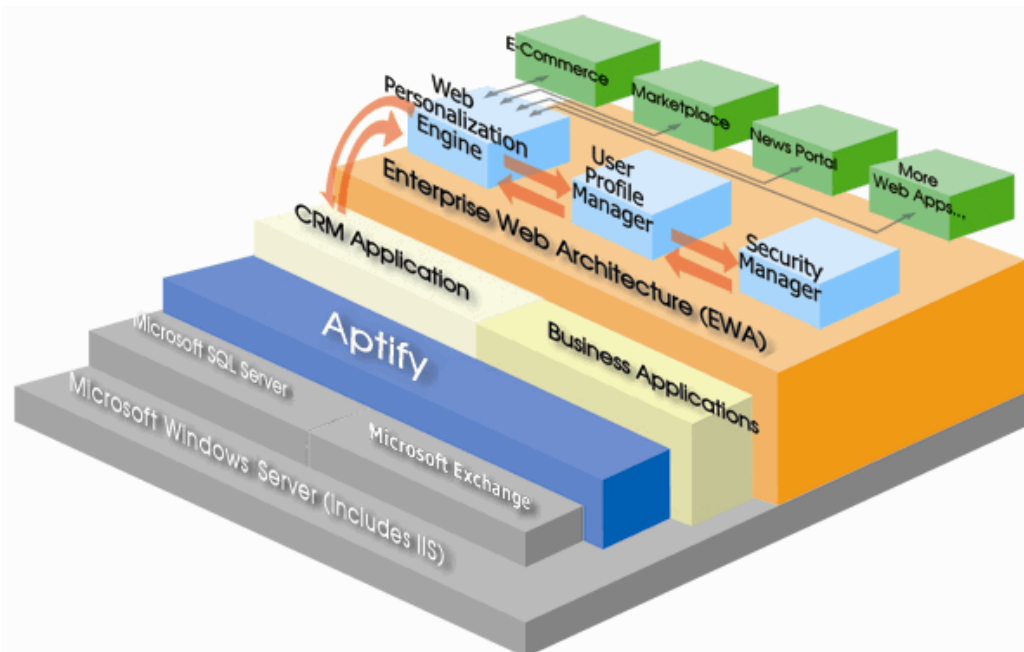


## Aptify Enterprise Web Architecture (EWA)

Aptify Enterprise Web Architecture is a .NET web-based framework that extends the existing Aptify architecture, enabling the use of the same business logic layer used by internal business applications. The Enterprise Web Architecture is designed to allow rapid web application development, deployment, and maintenance of existing and new Aptify business applications. Enterprise Web Architecture provides a seamless integration of existing internal Enterprise Resource Planning (ERP) solutions from Aptify, as well as across other vendor applications. This innovative architecture provides users with greater accessibility to the Aptify back office applications with transparent integration technology.

Figure 3.3 shows the architecture of the EWA and the generic layer of functionality provided by the EWA. (Note that the orange box represents generic, web-oriented functionality that is abstracted into the EWA layer of the architecture.) See the “e-Business Server Requirements” on page 14 for more information about the supported configurations for Aptify 5.5.

Figure 3.3  
EWA  
Architecture



One of the major design goals of the EWA was to ensure that business applications created for the web could be complete, extensible and could also share common functionality. This is a similar design objective to the overall Aptify platform approach, but contains functionality specific to the web.

For example, the EWA contains a set of generic components for user authentication, logging a user in and out of a site and for managing the groups that each user belongs to. This type of functionality is needed by nearly all web applications, but is generally implemented by each web application in a way that is embedded within the application and therefore not extensible or reusable.

The design objective at Aptify for creating the Enterprise Web Architecture was to abstract those functions or capabilities that would be useful for most business applications developed for the web. In addition, the purpose of creating the EWA was to create a platform that would be easy to integrate with existing web applications that users of Aptify may have in place.

The EWA contains a set of components, interfaces, and meta-data services that form a framework that can be extended by any web-based business application. Aptify ships two e-Business Sample Sites as part of the e-Business Suite that leverage the EWA to build functionality for commonly required business applications, such as e-Commerce, Customer Service, and more. The purpose of this section is to describe the generic services layer in the Enterprise Web Architecture itself, so that the subsequent discussions on specific controls and areas of functionality will fit into context accordingly.

## User Authentication

Most web applications require the ability to have a user log in to the site at some point in order to access portions of the functionality of the site. For example, an e-commerce application will require a user to “register” or “login” to the site prior to committing a transaction. However, some applications will have some form of content available to users who are not logged in yet to the site as well. The application needs to be able to control what content to display and what functionality to make available, and in order to do so, it is critical to be able to determine in a reliable manner who the currently logged in user is. The EWA provides a mechanism for doing so and also has a set of database entities in Aptify for managing user accounts. This central repository for user accounts and the components and meta-data that drive the user authentication services in the EWA are entirely extensible and can be leveraged by any application that is going to be placed on the web. In addition, it is possible to login a user to the site programmatically, using the EWA controls, and that capability makes it easy to integrate EWA based applications with existing websites and authentication models that may already exist in the computing environment.

See “e-Business User Process” on page 41 and “Creating users from within Aptify” on page 60 for more information on managing users on an e-Business site.

## User/Group Management

Managing user accounts is critical to most web applications, as is the concept of managing groups or roles. EWA provides the underlying database entities in Aptify for creating groups of users and associating groups with individual user accounts. In addition, it is possible, through the assignment of privileges in various areas of the EWA framework, to assign rights to users based on their group membership. Group-based permissions are an efficient way of

managing the site functionality since it allows an administrator to define a logical grouping of rights/permissions based on each role that a user may take on. Subsequently, when adding a user to a given group in the EWA layer of the architecture, the user will automatically obtain the permissions associated with the group(s). This mechanism, since it is generic in nature, is built into the EWA layer of the e-Business architecture and is extensible and accessible from any application.

## Page/Content Security

Pages within each site must be secured based on the application type and the determination of the system administrator. In many applications, code has to be built for each page in order to determine what type of security access is required for a given page or sub-component of content. One of the areas of functionality in the EWA is to automatically handle page security and User Control security, via a declarative model that eliminates the need to write code. It is possible to declare **Web Modules**, which are logical groupings of pages. These Web Modules can then be made available to individual users or groups, or in the case of public content, marked as being available to all users. This functionality is generic and built into the EWA layer of the software and is used by all e-Business applications provided by Aptify and is reusable for new applications to be developed.

## Page Hit Tracking

One of the more common goals of many websites is to track the effectiveness of content as well as specific promotions and navigational models. Capability has been built into the Enterprise Web Architecture to automatically log page hits down to the page level. The hit tracking functionality drives data into an Aptify entity called user Activity. This data can be used to analyze site traffic as a whole, but each record also links directly back to the individual user.

## Navigation

Navigation throughout a site can become complex over time as a site grows and new applications are added. In addition, when you take into account the fact that different users have different permissions to various areas of content and applications, the navigation becomes increasingly complex. In order to simplify the model for providing users with navigational capabilities, but without imposing any specific look and feel for navigation, Aptify has created a set of metadata entities and controls in the EWA to provide functionality for navigating to any area of the site, in a secure and streamlined fashion. The Web Menus entity manages the navigational aspect of the EWA.

## Hierarchical Data Display

Many areas of Aptify applications contain data hierarchies. For example, companies can have subsidiaries, products can have parts, categories of data frequently have sub-categories, and so on. Since hierarchical data is so common in many business applications, Aptify has created a specialized control that is part of the EWA that eases the process of displaying hierarchical data to an end user on the Web, and supports both up and down level browser capabilities with auto-detection. This control is called the Aptify HierarchyTree control and it is used in several areas of the e-Business Sample Site. See “Hierarchy Tree” on page 215 for more information on this server control.

## Integration with Content Management Systems

Aptify e-Business provides an integration architecture for delivering content from a third-party Content Management System (CMS) on an e-Business site. In addition, Aptify e-Business includes “out-of-the-box” integration with Sitefinity and Ektron, which are leading content management solutions. See “Integrating with a Content Management System” on page 91 for details.

## e-Business Sample Sites

This section describes the Aptify e-Business Sample Sites and the functional areas that are available out-of-the-box that can be used as a starting point for an organization-specific e-Business site. From a functional perspective, the two Sample Sites are identical and they both illustrate how to use Aptify ASP.NET user controls to interact with an Aptify database. One sample site is a standard ASP.NET site, and the second site uses Sitefinity 4.4 (which is also referred to as the ICE site, since it based on a fictitious organization called the International Coffee Executives). The images shown below are from the Sitefinity sample site. The areas of functionality are sorted based on the Web Menus as they appear to a user who is logged into the website. The various menus are described below from left to right:

Figure 3.4  
e-Business  
Sample Site



### Home Page

The Sample Site Home page (accessed from the Home menu item) includes a Login area and links to other areas of functionality (such as recent Discussion Forum posts and upcoming meetings, which are described later in this section).

The Home page also includes a Breaking News section which displays Web Articles (from the Web Articles service in Aptify – the display of Web Articles can be driven by a common Topic Code link between a Web Article and the logged in user's Persons record). This feature uses the Web Article Categories and Web Articles services in Aptify's e-Business application. Also, the sample site includes an example RSS Feed for Web Articles that can push new content to users.

The personalized news portal for Web Articles utilizes the Topic Code capabilities built into the Aptify platform to associate news content with an individual's preferences and interest areas. This news portal functionality is available via a set of pages specific to the news portal and is also available as a User Control that can be embedded on any other page with full or filtered content. An example of the use of this User Control is on the main default.aspx page on the e-Business site.

Finally, the Home page includes a sample Fundraising functionality that generates an order to record a donation. However, note that this sample functionality does not provide out-of-the-box integration with Aptify's Fundraising Management application.

## Products

From the Products menu, a user can:

- Browse the Product Catalog of web-enabled products by category. One of the common requirements in a catalog is the ability to display to the user their current location within the hierarchical catalog of products and to make it easy to navigate between products. This is done through two mechanisms in the sample site, which are both fully configurable and extensible in the .NET environment:
  - First, the ProdCategoryBar user control displays the available web enabled categories and sub-categories.
  - Second, a control called the ProductCategoryLinkString has been developed specifically for the e-Business Suite Sample Sites for the product catalog (see "Product Category Link String" on page 216).
- Search for a specific Product.
- Browse featured products.
- Once on a Products page, the user can see the per-unit price, its availability (in stock/out of stock), and any member savings over a non-member price (if the currently logged in user is a member). The user can also add the product to the Shopping Cart.

## Meetings

This menu option opens the Meeting Schedule page that allows users to browse Web-enabled meetings by date. A users can choose to view meetings in the standard grid format or in a calendar view. After selecting a meeting, the user is directed to that meeting's Meeting Center page that provides information obtained from the Meetings record in Aptify. A user can initiate on-line registration from this page. On-line registration integrates with the standard shopping cart functionality described later. Aptify's Discussion Forums functionality also integrates with this application so a meeting coordinator can create an on-line discussion forum for meeting attendees/registrants accessible from the Meeting Center page for that meeting.

## Education

This menu option opens the Education Center. This option is only applicable for organizations that use the Education Management add-on application. Similar to the Meeting Center, users can browse information about Web-enabled Courses and Classes and register for classes on-line. Course instructors can also add a discussion forum for a class that is available for class registrants. Authorized course instructors can manage class information from an Instructor Center that only appears on the Education Center page for users whose corresponding Persons record is listed as an instructor for an on-line course. Aptify's Discussion Forums functionality also integrates with this application so an instructor can create an on-line discussion forum for students that is accessible from the Class's Web page.

## Customer Service

This section of a website needs to reflect the unique characteristics of the organization's relationship with its customers. The functionality included in the sample site is intended to be an example of what can be included, but is designed to be easily extended. It is important to remember that every entity and application in Aptify can be leveraged in the Enterprise Web Architecture, so it is possible to securely connect any of the existing business applications that are built on top of Aptify to the Web in the manner shown via a Sample Site.

The Customer Service menu includes the following sample functionality:

- **Login:** Opens a page where a user can log in to the site. This page utilizes the Login Control that is part of the Sample Sites. While the login user control is also used on the home page and can be used elsewhere on the site based on the needs of the site, this page provides a place for the user to consistently access the login/logout functionality of the site as well as create a new profile if needed.
- **View/Edit Profile:** A user can modify his or her profile and address. This page utilizes the User Control to update the information in the database. In EWA, the users entity replicates some of the information in the Person entity in order to improve performance for logins. The User Control updates both entities automatically, so the logic in this page

is a good example of how to bind data to a custom control programmatically and is extremely easy to extend. It is possible to add/remove fields and attributes to this page as required by the site.

- **Topics of Interest:** An important aspect in the Customer “Self-Service” model is the ability to allow a user of the site to specify his or her preferences with regard to content. From this page, a user can check and uncheck topic codes – this can drive other personalization functionality, such as the Web Articles that appear in the Breaking News section on the Home page. This page displays the system's Topic Codes in a hierarchy format and allows users to select any of the available codes that apply to them.
- **Open Cart:** Opens any shopping cart that a user has saved previously.
- **Order History:** Provides a table of the user's orders to date. This page utilizes the .NET DataTable component to execute a simple query to the Aptify Order Entry application database and return a list of orders. In addition, the Microsoft ASP.NET DataGrid control is utilized to render the contents of the query in a list format. The user can then select any particular order from that list to display the order's full details.
- **Make a Payment:** Provides an interface for a user to pay off the balance of one or more outstanding orders. The purpose of this functionality is to increase efficiency for receiving installment or partial payments from customers over the Internet, as opposed to having to manually process them. The Payments page is a good example of how to use the underlying Aptify business objects from ASP.NET to execute business process logic in the internal system.
- **Renew Membership/Subscriptions:** A user can renew a subscription or membership from this page. It leverages the Generic Entity object model and the specific entities in Aptify that are responsible for subscription management to enable this functionality securely and for the specific user only, via the ASP.NET user interface.

## Community

- **Abstract:** users can submit and review abstracts on an e-Business website. This feature uses the Abstract Categories and Abstracts services in Aptify's e-Business application.
- **Chapters:** This option is only available for organizations that use the Chapter Management add-on application. It provides on-line access to chapter information. users who are in the Chapter Officers Web Group can view their chapters, add members to their chapter, add meeting information for their chapter, and search for other chapters (including a proximity search to find chapters within a certain distance from a specified location).
  - Services related to this feature are grouped together in Aptify's Chapter Management application.
- **Committees:** users who are members of the Committees Web Group can view his or her committee memberships and a list of committees. Committee pages include:



- **My Committees:** This page displays a list of committees that an individual is currently serving on and also displays a drop down list that allows the user to view prior and future committee assignments. This page uses the Aptify Application object and the ASP.NET DataGrid control to render its functionality over the browser.
- **Committee Listing:** This page shows a list of all current and future committees that are in place for the organization. This page allows a user to see committee information as well as the head of each current term of each committee. Similar to the My Committees page in structure, this page uses the Aptify Application object and the DataGrid component.
- **Directories:** users can search and browse for Persons, Companies, and Market Place vendors. Note that Persons and Companies with the *Exclude from Directory* box checked in Aptify do not show up in the Directory listings by default.
- **Forums:** This menu option provides access to Aptify's threaded Discussion Forums where users can engage in on-line discussions and share documents, if applicable. Discussion Forum include many of the functional areas that organizations have desired for their on-line presence including:
  - **Multiple Forums:** The Discussion Forum application includes the ability to create any number of discussion forums or groups in a hierarchical format so that discussions may contain sub-discussion. For example, it is possible to create a category such as "Sports" and to create sub-categories under this category for "Baseball," "Football," and so on. This functionality allows an organization to maintain communities for discussion at any level of granularity needed for its unique needs. In addition to the browsing hierarchy of categories, an organization can easily create discussion forums tied to Meetings or Classes.
  - **Discussion Threading:** The Discussion Forums application allows complete and unlimited-depth threading where responses to messages can be tracked back to the individual message responded to as well as the first message of discussion in that thread. It is possible to view messages in each forum in a standard, chronological view as well as in a threaded view.
  - **Document Sharing:** Users can share documents in an intuitive, easy to use way on-line by attaching one or more documents to a specific forum message.
    - Services related to this feature are grouped together in Aptify's Discussion Forums application. See the *Aptify e-Business Discussion Forums Guide* for more information on this application.
- **Market Place:** Aptify provides the framework for an on-line Marketplace for posting ads on a website. users can browse the on-line ads and click a link to be taken to the advertiser's Web page. users in the Marketplace Administrators Web Group can also create new listings on-line, which in turn generate orders in Aptify (assuming that the advertiser is paying for the posting). This feature uses the following services located in Aptify's e-Business application:

- **Marketplace Categories:** Stores the set of categories that can be assigned to marketplace listings created on-line.
- **MarketPlace Information Requests:** Tracks a user's request for more information about a particular listing. This service is reserved for future use.
- **MarketPlace Listing Types:** Stores the set of available listing types that can be assigned to a listing submitted on-line. Each listing type ties to a Products record, which contains pricing information for the listing.
- **MarketPlace Listings:** Stores the marketplace listings that are submitted on-line and displayed on the website. Note that when a marketplace listing is submitted on-line, Aptify creates a new record with a Requested status. This listing does not appear on-line until an Aptify user changes the record's Status from Requested to Approved. This generates an Orders record in Aptify and places the listing on the e-Business website.
- **Surveys:** A user in Aptify creates surveys using Aptify's Survey Management dashboard and makes them available for on-line participants. Then, users can complete on-line surveys on a variety of topics. The survey results are stored in Aptify for future analysis. See the *Aptify e-Business Survey Management Guide* for more information on this application.
- **About...:** This menu item links to pages that provide information on Aptify's Enterprise Web Architecture and Aptify's ability to integrate with XML Web Services.
  - XML Web services are the fundamental building blocks in the move to distributed computing on the Internet. Applications are constructed using multiple XML Web services from various sources that work together regardless of where they reside or how they were implemented. Aptify and the Enterprise Web Architecture components form a layer of advanced technology atop Microsoft .NET, ASP.NET and the XML Web Services Engine in .NET. The power of Aptify and the EWA, enable 100% of your Aptify-based applications to be directly leveraged to the web via .NET Web Forms and .NET XML Web Services. See "Using Web Services" on page 186 for more information on using Web Services with e-Business.

## View Cart

A user opens his or her shopping cart by clicking this button. Aptify provides a check-out mechanism for a user to review his or her order, specify Ship To and Bill To addresses, and provide a credit card to pay for the order. The E-Commerce functionality in the Sample Site includes these features:

- **Extensibility:** Like all areas of the sample site, the shopping cart and product catalog are completely configurable and extensible. However, the functionality provided in the sample site is intended to provide the majority of what many organizations will require for E-Commerce needs.
- **Ability to Easily Add Products to a Cart:** The ShoppingCart control contains the functionality to add product(s) to the cart programmatically and simplifies the process of managing the cart greatly. The standard Product pages that are part of the Sample Site can therefore be easily modified and new pages can be created that add products to the shopping cart from any location in the site. For more details, see “Shopping Cart” on page 217.
- **View Cart Page:** This page itself contains very little code to render the display. The ShoppingCart control contains several methods that make it easy to obtain the dataset within the shopping cart and thereafter render it in any data-bound .NET control. The View Cart page utilizes these controls and techniques and is a good example of how an Aptify e-Business Sample Site integrates with ADO.NET, ASP.NET and the .NET data binding architecture to improve flexibility and decrease development time.
- **Check-Out:** The process of checking out of the e-commerce application is necessary for a user to commit their order and receive confirmation of its receipt. This functionality is built into the e-Business Sample Sites, and leverages the aforementioned technology areas in the View Cart page. In addition, several pages have been created to illustrate the concept of an “Address Book” that users of the site can manage with a list of addresses they would like to link to orders for shipping and billing purposes. This functionality utilizes the ShoppingCart control as well as several other areas of the EWA control suite.
- **Cart Persistence:** The e-Business Sample Sites contain functionality for allowing a user to “Save” their shopping cart and later “Load” that cart for review and check-out (from the Open Cart page, described in “Customer Service” on page 31). This functionality is useful in several ways. First, it allows the user to save a cart and come back to it at a later time in case they do not want to commit the order during the same session. Secondly, it allows the site administrator/developer, to set up rules to automatically save a user’s cart when they log out or if their session times out, and to attach business processes (using Aptify’s Process Pipeline technology) to handle such situations. The e-Business Suite Sample Site Cart persistence functionality utilizes EWA components for User Authentication and User data in order to ensure that the user is saving/loading cart information that they have rights to access.

# Chapter 4

## Configuring e-Business through Metadata

### Introduction

This chapter describes some of the basic operations of the e-Business website and how to configure the information displayed on-line through Aptify metadata (stored in the e-Business application services).

This chapter contains the following sections:

- [e-Business Applications and Services](#)
- [e-Business Metadata Configurations](#)

### e-Business Applications and Services

When you install the e-Business server components on the Aptify database server, the installer adds an *e-Business* application, which stores information related to the activity on an e-Business website.

(Note that in addition to the e-Business application, the installation process also adds Discussion Forums, Surveys, and Content Management applications for the services related to those features. See the Discussion Forums and Surveys guides for details on Discussion Forums and Surveys. See “Integrating with a Content Management System” on page 91 for information on the Content Management application. Also, a separate installation program is available for Chapter Management, which adds an additional application and related services to Aptify.)

The following list provides an overview of the services that appear in the e-Business application and their primary function:

#### e-Business Framework Services

This section lists the e-Business Framework services that drive the basic functions of an e-Business website:

- **RSS Channels:** Stores the details for Really Simple Syndication (RSS) 2.0 feeds that push content out to subscribers.
- **Web Clickthrough:** Tracks website hits based on a visitor’s source (such as a bulk email message). This information can be used to determine the effectiveness of a marketing campaign.

- **Web Groups:** Specifies the set of Web Modules that a user who is a member of this group can access.
- **Web Menus:** Stores information about the items that appear in the menu bar and determine which Web Groups can access a particular item. Web Menu security can either be specific to the menu (in which case, the allowed Web Groups appear on the record's Group Permissions tab) or the permissions can flow down from an associated Web Module (if a user is in a group with access to the module, then the menu displays).
- **Web Modules:** Each Web Module is a logical grouping of Web pages and typically corresponds to a virtual directory in IIS. Each page on an e-Business site is linked to a Web Module, which in turn determines whether or not a user can access the page (in other words, the user must be in a group that has access to the module to view the page). EWA automatically handles page security based on Web Module designation.
- **Web Shopping Carts:** If a user saves a shopping cart for a future check out, Aptify stores information about that saved cart in this service.
- **Web User Activity:** Tracks information about the pages accessed by a user during a session.
- **Web Users:** Tracks information about customer/members who access the e-Business site. When a customer creates a login on the website, Aptify automatically creates a users record for that person.

Note that the **Web Applications** service falls into this e-Business Framework category but the service is currently reserved for future use.

## Application-Specific Services

The following application-specific services appear in the e-Business application with Aptify:

### Abstracts

- **Abstract Categories:** Stores the set of categories that can be assigned to abstracts submitted on-line.
- **Abstracts:** Stores the abstracts submitted on-line.

## Marketplace Listings

- **Marketplace Categories:** Stores the set of categories that can be assigned to marketplace listings created on-line.
- **MarketPlace Information Requests:** Tracks a user's request for more information about a particular listing. This service is reserved for future use.
- **MarketPlace Listing Types:** Stores the set of available listing types that can be assigned to a listing submitted on-line. Each listing type ties to a Products record, which contains pricing information for the listing.
- **MarketPlace Listings:** Stores the marketplace listings that are submitted on-line and displayed on the website. Note that when a marketplace listing is submitted on-line, Aptify creates a new record with a Requested status. This listing does not appear on-line until an Aptify user changes the record's Status from Requested to Approved. This generates an Orders record in Aptify and places the listing on the e-Business website.

See "Aptify Marketplace" on page 250 for general information on the Marketplace Listings sample site functionality.

## Web Articles

- **Web Article Categories:** Stores the set of categories that can be assigned to Web Articles displayed on-line.
- **Web Articles:** Stores the web articles displayed on the website.

See "Creating Web Articles" on page 69 for information on creating Web Articles that can appear on an e-Business site.

## e-Business Metadata Configurations

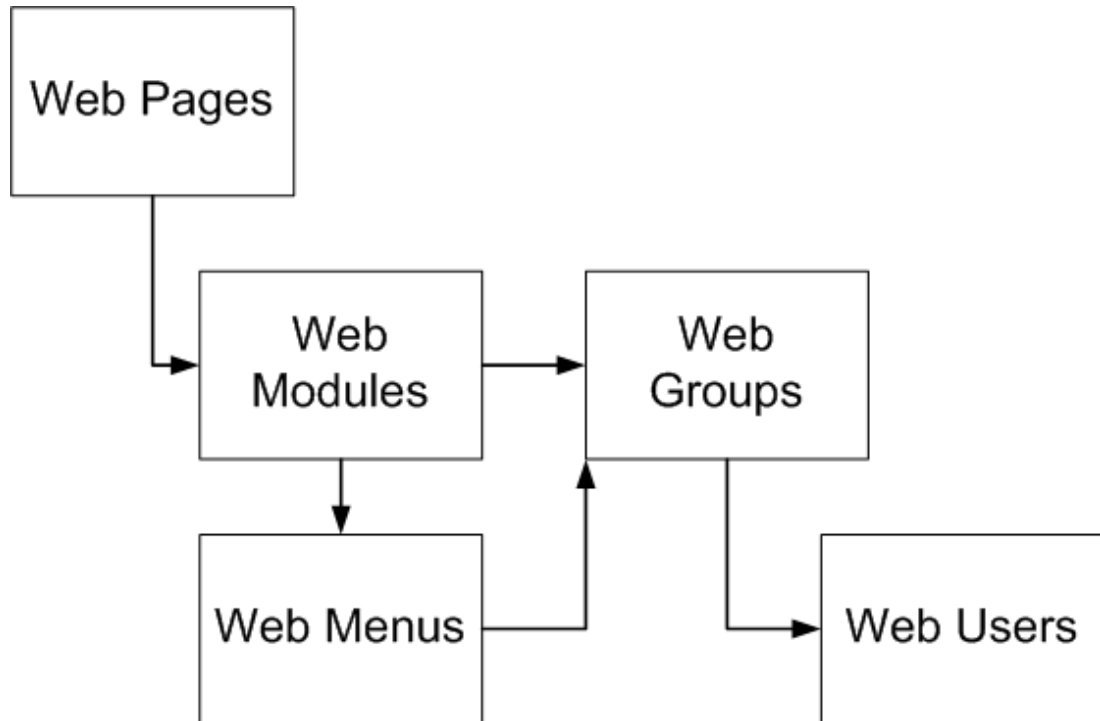
This section describes the e-Business Security model and how Aptify metadata controls system behavior for functionality such as user access and the layout of the Web Menu.

It contains the following information:

- [e-Business Security Model](#)
- [e-Business User Process](#)
- [Understanding and Creating Web Modules](#)
- [Configuring the Web Menu](#)
- [Creating Web Groups](#)
- [Creating users from within Aptify](#)
- [User Sessions](#)
- [Defining the Fields in the Session Object](#)
- [Automatically Shipping On-line Orders](#)
- [Controlling Featured Products](#)
- [Specifying Campaign Match Logic](#)
- [Defining a PO Payment Type for Web Orders](#)
- [Creating Web Articles](#)
- [Creating RSS Channels](#)
- [Automating Email Unsubscribes](#)
- [Configuring Clickthrough Tracking](#)
- [Configuring Items for Download After Purchase](#)

## e-Business Security Model

The following diagram provides an overview of the e-Business Security model.



- Each page on an e-Business website is linked to a Web Module. A Web Module is a logical grouping of Web pages and typically corresponds to a virtual directory in IIS.
- An administrator specifies the Web Modules that a Web Group can access.
  - Web Modules support two access models: **Allow Public** (available for all site visitors) or **Allow Group Security** (available only to users in specified Web Groups). For Web Modules that use Allow Group Security, an organization further restricts the set of users who can access it by applying User Filters. See “Understanding and Creating Web Modules” on page 44 for more information.
- An administrator specifies the Web Menus that a Web Group can access. (Web Menu security can either be inherited from an associated Web Module or configured explicitly.)
- An administrator associates a user with one or more Web Groups. The user can then access those pages and menus to which his or her affiliated groups have access.



## e-Business User Process

This section describes the behind-the-scenes activity that takes place when a customer/member accesses the e-Business site.

1. A customer/member connects to the e-Business website and can access the baseline content that is available to the public.
2. The customer/member logs in to the site. There are two ways in which a customer/member can obtain a user account:

Note that a user's password must meet the minimum requirements defined by your organization in the website's Web.config file. Also, you can configure a maximum number of login attempts after which the account is disabled and must be reactivated by an administrator. See "Overview of the User Control Web Config File" on page 168 for details.

1. An employee of the organization (who is an Aptify user) can create users directly from within Aptify. See "Creating users from within Aptify" on page 60 for instructions.
2. A customer/member can create a new user account directly on the e-Business website. When the customer/member submits the required account information, Aptify automatically generates a users record for the customer/member. This record contains the user name, password (encrypted), and general contact information for the user. The system also performs the following functions:
  - Creates a Persons record (and Companies record, if a company is specified) using the information submitted on-line and adds a link to this new record on the users form.
  - Adds the user to any Web Groups that have the **Auto Add To New User** option specified.

Figure 4.1  
Web Users  
Record

The screenshot shows a web application window titled "Web Users ID: 6". The window has a standard Windows-style title bar with minimize, maximize, and close buttons. Below the title bar is a toolbar with various icons. The main content area is divided into tabs: "General" (selected), "User Groups", "Person External Accounts", and "Attachments". The "General" tab displays a form with the following fields:

User ID	JSmith
PWD	jsmith1
First Name	John
Last Name	Smith
Title	Technical Consultant
Email	jsmith@demoorg.org
Company	JMS Company
<input type="checkbox"/> Disabled	
Link	Smith, John
Session Count	4
# Failed Logins	0
Password Hint	My favorite color is?
Password Hint Answer	Green
Record Last Updated:	

3. After logging into the site, the customer/member has access to all of the content available to his or her Web Groups (note that some access may be limited if one or more Web Modules have User Filters applied).
  - Note that as a user performs actions on the website that create and update records in the database, Aptify tracks the name and email address of the user who made the update in Record History for those records.
4. Aptify tracks the *aspx* pages that the user visits on the e-Business site and stores this information in user Activity records.
  - The user Activity record tracks the following information:
    - user who accessed the page.
    - Web Module assigned to the page that was viewed.

- The URL of the page viewed and any applicable Query String that was appended to the URL. In the example in Figure 4.2, the user accessed the page for the Product Category with an ID of 15.
- The date and time when the user first accessed the page and when the user last accessed the same page.
- The number of times (*# Hits*) that the user has accessed this page.
- Note that the *Tag* field is reserved for future use to provide an additional tagging attribute for analysis purposes.

Figure 4.2  
user Activity  
Record

The screenshot shows a window titled "Web User Activity ID: 7". It contains a form with the following fields:

Web User	JSmith
Web Module	Product Catalog
URL	/ebusiness/ProductCategory/ProductCategory.aspx
Query String	ID=10
Tag	
Date First Hit	4/22/2009 3:20:27 PM
Date Last Hit	4/22/2009 3:20:27 PM
# Hits	1

5. An administrator can add additional Web Group affiliations to the users record as needed to grant the user access to more on-line features.
6. If a user forgets his or her password, the user can access the e-Business website's "Forgot Password" page and specify the correct answer to the password hint (specified when setting up the account) to generate a new password for the user account.
  - Alternatively, an Aptify user with access to the *E Business Login Key* can review and modify user passwords. See "Creating users from within Aptify" on page 60 for more information.

## Understanding and Creating Web Modules

A Web Module is a logical grouping of Web pages and typically corresponds to a virtual directory in IIS. Security is applied to these pages based on their Web Module affiliation. Also, each item in the Web Menu is linked to a Web Module. This Web Module relationship determines whether or not a user can access a menu item or the page (in other words, the user must be in a group that has access to the module to view the page). EWA automatically handles page security based on Web Module designation.

### Web Module Security Approaches

e-Business supports two approaches to Web Module security: HTTP Module security and the Page Security server control. An organization can choose to use either security method (but not both). The default security model for e-Business sites running e-Business 5.0 or later is HTTP Module security.

#### HTTP Module Security

With the HTTP Module model, the e-Business HTTPModule applies security at the Web Module level based on a Web Module's **Base URL**. In other words, a particular Web Module's security settings apply to all of the pages contained in that Base URL. A developer does not need to apply a separate server control to each page in the Web Module since security will flow based on the page's location within the e-Business site.

In addition, HTTP Module security also tracks user Activity automatically for pages in that module when the **Log User Activity** box is checked. This is the same functionality that is also provided by the user Activity server control.

The following list highlights the key points to remember about HTTP Module Security:

- Security flows to pages based on their location on the e-Business site (from the Web Module's Base URL).
- HTTP Module Security supports three security options:
  - Allow Public access (Allow Public option)
  - Apply security based on Web Group Permissions (Apply Group Security option)
  - Apply security based on Web Group Permissions and apply additional Security Filters to further restrict access to the module (via the User Filter rules).
- A developer does not need to add a separate Page Security server control to each page in the module.
- If you want to track User Web Activity for every *aspx* page in a Web Module, check the **Log User Activity** box on the Web Modules record. In this case, you do not need to add a separate user Activity server control to each page.
- If you want to track user activity for some but not all *aspx* pages in a Web Module, uncheck the **Log User Activity** box on the Web Modules record and add a user Activity server control to each *aspx* page for which you want to enable tracking.

- HTTP Module is the default security model for e-Business sites running version 5.0 or later. An organization can disable HTTP Module security if desired and instead use the Page Security server control security model described in this section.
- When using the HTTP Module model, certain items (such as images) may not be downloaded on protected pages when the path to the item is not recognized by the security module. To work around this issue, an administrator can add the **ExtensionsToExclude** attribute to the *web.config* file to configure certain file types to bypass the security process so that they can be downloaded successfully. In the example below, files of type JPG, PNG and GIF are to be excluded. Note that when using this attribute, Web module security is bypassed for the files that use the file types configured within the attribute's value. Aptify recommends verifying the path configuration of the affected files prior to using this attribute and limiting the use of this attribute whenever possible.
  - `<add key="ExtensionsToExclude" value=".jpg,.png,.gif"/>`

### Page Security Server Control

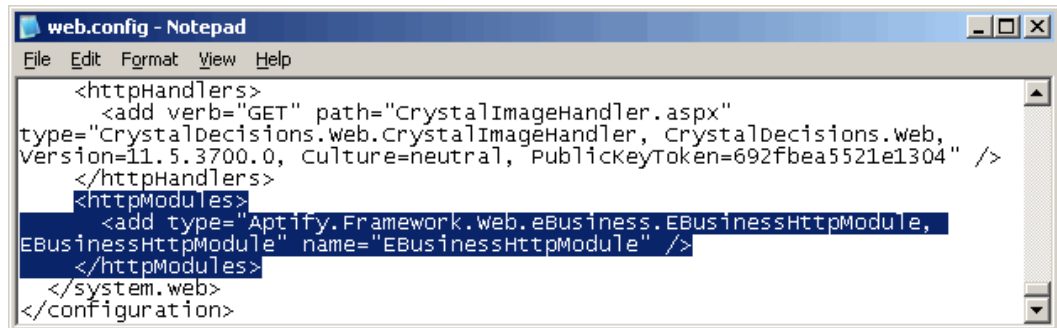
With the Page Security model, a developer adds the Page Security server control to each page and sets its Web Module property to the appropriate Web Module name to link that page to the specified module. With this model, it is possible to have some pages in a particular Web Module's folder that do not have that module's security applied (if it does not have a Page Security server control).

The following list highlights the key points to remember about the Page Security server control model:

- To secure a page based on a Web Module's security settings, a developer adds the Page Security server control and sets its Web Module property accordingly. Pages that do not have a Page Security server control are available to the public.
- The Page Security server control model supports two security options (it does not support User Filter rules):
  - Allow Public access (Allow Public option)
  - Apply security based on Web Group Permissions (Apply Group Security option)
- The Page Security server control model does not provide User Web Activity for *aspx* pages. Therefore, the **Log User Activity** box on the Web Modules record is not applicable in this model. To track user activity for *aspx* pages in this model, a developer should add a user Activity server control to each *aspx* page for which you want to enable tracking.
- HTTP Module security is the default model for e-Business sites running version 5.0 or later. To disable HTTP Module security and use the Page Security server control, comment out the following section from the e-Business site's *web.config* file (which is located in the root e-Business folder, for example, *C:\inetpub\wwwroot\ebusiness*):

- ```
<httpModules>
  <add type="Aptify.Framework.Web.eBusiness.EBusinessHttpModule, EBusinessHttpModule" name="EBusinessHttpModule" />
</httpModules>
```

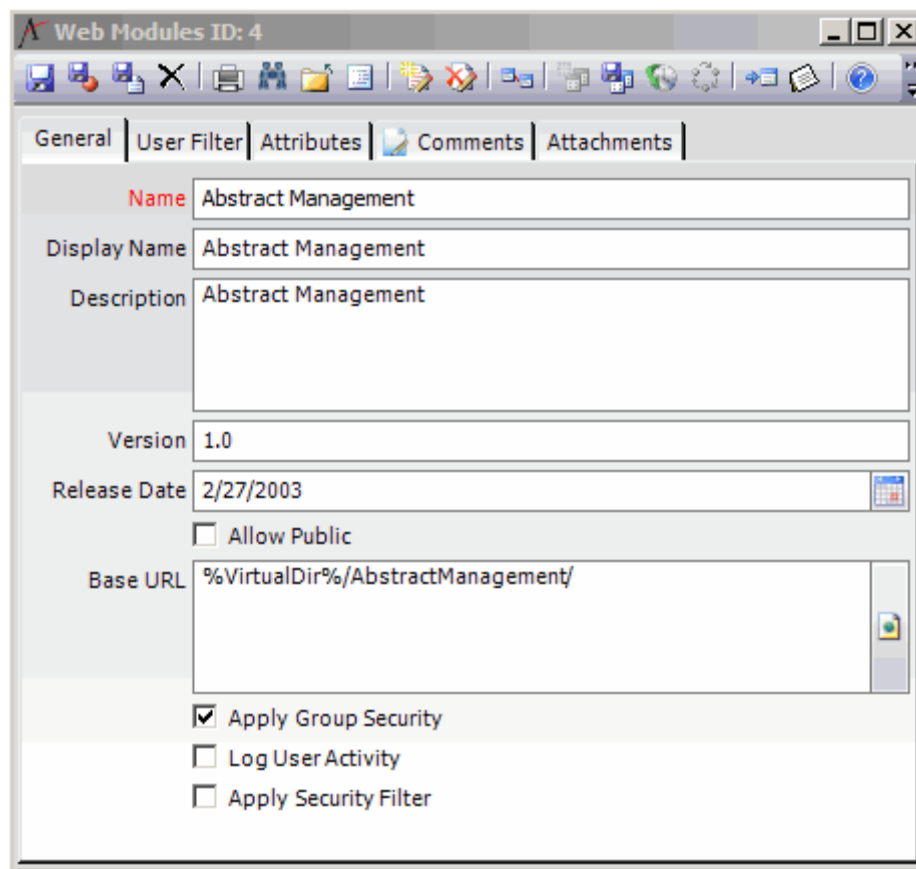
Figure 4.3  
HTTPModule  
Security  
Settings in  
Web.config



## Creating Web Modules and the Web Modules Form

In general, when you create a new virtual directory in IIS to add new pages to an e-Business site, you should also create a new Web Modules record in Aptify to control access to those pages. A sample Web Modules record is shown in Figure 4.4.

Figure 4.4  
Web Modules  
Record



The screenshot shows a window titled "Web Modules ID: 4" with a standard Windows-style toolbar. Below the toolbar is a tabbed interface with five tabs: "General", "User Filter", "Attributes", "Comments", and "Attachments". The "General" tab is selected and contains the following fields:

- Name:** Abstract Management
- Display Name:** Abstract Management
- Description:** Abstract Management
- Version:** 1.0
- Release Date:** 2/27/2003
- Allow Public
- Base URL:** %VirtualDir%/AbstractManagement/
- Apply Group Security
- Log User Activity
- Apply Security Filter

The Web Modules record in Aptify contains the following fields:

### ***Attachments Tab***

This tab stores any attachments relevant to this record.

### ***Attributes Tab***

This tab stores any attributes specified for this Web Module. This tab is reserved for future use.

### ***Comments Tab***

This tab stores any internal comments related to this Web Module.

### ***General Tab***

#### **Name (required)**

The name of the Web Module.

**Display Name**

The name of the Web Module that should be displayed to a user if information about the module appears on a particular page.

**Description**

A description of the module.

**Version**

The version of the Web Module for tracking purposes.

**Release Date**

The date the Web Module and its related pages were released on the website.

**Allow Public**

When checked, this module and its pages are available to all users.

**Apply Group Security**

When checked, this module is only available to users in a Web Group that has permissions to this module (as specified on the Web Groups record). If using the HTTPModule security (see “Web Module Security Approaches” on page 44), you can apply additional restrictions on user access using User Security Filters.

You should check either **Allow Public** or **Apply Group Security**. Select one or the other; do not check both.

**Base URL**

Specifies the root URL for pages linked to this Web Module.

**Log User Activity**

This field applies to e-Business sites that use HTTP Module security (see “Web Module Security Approaches” on page 44). When checked, the e-Business site creates user Activity records to track visitor hits to any *aspx* pages in the module. When unchecked, the e-Business site does not track user Activity for the pages in the module, unless a specific page contains the user Activity server control.

**User Filter Tab**

This tab is used in conjunction with the **Apply Group Security** setting to further limit the users who can access pages in this module based on one or more filter characteristics. Note that this tab is only applicable for e-Business sites that use HTTP Module security (see “Web Module Security Approaches” on page 44). By default when there are no filter rules set, a Web Module and its pages are available to all users who are members of the Web Groups who have permissions to the specified Web Module. However, by entering one or more filter



rules on this tab, you can gain greater control of who can access the Web Module based on information in users record and their corresponding Persons and Companies records (if applicable).

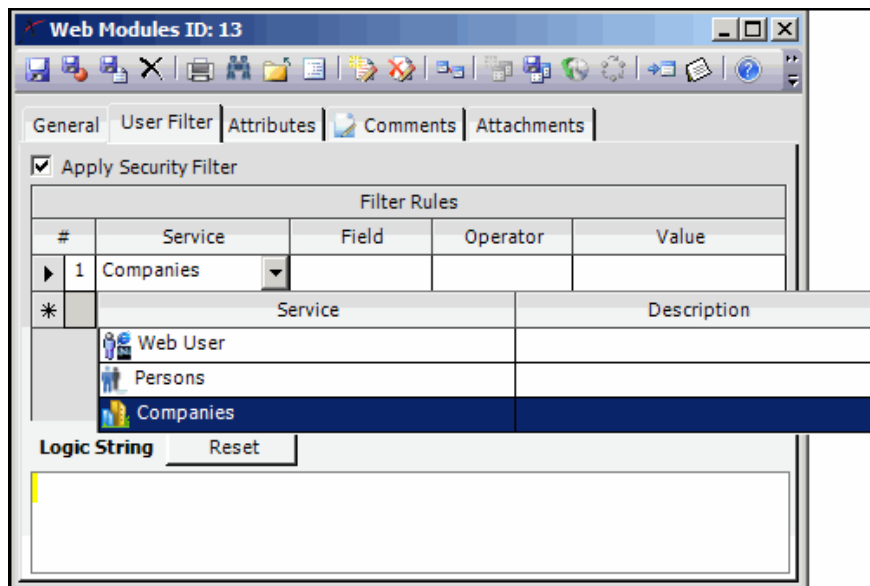
When a user meets the module's filter criteria, he or she can access the pages in that module on an e-Business website. If a user does not meet the filter criteria, then the module and its pages are not accessible. Keep in mind that this is in addition to the group security settings; if a user meets the filter rule criteria but is not in one of the Web Groups that has permissions to the module, then the user will not have access to the module.

Follow these steps to create one or more filter rules to determine which users can access a particular Web Module:

**Tip:** Creating a filter rule is very similar to creating a filter for a view.

1. Confirm that the **Apply Group Security** box is checked on the Web Modules record's General tab.
2. Click the **User Filter** tab.
3. Place a check mark in the **Apply Security Filter** box.
4. Select a **Service** for the first filter statement.
  - You can create a filter statement based on a field in one of the following services:
    - **user:** Select this option if the filter statement is based on a property of the users record for the currently logged in user.
    - **Person:** Select this option if the filter statement is based on a property of the Persons record to which a user is linked.
    - **Company:** Select this option if the filter statement is based on a property of the Company linked to the user's Persons record (via the Company link box on the Persons record).

Figure 4.5  
Specify Filter  
Rule Service



5. Select a **Field** in the selected service to use as the basis for the filter.
  - The Field drop-down list displays the set of fields contained in the service you selected. For example, in Figure 4.6, the Field is the Company’s Type field.
6. Select the **Operator** for the filter statement.
  - The operator compares the value of the selected Field for each record in the service with the contents of the Value column.
  - The available options in the Operator drop-down list vary depending on the type of Field selected: text or number.

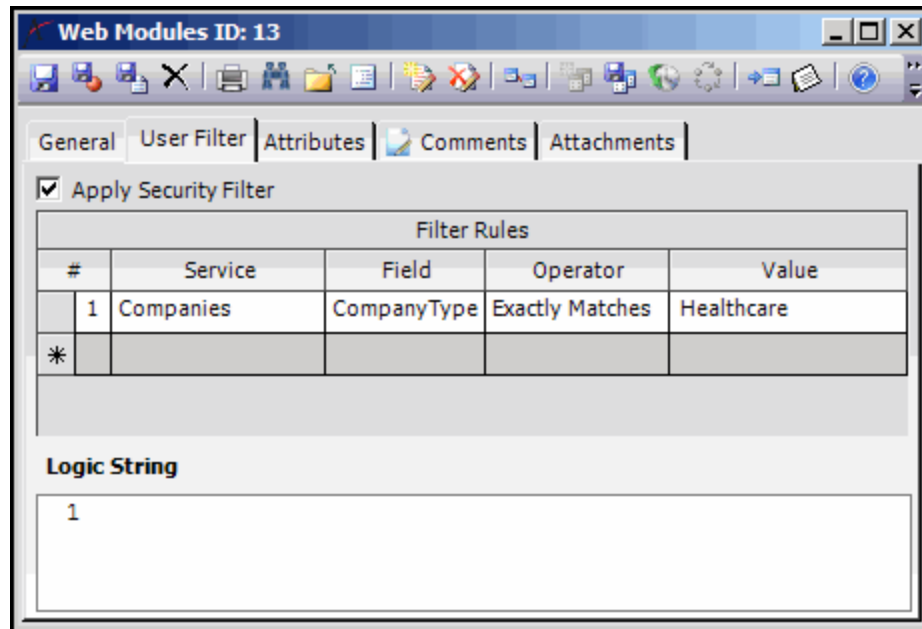
Field Type	Operators Available	Type of Comparison
Character	Exactly Matches	Field column value exactly matches the characters entered in the Value column.
	Contains	Field column value contains the characters entered in the Value column. The characters can appear anywhere in the field.
	Begins With	Field column value begins with the characters entered in the Value column.
	Ends With	Field column value ends with these characters entered in the Value column.
	Does Not Contain	Contents lists in the Value column to do appear anywhere in the Field column value.

Field Type	Operators Available	Type of Comparison
	In List	Field column value matches one of the values in the Values column; each value is separated by a comma.
	Is Blank	Field column value contains no data.
	Is Not Blank	Field column value contains any data.
Numeric/Date	=	Equals
	< >	Does not equal
	>	Greater than
	<	Less than
	>=	Greater than or equal
	<=	Less than or equal
	In List	Field column value matches one of the values in the Values column; each value is separated by a comma.

7. Enter the **Value** for the filter statement.

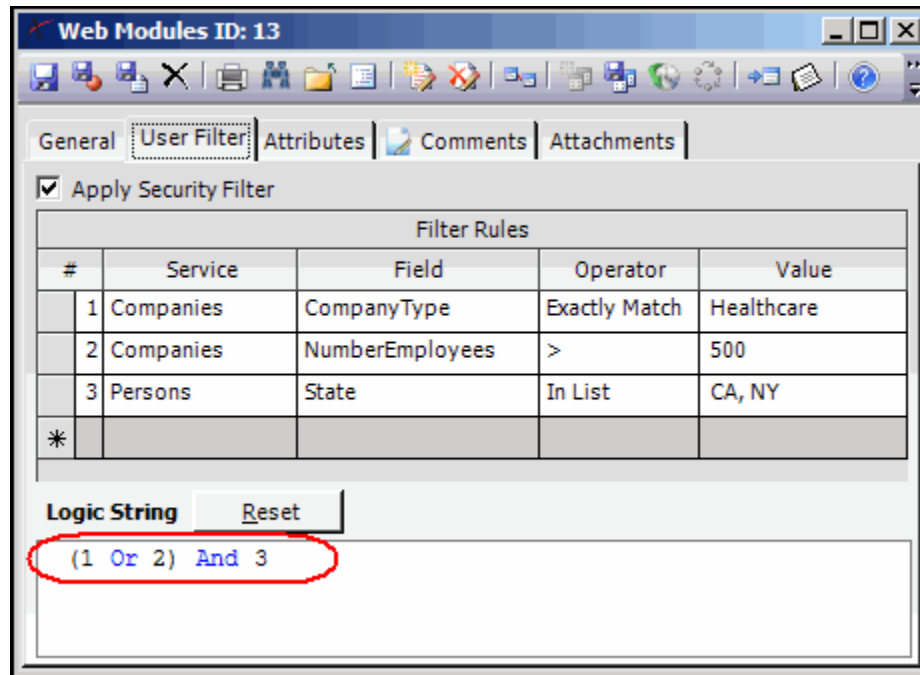
- You enter characters, a phrase, or a number that the system will use as the basis for the filter. The Value field uses the operator selected in the Operator column to determine the type of match.
- In general, you manually enter text or numbers into the Value column, but, in some cases, the system provides you with additional options to facilitate selection:
  - For all field types other than Datetime fields, Aptify provides a drop-down list of the first 100 possible values that you can select from. Note that these possible values are only a suggestion: Only the first 100 values appear in the list, even if the field contains more than 100 values. If the field contains less than 100 values, then all of the values appear in the list. You can either select a value from the drop-down list or manually enter a value in the field.
  - If you select a field that uses the Datetime format from the Field drop-down list, an ellipsis (...) button appears in the Value field. Clicking this button opens a Date Selection Box.
  - For bit fields, you can enter a filter of *Field = True* or *Field = False*. The Filter Rule automatically converts this to *Field =1* or *Field = 0*.
- In the example in Figure 4.6, this Web Module will only be available to users in the healthcare industry (that is, only to people linked to a Company with a Company Type of “Healthcare”).

Figure 4.6  
Sample Filter  
Rule



8. Create additional filter rules, as necessary.
  - If you want to delete a filter rule, select the appropriate line and press the **Delete** key.
9. Configure the **Logic String** to join the filters together.
  - Just like with multiple view filters, you use Boolean logic to connect multiple filter rules. This includes the following common connectors:
    - **AND** — Restrictive; matches records that satisfy both filter statements
    - **OR** — Inclusive; matches records that satisfy either filter statement
    - **NOT** — Corresponds to records that do not match a filter statement
  - By default, multiple filter rules are joined with an *AND* operator.
  - In the example shown in Figure 4.7, the course is available only to people who live in California or New York and either work in the healthcare industry (Company Type matches “Healthcare”) or work for a company with over 500 employees.
  - To reset the filter logic to its original setting, click the **Reset** button.

Figure 4.7  
Advanced  
Filter Rules



10. Save the Web Modules record.

To disable a filter rule, remove the check mark from the **Apply Security Filter** box and save the Web Modules record.

## Configuring the Web Menu

Aptify's e-Business application includes the Web Menus service, which controls the options that appear in the site's Web Menu (which is highlighted in Figure 4.8). Note that this is distinct from the appearance of the Web Menu, which is set by the NavBar user control (see "NavBar" on page 245) and by the site's Cascading Style Sheet (see "Modifying the Appearance of the Sample Site" on page 164).

Figure 4.8  
Sample Site's  
Web Menu



Each item in the Web Menu corresponds to a Web Menus record. To modify the items in the menu, you add, edit, or delete records in Aptify's Web Menus service.

A sample Web Menus record is shown in Figure 4.9. The record contains the following fields:

### Attachments Tab

This tab stores any attachments relevant to this record.

### General Tab

#### Name (required)

The name of the Web Menu item.

#### Display Name (required)

The name for the item as it will appear on the Web Menu on the e-Business site.

Figure 4.9  
Web Menus  
Record

The screenshot shows a configuration window titled "Web Menus ID: 8" with a standard Windows-style toolbar. The window has three tabs: "General", "GroupPermissions", and "Attachments", with "General" selected. The configuration fields are as follows:

- Name:** Order History
- Display Name:** Order History
- Web Module:** Customer Service (with a selection icon and a close button)
- Security Type:** Module Level (dropdown menu)
- Allow Public
- Parent:** Customer Service (with a selection icon and a close button)
- Description:** Order History
- Type:** Item (dropdown menu)
- URL Type:** Relative (dropdown menu)
- URL:** orderhistory.aspx (with a selection icon)
- Display Sequence:** 6
- Image URL Type:** Absolute (dropdown menu)
- ImageURL:** (with a selection icon)
- Is Separator

### Web Module (required)

Each Web Menu item is linked to its appropriate Web Module. Typically, a Web Menu item uses the security settings of its linked Web Module, although it does not have to (see Security Type below).

### Security Type

This field determines which security settings apply to the Web Menu item. When set to **Module Level**, the item uses the security settings of its linked Web Module (and the Web Menu's security settings such as Allow Public and the Group Permissions tab are not used). When set to **Menu Level**, the item uses the security settings as specified directly on the Web Menus record.

### Allow Public

When this box is checked, the Web Menu item is visible to all users (assuming that its parent items in the hierarchy also have Allow Public checked). When not checked, the Web Menu item is only available to users in a Web Group specified on the item's Group Permissions tab (assuming that its parent items in the hierarchy share the same settings). This field is only applicable when Security Type is set to Menu Level.

### Parent

The parent item in the Web Menu hierarchy. All of the top-level items (such as Home, Products, etc.) in the sample site's menu have no parent specified. In Figure 4.8, the Order History item appears under the Customer Service heading. As shown in Figure 4.9, the Customer Service Web Menus record is the parent for the Order History record.

### Description

A description of the Web Menu item.

### Type

Specifies the type of menu node. The standard options are Menu and Item. A Menu node is typically a parent record for one or more items. An Item node is one that has no child records in the Web Menu hierarchy.

### URL Type

This field identifies the type of page path specified in the URL. When set to Absolute, the URL field specifies a full path for a Web address to open. When set to Relative, the URL field specifies a particular path relative to the Base URL specified in the Web Menu item's linked Web Modules record.

In the example in Figure 4.9, since the URL Type is Relative, when a user clicks the Order History item in the menu, the site opens the `orderhistory.aspx` page using a URL like `http://[e-Business URL]/ebusiness/CustomerService/orderhistory.aspx`. The site uses the Base URL from the Customer Service Web Module (`%VirtualDir%/CustomerService/`) to dynamically generate the full path for the page.

### URL

The Web address for the page or item to open when this node is selected in the Web Menu. If blank, selecting this item in the menu does not redirect the user to a new Web page.



Note that Sitefinity 4 does not use extensions (like .aspx) for its web pages. If you install the Sitefinity 4. sample site at same time you install the baseline e-Business server components, the installer adds a set of Web Modules without extensions.

### **Display Sequence**

For items in the same level of hierarchy within the Web Menu, this field specifies the order in which the items appear from left to right (for top-level items) or from top to bottom. A value of 0 specifies the left-most or top menu item. If multiple items have the same Display Sequence, then they are sorted by ID (lowest ID displayed first).

### **Image URL Type**

This field identifies the type of path specified for the URL of an image file. When set to Absolute, the Image URL field specifies a full path. When set to Relative, the Image URL field specifies a particular path relative to the Base URL specified in the Web Menu item's linked Web Modules record.

### **Image URL**

This field specifies an image to display to the left of the item in the Web Menu. If left blank, no image appears. In the sample site, none of the Web Menu items have an image specified by default.

### **Is Separator**

When checked, this field indicates that the item is a line separator in the Web Menu. In the example in Figure 4.8, there is a Web Menus record for the separator that appears between the "Make a Payment" and "Renew Memberships/Subscriptions" menu items. Note that a record with this box checked should have a blank URL field.

### **Group Permissions Tab**

When Security Type is set to Menu Level and the Allow Public box is not checked, this tab stores the set of Web Groups whose members can see this item in the e-Business site's Web Menu.

## Creating Web Groups

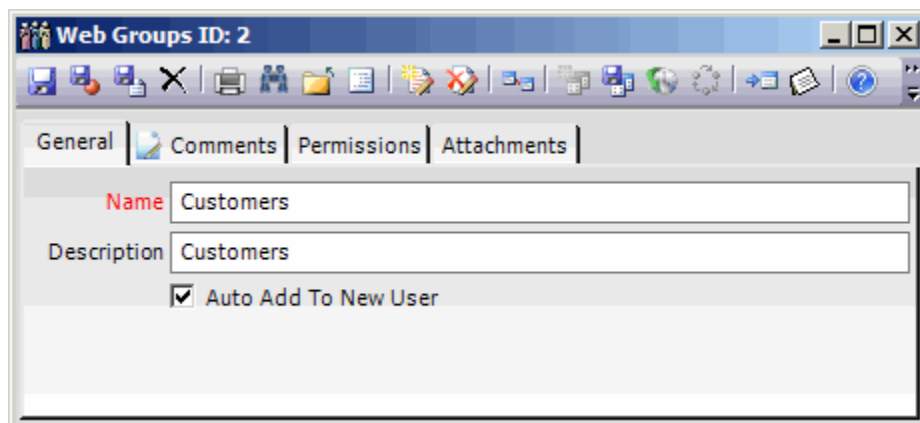
In the e-Business security model (as described in “e-Business Security Model” on page 40), when a person accesses the website without logging in, he or she can only see the content that is marked as “Allow Public” within the e-Business metadata (on the Web Modules and Web Menus records). When a user logs into the site, he or she gains access to additional areas based on his or her Web Group affiliations (as specified on the users record). A user’s total permissions on the site is an aggregation of the Web Module/Web Menu access rights for each Web Group of which he or she is a member.

A site administrator can assign each Web Group access to one or more Web Modules. For any new Web Modules and Web Menus records in Aptify which should not be available to the general public, you should either link the new modules to one or more Web Groups or create a new Web Group that can access this content.

A Web Groups record stores the set of Web Modules that the group members can access on the Permissions tab. For Web Menus that use Menu Level security, you need to specify the Web Groups that can access that item directly on the Web Menus record.

A sample Web Groups record is shown in Figure 4.10.

Figure 4.10  
Web Groups  
Record



The screenshot shows a web browser window with the title "Web Groups ID: 2". The browser's address bar and toolbar are visible. Below the toolbar, there are four tabs: "General", "Comments", "Permissions", and "Attachments". The "General" tab is currently selected. Under the "General" tab, there are three input fields: "Name" with the value "Customers", "Description" with the value "Customers", and a checkbox labeled "Auto Add To New User" which is checked.

The record contains the following fields:

### Attachments Tab

This tab stores any attachments relevant to this record.

### Comments Tab

This tab stores any internal comments related to this Web Group.

### General Tab

#### Name (required)

The name of the Web Group.

**Description**

A description of the Web Group.

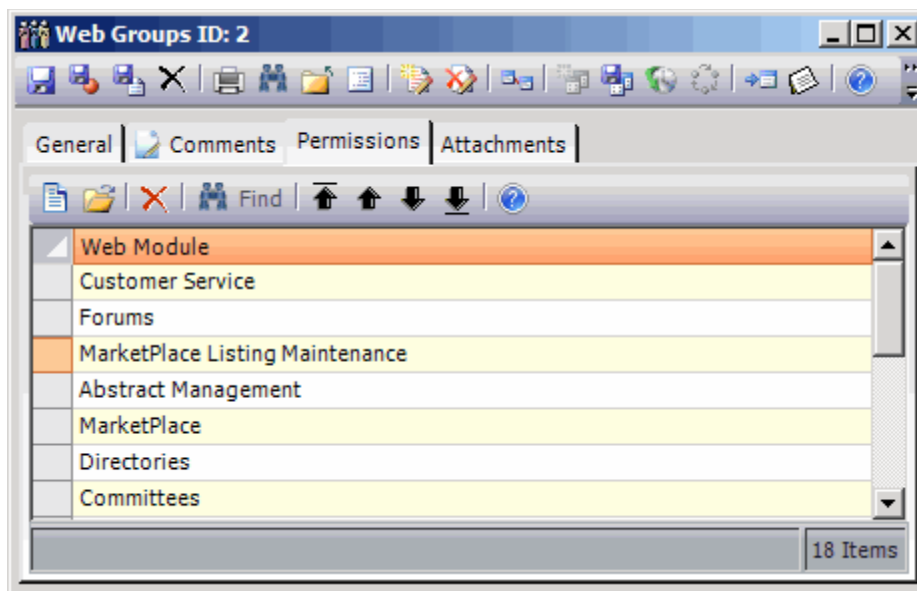
**Auto Add To New User**

When this box is checked, a new user created via the e-Business website is automatically added to this group when he/she creates a Web login. Note that a user created manually from within Aptify is not added to any Web Groups automatically.

**Permissions Tab**

The Permissions tab lists the Web Modules that members of this group can access.

Figure 4.11  
Web Group's  
Permissions  
Tab



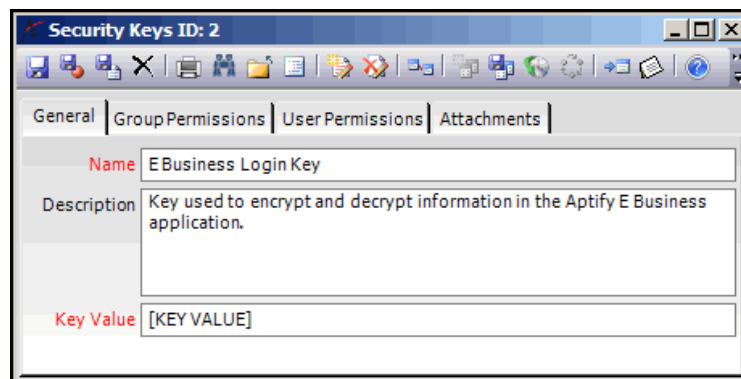
## Creating users from within Aptify

As described in “e-Business User Process” on page 41, there are two ways to create a new user account in e-Business. The first method is to allow a user to create his or her account from the website. The second method is to have an employee of the organization (who is an Aptify user) manually create the users record in Aptify for the customer/member.

This section describes how to create a users record manually in Aptify. Follow these steps:

1. If you have not created a users record before, confirm that you have access to the Security Key that the system uses to encrypt user passwords (the users record’s PWD field).
  - The users entity’s PWD field uses Field Level Encryption to encrypt passwords. See the *Aptify Administration Guide* for information on Field Level Security.
  - Any user who needs access to user passwords must have access to the Security Key that encrypts these passwords (either the *E Business Login Key*, which is created by default during e-Business installation or another key you subsequently specified). The user can either be specified directly on the Security Key’s User Permissions tab or be a member of a Group specified on the Group Permissions tab.
  - By default, only sa and the user you specified as e-Business User during the e-Business installation have access to this key. Therefore, to add additional users to this key, you need to log in as sa if you have not added other users previously (since this Security Keys record is only visible to those users who have been granted access to it).
  - Note that a user’s password must meet the minimum requirements defined by your organization in the website’s Web.config file. Also, you can configure a maximum number of login attempts after which the account is disabled and must be reactivated by an administrator. See “Overview of the User Control Web Config File” on page 168 for details.

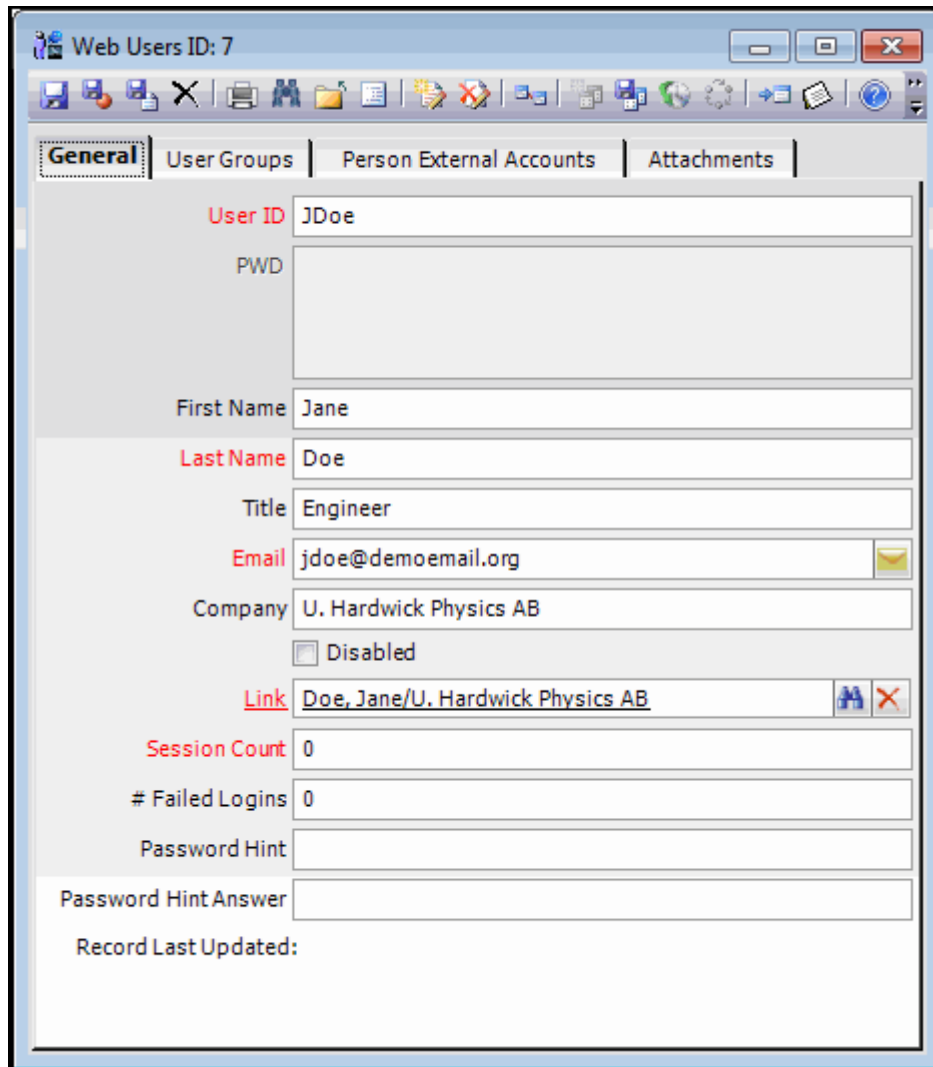
Figure 4.12  
E Business  
Login Key



2. Open a new record from the users service and complete the following fields:
  - **User ID:** User ID that the user will enter when logging in to the site. Duplicate User IDs is not allowed.

- **PWD:** Enter the password for the user.
    - Since the PWD field in the users entity uses field level encryption, Aptify recommends that your administrator enable Field Level Security to allow Read and Write permissions to this field only to those users who have access to the *E Business Login Key*.
  - **First Name:** user's first name.
  - **Last Name:** user's last name.
  - **Title:** user's job title. This is optional. When a user logs in for the first time, then this field will be automatically synchronized with the corresponding field in the linked Persons record.
  - **Email:** user's email address. This is required. Also, it must match the email address in the linked Persons record. This requirement is described later in these instructions.
  - **Company:** user's company affiliation. This is optional. When a user logs in for the first time, then this field will be automatically synchronized with the corresponding field in the linked Persons record.
3. Specify the Persons record for this user in the **Link** field. If the user does not have a Persons record yet, create one by clicking the Link hyperlink to open a new Persons record.
    - The Link field in a users record is required. Therefore, each user must be linked to a Persons record.
    - Aptify automatically synchronizes a user's email address with the email address from the linked Persons record when the user logs into the e-Business site. Therefore, when creating a users record using the Aptify application, specify the same email address for the user and the linked Persons record. If the two email addresses do not match, Aptify will automatically update the user's email address with the Person's email address when the user logs into the e-Business site.
  4. If you want to enable the Password hint functionality for this user (so the user can update his or her password on the e-Business site if it is forgotten), enter the hint question in the **Password Hint** field and the answer in the **Password Hint Answer** field.
    - A user who creates his or her own account via the e-Business website can create a password hint/answer on-line, selecting from a series of Password Hint questions populated by the Web page.
  5. Click the **User Groups** tab and add the user to one or more Web Groups.
  6. Save the users record.

Figure 4.13  
Web Users  
Record



Field	Value
User ID	JDoe
PWD	
First Name	Jane
Last Name	Doe
Title	Engineer
Email	jdoe@demoemail.org
Company	U. Hardwick Physics AB
Disabled	<input type="checkbox"/>
Link	Doe, Jane/U. Hardwick Physics AB
Session Count	0
# Failed Logins	0
Password Hint	
Password Hint Answer	
Record Last Updated:	

7. The user should now be able to log on to the e-Business site using the User ID and PWD you specified.

The users record also includes the following additional fields:

- **Disabled:** When this box is checked, the user cannot login to the e-Business site.
- **Session Count:** This field reports the number of times the user has logged in to the site.
- **# Failed Logins:** This field reports the number of login attempts that failed for this user. This field is reserved for future use.

## User Sessions

When a user connects to an e-Business site, the session length is controlled by an ASP.NET parameter and not by e-Business. By default, the session timeout period for ASP.NET is 20 minutes but you can change the session timeout for your e-Business site if needed. Follow these steps:

### IIS 7.0 Instructions

1. Open the Internet Information Services (IIS) Manager.
2. Click the website for the e-Business suite in the IIS Manager.
3. Double-click **Session State** in the middle pane.
4. Set the **Session Timeout**. Default is 20 minutes.

Figure 4.14  
Session  
Timeout

**Session State**

Session State Mode Settings

Not enabled

In process

Custom

State Server

Connection string:

Time-out (in seconds):

SQL Server

Connection string:

Time-out (in seconds):

Enable custom database

Cookie Settings

Mode:

Name:

Time-out (in minutes):

Regenerate expired session ID

Use hosting identity for impersonation

5. Save your changes and restart IIS.

**Note:** After an automatic logout, a user will need to log back in again (if he or she is not using the Remember Me cookie option, which is available in the Login control).

The e-Business site supports the use of cookies to remember login information. With Aptify e-Business 5.0, the user's user credentials are encrypted within the cookie. However, keep in mind that the User Login Control posts the user's Login and Password from the user's browser to the Web server in an unencrypted format. Therefore, Aptify strongly recommends that you implement the necessary measures to secure this communication, such as using a Secure Socket Layer (SSL) connection to create a HTTPS site.

## Defining the Fields in the Session Object

Prior to e-Business 5.5, an e-Business user's session object stored all of the fields from the corresponding Web Users record, Persons record, and that person's linked Companies record. While the information available within the session is comprehensive, much of it is not necessary and the presence of excess data can impact performance.

Beginning with e-Business 5.5, Aptify modified the session object so that it only contains the fields required by the standard e-Business site. The set of fields that are added to the session object are defined in the `spGetEBusinessWebUserDetails` stored procedure. Note that depending on your website and the configurations you've applied, this stored procedure may not populate the session object with all of the fields your site requires. If you encounter this situation, follow these steps to define your own stored procedure:

1. Using the `spGetEBusinessWebUserDetails` stored procedure as your starting point, create a new Database Objects record in Aptify that retrieves the additional fields required by your web site.
2. In the Web Users entity, update the Value for the `GetEBusinessWebUserDetailsStored-Procedure` entity attribute to point to the new Database Object you created in Step 1.

## Automatically Shipping On-line Orders

When a user creates an Orders record in Aptify using the desktop application, the system can automatically mark the order as Shipped if it contains only products that do not require fulfillment (and have sufficient inventory available, if applicable).

Likewise, when a user places an order on-line, Aptify can automatically mark these orders as shipped if the orders meet the criteria described above.

However, under some circumstances, an organization may not want to automatically ship qualifying orders if placed over the e-Business website. In this case, an administrator can modify the **AutoShipNonFulfillmentProducts** entity attribute in the Web Shopping Carts Entities record.

This attribute supports the following values:



- **1** — Aptify automatically ships an order if none of the order lines require fulfillment and if there is sufficient inventory available (for products that track inventory). This is the default value.
- **0** — The auto-ship functionality is disabled. Orders submitted using the e-Business website are saved with a status of Taken and can be marked as Shipped at a later time.

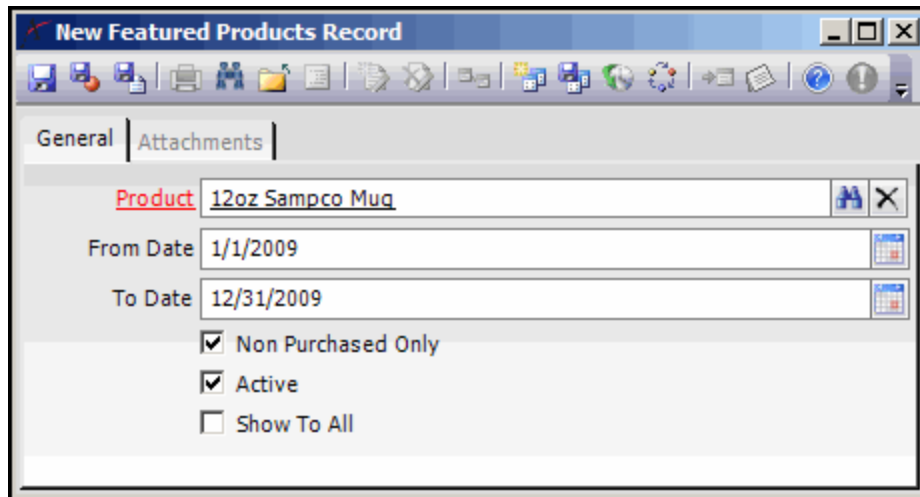
## Controlling Featured Products

e-Business 5.0 includes support for a **Featured Products** page under the Products menu that an organization can use to highlight certain products available for sale. To track what products can appear on the Featured Products page, there is a Featured Products service in the Product Setup and Maintenance application.

The Featured Product service offers several filtering criteria to determine when and what products are shown to certain users. Follow these steps to create a new record so a product can appear on the Featured Products page:

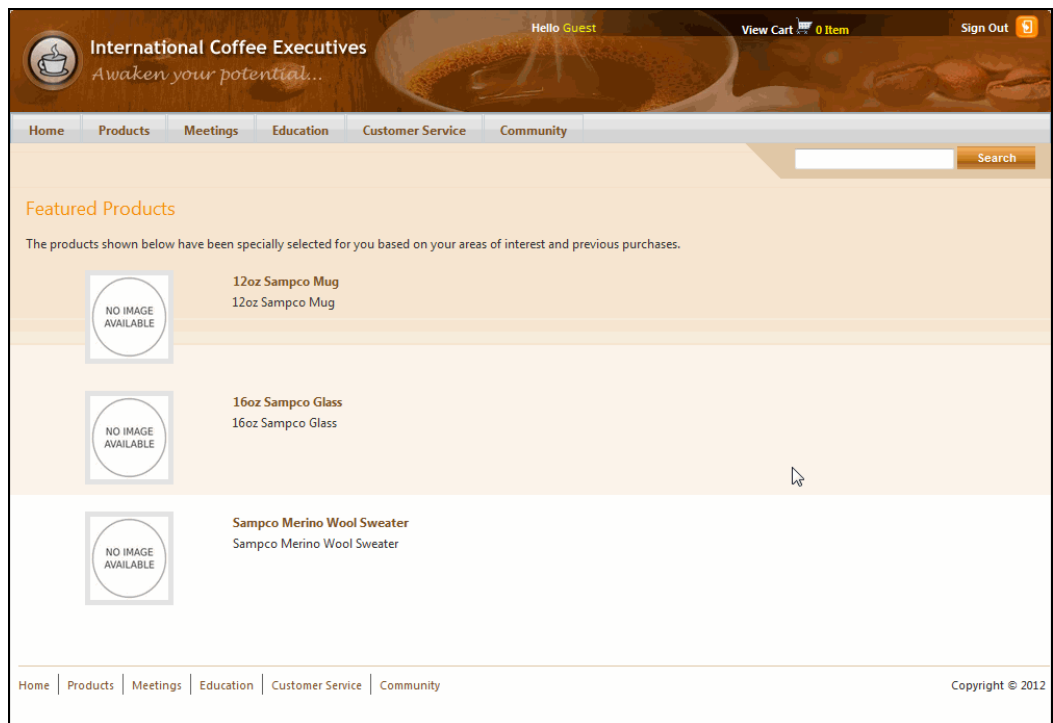
1. Within Aptify, open a new record from the Featured Products service. This service is added to the Product Setup and Maintenance application by the e-Business Setup program.
2. Enter the **Product** that should appear on the Featured Products page. This field links to the Products service. The product you enter here should be Web Enabled and available for sale.
3. Enter a **From Date** and a **To Date** to specify a date range for when this product should appear on the Featured Products page. If left blank, the Product can always appear on the page (unless the record is marked as Inactive).
4. Configure the following options as necessary:
  - **Non Purchased Only:** When checked, this featured product will only display for users who have not yet purchased it. In other words, the product does not display for any user who has a shipped order that contains this product.
  - **Active:** When checked, this product can appear on the Featured Products page. If unchecked, the product does not appear on the page.
  - **Show To All:** When checked, this product will appear for all users on the Featured Products page. When unchecked, this product only appears to those users that have one or more Topic Codes in common with the Product. (Products are linked to Topic Codes on a Products record. users are linked to Topic Codes via the Topic Code selections on the user's corresponding Persons record.)

Figure 4.15  
Featured  
Products  
Record



5. Save and close the Featured Products record.
6. When a user accesses the Featured Products page, this product may show up on the list, depending on how the user’s characteristics match the settings you specified for the Featured Products record.

Figure 4.16  
Featured  
Products  
Sample Site  
Page



## Specifying Campaign Match Logic

On the Shopping Cart, a user can enter a Campaign code, which may provide a discount for the products the user has in his or her cart.

The shopping cart uses the following logic to determine if what the user enters matches a valid Campaign defined in Aptify:

- There is an exact match on Campaign Name or Campaign ID,
- The Campaign has a StatusID other than 3 or 4 (where 3 is “Completed” and 4 is “Canceled” in the baseline Aptify database), and
- The Campaign End Date is either blank or is a date in the future.

In addition, the logic responsible for locating a campaign is defined in a stored procedure so organizations can easily modify the match logic as needed. The stored procedure is identified by the **GetCampaignCodeID** entity attribute in the Web Shopping Carts entity. By default, this attribute points to the *spGetCampaignCodeID* stored procedure.

Therefore, to modify the default campaign match logic, you would:

- Using *spGetCampaignCodeID* as a guide, write a new stored procedure that retrieves a Campaign ID based on your organization’s specific requirements.
- Add this new stored procedure to the database by creating a Database Objects record in Aptify.
- Modify the value of the *GetCampaignCodeID* attribute in the Web Shopping Carts entity so that it matches the name of your new stored procedure.

## Defining a PO Payment Type for Web Orders

An organization can configure an e-Business site so that users can place orders using a Purchase Order payment type. For example, when specifying payment information for an order, class registration or Marketplace listing, if a person or a person’s company has approved credit, a **Bill Me Later** option is displayed. When checked, this option allows a user to enter a PO Number and complete the order using a Purchase Order payment type. Note that this option is not displayed if the person or person’s company does not have approved credit or if their available credit does not cover the cost of the order.

To implement this functionality and allow customers to place orders on credit over an e-Business site, you need to configure the **POPaymentTypeID** attribute in the Web Shopping Carts entity. This entity attribute identifies the Purchase Order payment type (by record ID) that should be used when creating orders placed through an e-Business site on credit to be billed later. The default value is 1 (the Purchase Order included with Aptify sample data installations). Note that the ID specified must have a base type of Purchase Order to generate the proper type of payment information.

In addition, an organization can define the text label for this option. By default, the label reads as “Bill Me Later,” but you can change this as needed. This setting is found in the Global Settings section of the Aptify\_UC\_Navigation.config file as follows:

```
<!--Global Bill me later display value-->  
<BillMeLaterDisplayText>Bill Me Later</BillMeLaterDisplayText>
```

## Creating Web Articles

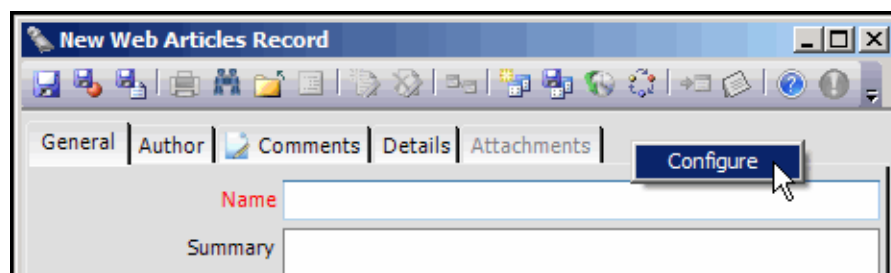
Web Articles provides a personalized news portal for your website’s users, displaying only those articles that are of interest to each user. Aptify provides the Aptify Web Article user control that displays the appropriate records from the Web Articles service to a user connected to the e-Business site (See “Aptify Web Articles” on page 259 for more information). In addition, the e-Business sample site includes an RSS Channel that pushes out new Web Articles to feed subscribers. (See “Creating RSS Channels” on page 73 for more information.)

Web Articles that appear on an e-Business site are created as Web Articles records in Aptify. By linking a Web Article to one or more topic codes, you display this article only to those users who share the same interests.

The following instructions provide an overview of how to add a Web Article to Aptify so that it appears automatically on an e-Business page that uses the Aptify Web Article user control:

1. Open a new record in the Web Articles service (located in the EBusiness application).
2. Add a Topic Codes tab to the Web Articles form if one is not there already.
  - If you want to link Web Articles to Topic Codes so that they display only for users that share one or more of the same Topic Code links, the Web Articles form needs a Topic Codes tab.
  - A Topic Codes tab appears on the Web Articles form by default. If you are using an earlier version, the tab may not appear on the form by default but it is easy to add using the Aptify Form Template Tab wizard (see the “Forms and Records” chapter in the *Aptify User Guide* for information on this wizard). Follow these steps:
    - Right-click in the tab area and select **Configure** from the pop-up menu.

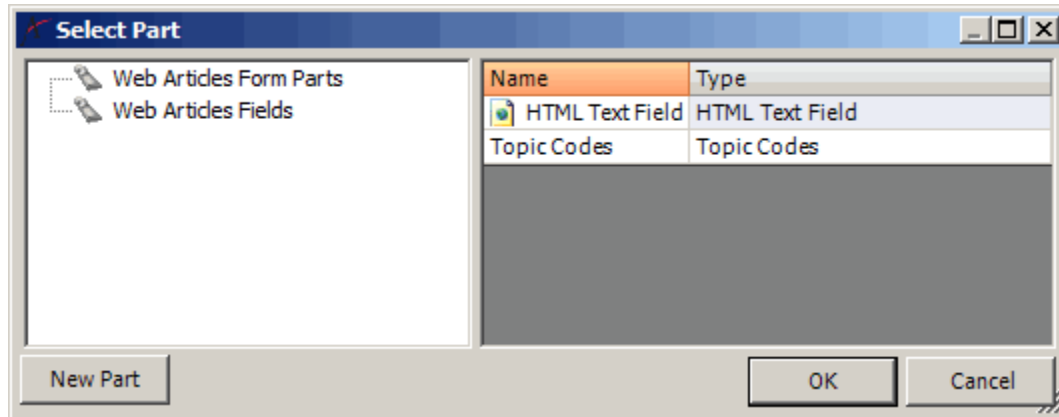
Figure 4.17  
Modify Web  
Articles Form



- Within the Configure Tab dialog, click the **Add Parts...** button to open the Select Part dialog.
- Within the Select Part dialog, click the **New Part** button to launch the Aptify Form Template Tab Wizard.
- Select **Topic Codes** as the **Tab Type** and click **Next** to continue.
- Enter a name for the tab (like “Topic Codes”) and click **Next** to continue.
- Click **Finish** to complete the wizard.

- In the Select Part dialog, select the Topic Codes tab which you just created and click **OK**.

Figure 4.18  
Select Topic  
Codes Tab  
Part



- A message box appears to system administrators asking them to decide if the new tab layout should be applied globally or just to the system administrator's form. If this message appears, you should decide if you want to apply this change for all users or only yourself, and then select the appropriate option.
  - Within the Configure Tab dialog, move the Topic Codes tab to a new location if desired (otherwise it will appear as the last tab on the form).
  - Click **OK** to reload the Web Articles form with the new tab.
3. Complete the fields on the Web Articles record's General tab:
    - **Name:** The name of the Web Articles. This field is required.
    - **Summary:** A summary description of the article. This appears under the Name when the article is displayed on a website using the Aptify Web Articles user control.
    - **Category:** The category to which this article belongs. This field links to a record in the Web Article Categories service.
    - **Status:** This field can be used to specify if the article is Active or Inactive. By default, the system does not consider the article's Status when determining if an article should appear on-line. If you want to use this field, you can modify the WebArticles user control or create a new stored procedure (using the existing stored procedure as a guide) to redesign the logic as needed. See the Aptify Web Article for more information.
    - **Date Written:** Specifies the date on which the article was written.
    - **Date Available On Web:** Specifies the start date on which this article should be available on the Web.

- **Days to Highlight:** If Highlight Term is Temporary, this field specifies for how long the article should appear on an e-Business site (the Date Available On Web date is the article's start date).
- **Highlight Term:** Specifies if the article is **Permanent** (does not expire after a specified number of days) or **Temporary** (only available for the number of days specified in the Days to Highlight field). If you do not want to display the article on an e-Business site, set the term to **None** (the article will not appear on the website while its Highlight Term is set to None).

Figure 4.19  
Web Articles  
Record

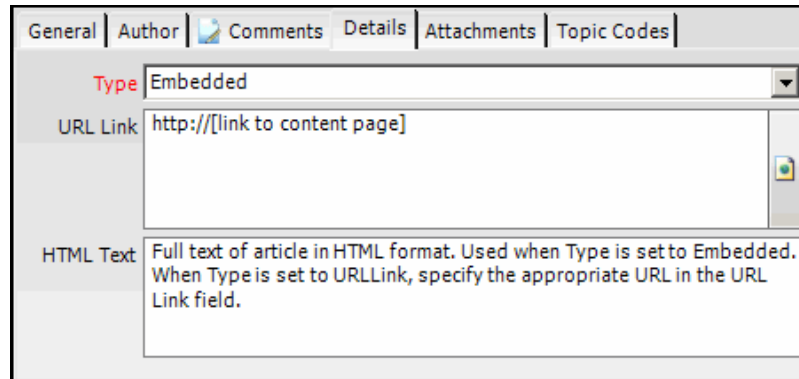
The screenshot shows a web application window titled "New Web Articles Record". The window has a standard Windows-style title bar and a toolbar. Below the toolbar are several tabs: "General", "Author", "Comments", "Details", "Attachments", and "Topic Codes". The "General" tab is selected and contains the following fields:

- Name:** "How to Build a Box"
- Summary:** "This article explains the process for building a box."
- Category:** "Home Improvement" (with a search icon and a close icon)
- Status:** "Active" (dropdown menu)
- Date Written:** "1/1/2009" (with a calendar icon)
- Date Available On Web:** "5/23/2009" (with a calendar icon)
- Days To Highlight:** "5"
- Highlight Term:** "Temporary" (dropdown menu)
- Highlight Type:** "Topic Code" (dropdown menu)

- **Highlight Type:** Specifies if you want this article to appear to all visitors to the website (All) or only to users who share at least one Topic Code in common with this article.
4. If desired, specify information about the Web Article's author on the **Author** tab. This includes an **Author** link box to the Persons service and a **Show Author Info** check box that determines if the author information is available to display on the e-Business site or in a RSS Feed.
  5. Click the **Details** tab and specify the article's main content or the link to its content:
    - If you want to link the article to another content page, select **URLLink** as the **Type** and enter the appropriate web location in the **URL Link** field. A user will be redirected to this page when he or she selects this article on the website.

- If you want to store the full text of the article in this record and have the e-Business site automatically generate a content page for this article, set **Type** to **Embedded** and enter the text in HTML format in the **HTML Text** field.

Figure 4.20  
Web Articles  
Record's  
Details Tab



General | Author | Comments | Details | Attachments | Topic Codes

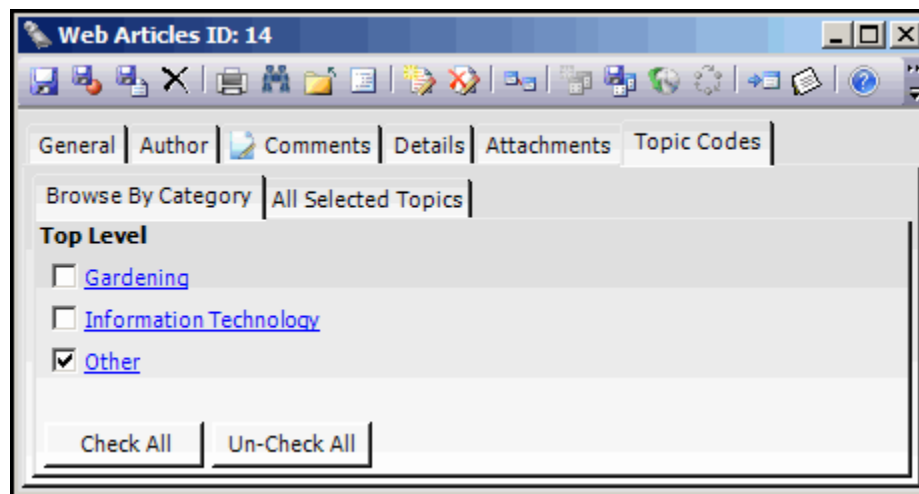
Type: Embedded

URL Link: http://[link to content page]

HTML Text: Full text of article in HTML format. Used when Type is set to Embedded. When Type is set to URLLink, specify the appropriate URL in the URL Link field.

6. Save the record.
  - The Topic Codes tab becomes active.
7. If you selected a Highlight Type of Topic Code, click the **Topic Codes** tab and place a check mark next to each Topic Code with which you want to associate this article.
  - See the “Topic Codes” chapter in the *Aptify Customer/Member Management Guide* for information on creating and configuring Topic Codes so that they appear on a Web Articles record’s Topic Codes tab.

Figure 4.21  
Linking to  
Topic Codes



Web Articles ID: 14

General | Author | Comments | Details | Attachments | Topic Codes

Browse By Category | All Selected Topics

**Top Level**

Gardening

Information Technology

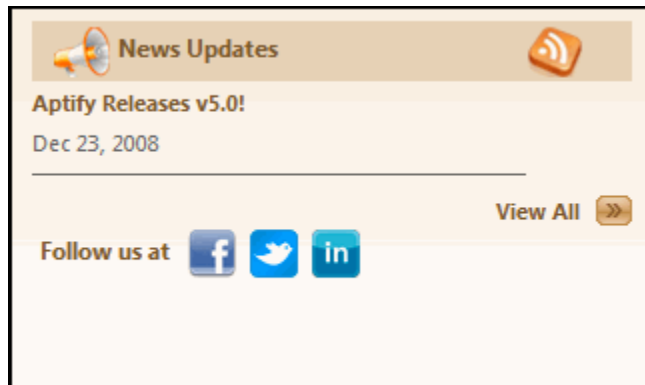
Other

Check All | Un-Check All

8. The Web Article can appear on an e-Business site once all of the criteria specified in its record are met (e.g., the Date Available On Web has passed, the article is Active, the current user shares one or more topic codes, if applicable, etc.).



Figure 4.22  
Web Articles  
Displayed in  
Breaking News  
Section



## Creating RSS Channels

Aptify e-Business 5.0 includes support for generating RSS (Really Simple Syndication) feeds from an e-Business website to push new content automatically to subscribers as XML data streams. To support this feature, Aptify provides the RSS Feed user control that an organization can add to an E Business Web page and the RSS Channels entity that defines the possible channels that exist and stores the source SQL statements used to retrieve relevant information from the database.

The following is an overview of how an organization can implement a RSS feed for e-Business content:

1. An organization determines the type of content to push to subscribers in an RSS feed.
2. An administrator creates an RSS Channels record to identify the applicable content.
  - The RSS Channels service is in the e-Business application by default.
  - The RSS Channels record specifies the details of the RSS feed, including the following information:
    - **Title:** RSS Feed name.
    - **Link:** The URL to the website that produces this RSS Feed.
    - **Status:** The channel's current status (Active, Pending, On Hold, or Cancelled).
    - **TTL:** Time To Live. This is the number of minutes that the channel can be cached before it should be refreshed by the feed subscriber.
    - **Item SQL:** This is a SQL statement that maps fields from records in the database to RSS Channel elements. See the sample records provided by Aptify for examples.
    - **Type:** Options are Standard or Custom. Standard corresponds to Aptify's built-in functionality for generating RSS XML. The Custom option supports a plug-in architecture so an organization can modify the behavior for a partic-

ular type of feed if needed. When Custom is selected, an administrator also completes the fields on the Plug-In tab to specify the appropriate plug-in object created by a developer that sub classes the ChannelBase class in the Aptify.Framework.Web.Common.RSS namespace (AptifyRSSFeed assembly). See the *Aptify Software Development Kit (SDK)* for more information on this class.

- e-Business includes two sample RSS Channels records, one for publishing Web Articles feeds and one for publishing Contact Log information for a user.
- For more information on the RSS Channel elements, refer to the RSS 2.0 specification. See <http://feedvalidator.org/docs/rss2.html>.

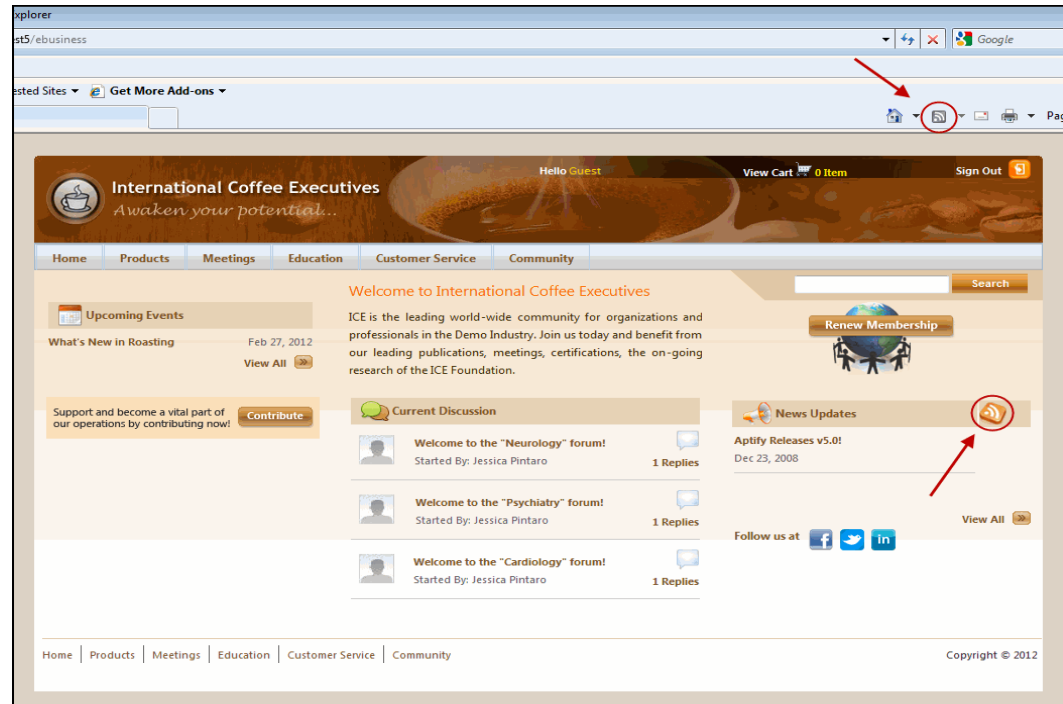
Figure 4.23  
RSS Channels  
Record

The screenshot shows a web-based form for managing RSS channels. The title bar of the window reads "RSS Channels ID: 1". The form is organized into two main panels. The upper panel contains three input fields: "Title" with the value "Web Articles", "Link" with the value "Http://ebusinessAbout/WebArtides.aspx", and a large empty "Description" text area. Below this is a horizontal tabbed interface with tabs for "General", "Item SQL", "Plug-In", "Comments", and "Attachments". The "General" tab is selected and contains several more fields: "Title" (Web Articles), "Link" (Http://ebusinessAbout/WebArtides.aspx), "Description" (empty), "Type" (Standard), "Status" (Active), "TTL" (60), "Language" (English), "Copyright" (© Aptify Corporation), and "Docs" (empty).

3. A developer adds the RSS feed to the e-Business website by adding the RSSFeed user control to an e-Business Web page and specifying the ChannelID and RSS Title properties for the feed. See "RSS Feed" on page 246.
  - The e-Business sample site's home page includes a link to the sample Web Articles RSS feed.

4. Once the website is live, users can subscribe to the RSS feed using an RSS feed reader to receive up-to-date content as it is published to the website. Many Web browsers, such as Microsoft Internet Explorer 7 and Mozilla Firefox 2, include RSS feed readers. An RSS feed reader is also integrated into Microsoft Outlook 2007.
  - Figure 4.24 shows how a user can access RSS feed content by clicking either the RSS feed icon on the e-Business sample site's home page or clicking the RSS feed icon in the Internet Explorer 7 toolbar.

Figure 4.24  
RSS Icon on  
Internet  
Explorer 8



## Automating Email Unsubscribes

The e-Business sample site includes an example of how to process unsubscribe requests for bulk messages from your client community. This functionality allows email recipients to unsubscribe from an organization's bulk mailings. When properly configured, an organization can embed hyperlinks in bulk emails that allow users to remove themselves from email distributions. The following steps describe the unsubscribe process as implemented on the e-Business sample site (see the files in the site's *Aptify\_General* folder to review the page and code-behind file):

1. An organization adds a hyperlink to bulk messages that recipients can click to unsubscribe from future messages. This hyperlink should link to the following URL:
  - **[http://\[e-Business ServerName and path\]/Unsubscribe/ubml\\_mar.aspx](http://[e-Business ServerName and path]/Unsubscribe/ubml_mar.aspx)**

- For example, if you installed e-Business using the default path on a test server named TEST, the URL would be:  
*http://TEST/ebusiness/Unsubscribe/ubml\_mar.aspx.*  
Or, if you are running the e-Business site from your organization's primary domain, the URL would be something like:  
*http://www.organization.com/Unsubscribe/ubml\_mar.aspx.*
2. A user receives a bulk message from the organization and decides that he or she no longer wants to receive these messages. The user clicks the link within the message to begin the unsubscribe process.
  3. The e-Business Unsubscribe page opens in the user's Web browser. The user enters his or her email address and any comments, if applicable. The user then clicks the **Submit** button.

Figure 4.25  
Sample Site  
Unsubscribe  
Page

Home Products Meetings Education Customer Service Community

**Unsubscribe**

Unsubscribe To International DemoAssociation International's Information Service Emails

Please enter in your email address if you would like to be removed from Aptify email distributions. After you complete this form, an email will be sent to the address specified below with a link that must be clicked to confirm removal from the list. Please check your email after you complete this form and make sure to click on the link in the email to complete the unsubscribe process.

The reason for this extra step is to ensure verification of the email account owner.  
Thank you for completing this form and we apologize for any inconvenience that prior messages may have caused.

Email

Comments

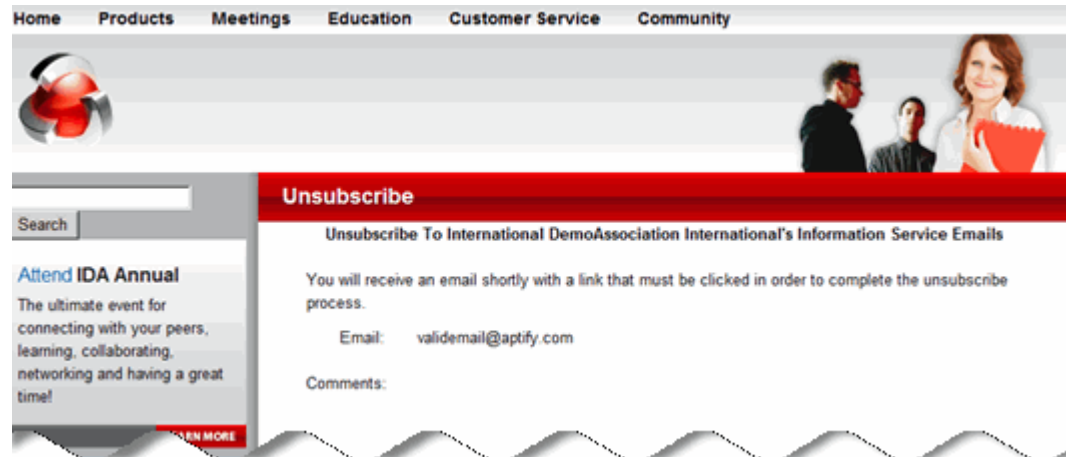
Attend IDA Annual  
The ultimate event for connecting with your peers, learning, collaborating, networking and having a great time!  
[LEARN MORE](#)

**IDA Community**  
[Meetings](#)  
[Catalog](#)  
[Education](#)  
[Forums](#)  
[Customer Service](#)

4. The user's Web session redirects to a page informing the user that a confirmation email will be sent to the provided address which will contain a link that must be clicked to complete the process.
  - Behind the scenes, the e-Business server confirms that the specified email address corresponds to an address that appears on a Persons record in Aptify. If the address corresponds to a Persons record, then the server generates a message to the specified email address containing an additional link to complete the unsubscribe process. The system also automatically generates a Contact Log record linked to that Persons record to track that the unsubscribe request was received and that the confirmation message was sent.

5. The user receives the generated message and clicks the link in that message, which opens a confirmation page in the user's Web browser (as shown below).
  - Behind the scenes, when the user clicks the unsubscribe link in the generated email, Aptify automatically checks the **Exclude From Email** box on the Persons record that corresponds to the provided email address. Also, the system automatically generates a second Contact Log record to track that the "Unsubscribe from Emails" process was completed successfully for that person.

Figure 4.26  
Unsubscribe  
Confirmation  
Page



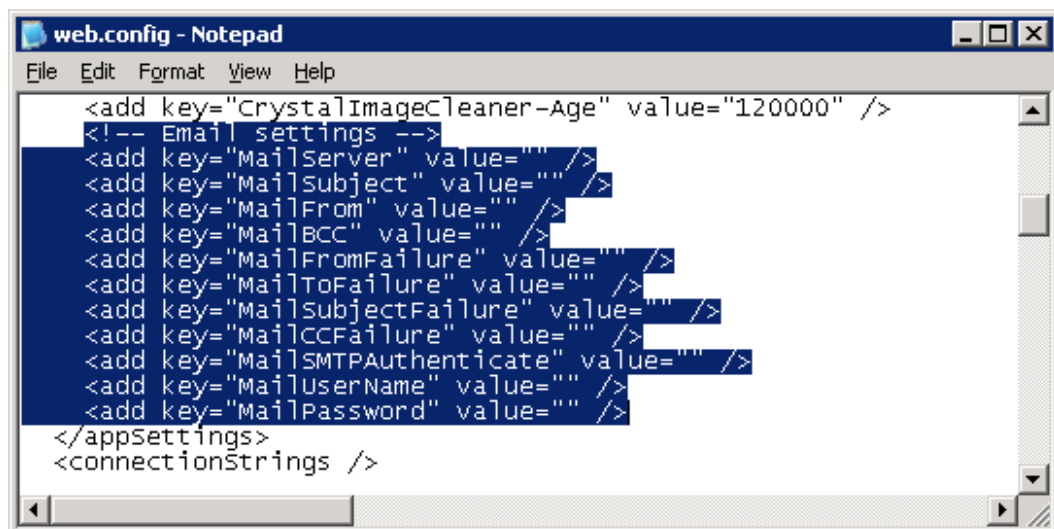
## Unsubscribe Configuration Steps

To implement this feature, you must configure the email setting in the e-Business site's *web.config* file with the appropriate information for your organization. The *web.config* file is in the root folder of your e-Business site on the Web server. This includes configuring the following attributes:

- **MailServer** – The name of the SMTP server that will send the unsubscribe confirmation request emails.
- **MailSubject** – The subject line of the confirmation email. For example, "Please Confirm Unsubscribe Request."
- **MailFrom** – The email address from which confirmation requests are sent.
- **MailBCC** – If applicable, an email address that should receive blind copies of all confirmation requests.
- **MailFromFailure** – The email address from which a failure notification will be sent if the attempt to send the unsubscribe confirmation is unsuccessful.
- **MailToFailure** – The email address to which a failure notification will be sent if the attempt to send the unsubscribe confirmation is unsuccessful.
- **MailSubjectFailure** – The subject line for a failure notification. For example, "Failed to Process Unsubscribe."

- **MailCCFailure** – If applicable, this attribute specifies another email to carbon copy when sending failure notifications.
- **MailSMTPAuthenticate** – If the SMTP server you specified is configured to authenticate senders before transmitting message, enter **1** to specify that the MailUsername and MailPassword that you specify should be authenticated by the server.
- **MailUsername** – This attribute identifies the user account under whose context messages should be sent for authentication purposes. This is the account that the Mail Server will attempt to authenticate.
- **MailPassword** – This attribute identifies the password for the user account specified in the MailUsername attribute.

Figure 4.27  
Unsubscribe  
Parameters in  
Web.config



```
web.config - Notepad
File Edit Format View Help
<add key="CrystalImageCleaner-Age" value="120000" />
<!-- Email settings -->
<add key="Mailserver" value="" />
<add key="Mailsubject" value="" />
<add key="MailFrom" value="" />
<add key="MailBCC" value="" />
<add key="MailFromFailure" value="" />
<add key="MailToFailure" value="" />
<add key="MailsubjectFailure" value="" />
<add key="MailCCFailure" value="" />
<add key="MailSMTPAuthenticate" value="" />
<add key="MailUserName" value="" />
<add key="MailPassword" value="" />
</appSettings>
<connectionStrings />
```

## Configuring Clickthrough Tracking

The e-Business sample site includes a *TrackClick* page that can automatically track website hits generated by marketing emails. When an organization sends out a marketing email, the email message typically contains one or more links back to an organization's website. Using Web Clickthrough tracking, an organization can evaluate the effectiveness of marketing campaigns by linking a website hit to a specific source message. The following steps describe the TrackClick process as implemented on the e-Business sample site:

If you want to evaluate how many recipients are simply opening your bulk message (not necessarily selecting the link back to your website), you can configure this tracking functionality on an image within the email. See "Configuring Web Clickthrough Tracking Through An Image" on page 81 for more details.

1. For a particular bulk marketing message, the organization defines a **Source** value for the message. This can then be used later to tie Web Clickthrough hits to a particular marketing email.
2. When preparing the bulk marketing message, the message designer uses the following format for the message's URL links:
  - `<a href="http://[e-Business ServerName and path]/TrackClick.aspx?Email=[recipient's email]&Source=[Source Value]&Redirect=http://[e-Business ServerName and redirect path]">`
  - For example:  
`<a href="http://www.myorganization.com/TrackClick.aspx?Email=bob.smith@customer.com& Source=Spring_Marketing_Campaign& Redirect=http://www.myorganization.com/SpringSpecials.aspx">`
  - This link uses the following elements:
    - Link to e-Business server's TrackClick.aspx page.
    - **Email:** Email address of the recipient.

Keep in mind the following when specifying email address information in a link:

- Aptify's Bulk Messaging system supports personalization and can automatically populate the appropriate recipient email address on a message-by-message basis. See the *Aptify User Guide* and the *Aptify Administration Guide* for more information.
- The e-Business site matches the email address in the URL with a Persons record to identify the Person who clicked the link.
  - If multiple Persons record have the same email address, Aptify links the Web Clickthrough record to the Persons record with the lowest ID.
  - If the email address does not match an address in any Persons record, no Persons record is specified on the Web Clickthrough record.
- The email element is not required for the TrackClick link. If not provided, a Web Clickthrough record is created but not linked to any Persons record.
- Also, as an alternative to an email address element, you can use either a **WebUserID=[user name]** element or a **PersonID=[record ID]** element. For WebUserID, Aptify populates the Web Clickthrough record's Person link based on the Persons record linked to the specified user. For PersonID, Aptify uses the ID specified to populate the Person field.

- **Source:** The Source value assigned to the marketing message. This is an optional element to include in TrackClick links.
  - **Redirect:** The destination URL to which the website user should be redirected by the TrackClick page.
3. The organization sends out bulk emails that include the TrackClick links.
  4. A recipient reviews the email and clicks a link embedded in the message.
  5. The recipient's web browser opens to the redirect location specified in the URL.
    - Behind the scenes, Aptify has generated a Web Clickthrough record that contains the following information:

Figure 4.28  
Web Click-  
through  
Record

Web Clickthrough ID: 1	
General	Attachments
Source	Spring_Marketing_Campaign
Date	3/3/2009 6:45:38 PM
Person ID	Tate, Luke/Danube Partners
Web User ID	
Redirect	http://www.myorganization.com/SpringSpeicals.aspx

- **Source:** The source value embedded in the TrackClick URL.
- **Date:** The date and time when the recipient clicked the link (that is, the date and time when the Web Clickthrough record was created).
- **Person ID:** This field links to the Persons record for the person who clicked the link. Aptify identifies the appropriate Persons record based on the email address, PersonID, or user name provided in the TrackClick URL.
- **user ID:** Identifies the user name of the user who clicked the link. This field is only applicable if you use a WebUserID element in the TrackClick link rather than an Email element.
- **Redirect:** The URL to which the website visitor was redirected (as specified in the Track Click URL).

A user can review a person's Web Clickthrough traffic from the Persons record's **Contact Log > Web Clicks** sub-tab.



## Configuring Web Clickthrough Tracking Through An Image

If you want to evaluate how many recipients are simply opening your bulk message (not necessarily selecting the link back to your website), you can configure the tracking functionality on an image within the email. When using the Web Clickthrough tracking feature in this scenario, the user's email program uses the image's URL to download the image and tracks the opening of the email as part of the download process. To implement this tracking functionality, a designer using the following format for an image's source:

- ``
- For example:  
`<img src =  
"http://www.myorganization.com/TrackClick.aspx?Redirect=http://www.myorg  
anization.com/header-logo.gif&Email=bob.smith@customer.com&  
Source=Opened_Spring_Marketing_Campaign_Email">`

Note that with this tracking option, if the recipient's mail program does not allow image downloads, the opening of the bulk email will not be tracked unless the user chooses to download the images.

## Configuring Items for Download After Purchase

To create a product that can be ordered and then downloaded, such as software or documentation, a product can be created and by configuring the necessary details on the Products form, a user can create a download that is tied to that product. When the product is shipped a Product Downloads record is created to track the purchase and the Order recipient receives an email with the URL for their item.

This section reviews the following areas:

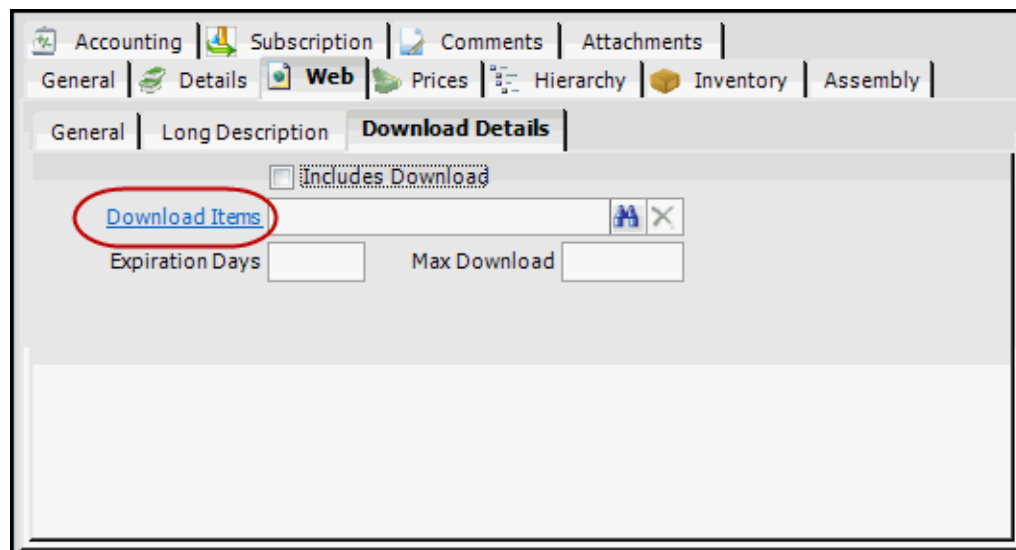
- [Product Setup](#)
- [Order Entry Process](#)

### Product Setup

To create a product with a download enabled refer to the following steps:

1. Create a new **Products** record.
  - Refer to the “[Creating a Products Record](#)” section of the *Aptify Product Setup and Administration Guide* for steps on the creation of a Products record.
2. Select the **Web** tab.
3. Select the **Download Details** tab.
4. Click on the **Download Items** text to create a new Download Item record,
- 5.

Figure 4.29  
Creating a  
New  
Download  
Items Record

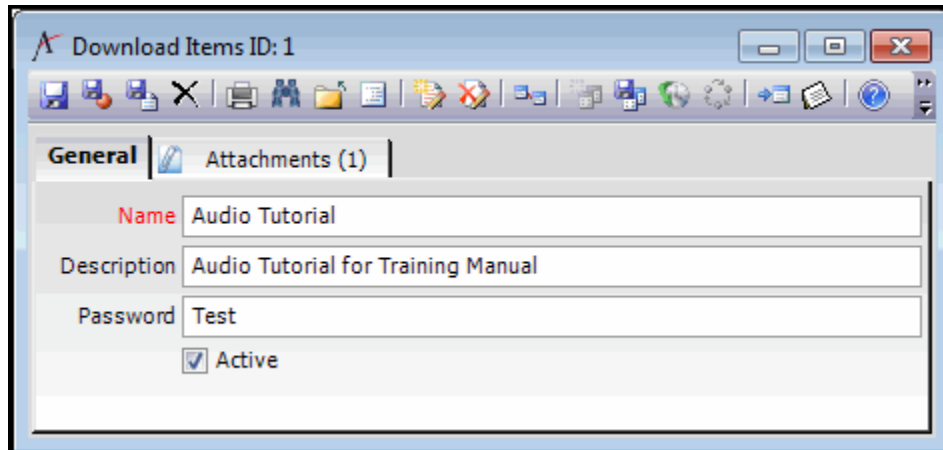


The screenshot shows the 'Download Details' tab in the Aptify Product Setup interface. The 'Web' tab is selected, and the 'Download Details' sub-tab is active. A checkbox labeled 'Includes Download' is checked. Below it, the 'Download Items' link is circled in red. There are also input fields for 'Expiration Days' and 'Max Download'.

6. Complete the required fields for the **New Download Items** Record.

- If you password-protect your download file, you can specify the password required to unlock that file in the Password field. This password can then be sent to the customer in the “Ready for Download” email notice so the customer will have that information available after purchase.
- Select the **Active** check box to include the Download Item on the Product record.

Figure 4.30  
New Download Items  
Record



The screenshot shows a web application window titled "Download Items ID: 1". The window has a standard toolbar with icons for file operations and navigation. Below the toolbar, there are two tabs: "General" (selected) and "Attachments (1)". The "General" tab contains the following fields:

- Name:** Audio Tutorial
- Description:** Audio Tutorial for Training Manual
- Password:** Test
- Active:**

7. **Save** the record.
8. Click on the **Attachments** tab, and right click to add an attachment to your Download Items record.
  - This attachment is the item that Web Users will actually download from your site.
9. **Save and Close** the Download Items record.
10. On the **Download Details** tab, specify the Expiration Days and the Max Download.
  - **Expiration Days:** This is the number of days the item will be available for download. It is calculated from the date the order is shipped.
  - **Max Download:** This is the number of times an item can be downloaded once it is purchased and shipped.

Figure 4.31  
Product  
Record  
Download  
Details

The screenshot shows a software window titled "Products ID: 9911". The main form has several fields: "Name" (Audio Tutorial), "Category" (Audio Files), "Type" (General), and "Parent Product". Below these are tabs for "Accounting", "Subscription", "Comments", and "Attachments". A secondary set of tabs includes "General", "Details", "Web", "Prices", "Hierarchy", "Inventory", and "Assembly". The "Download Details" tab is selected, showing a checked "Includes Download" checkbox. Underneath, the "Download Items" field is populated with "Audio Tutorial". At the bottom of this section, "Expiration Days" is set to 30 and "Max Download" is set to 2. These two fields are circled in red.

11. Place a check in the **Includes Download** box to enable the Download Item on this Product record.
12. **Save and Close** the Products record.

## Order Entry Process

The Order process for products that include a downloadable item is identical to the creation of an order for any other product. (For specific instruction on how to create an order for any product refer to the "[Taking Orders](#)" chapter of the *Aptify Order Entry Guide*.) A Web User or staff user places the order for the desired product. When the order ships, if the product meets the following criteria:

- The **Include Download** box on the Products Download Details tab is checked
- The linked Download Items record has the **Is Active** box checked

Then, the following actions take place:

- A Product Downloads record is created to track the download purchase info in a separate top level entity.

Figure 4.32  
Product  
Downloads  
Record

Field	Value
Order	9880
Person	Baldwin, Aiesha/Danube Partners
Product	Audio Tutorial
Download Item	Audio File
Download Expiration Date	4/15/2012
Max Download	2
Total Downloads	0

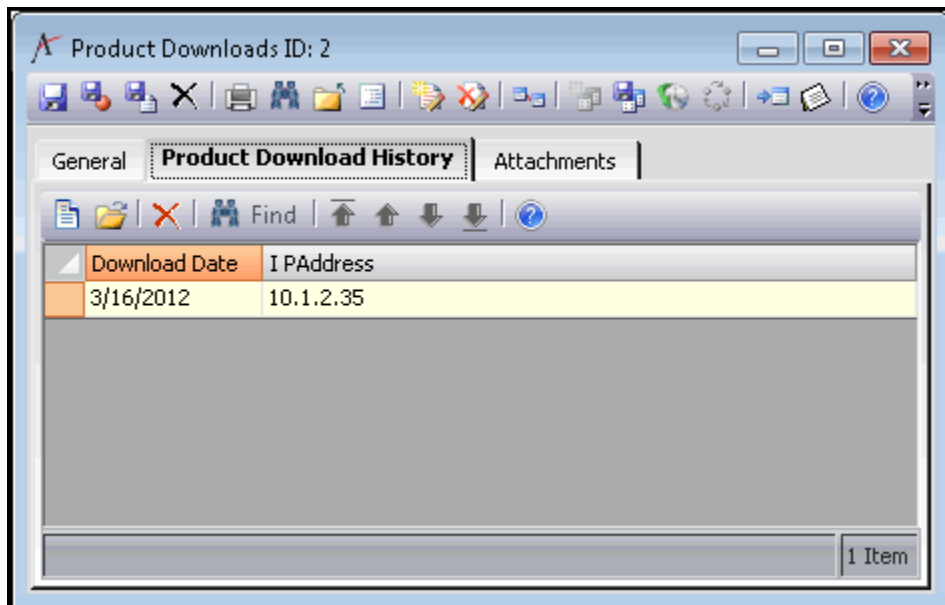
- Aptify sends the Product Downloads entity's PersonID an email that states that there is an item ready for download.
  - The email includes a URL to the **My Downloads** page.
  - The email will also include the document password if one is specified on the Download Items record.

Figure 4.33  
Product  
Download  
Confirmation  
email



- After an item has been successfully downloaded the Total Downloads field on the Product Downloads record increments by 1 and the details of the download (date/time and IP Address from which it was downloaded) are tracked on the Product Download History tab.

Figure 4.34  
Product  
Download  
History



- Note that a Web User will no longer be able to download the file if he/she exceeds the Max Downloads value on the Product Downloads record. Likewise, the file download is unavailable if the Download Expiration Date has passed. If necessary, a staff user can modify the Download Expiration Date and/or Max Downloads to extend the access period to the download file for that particular customer.

## Downloadable Product Forms

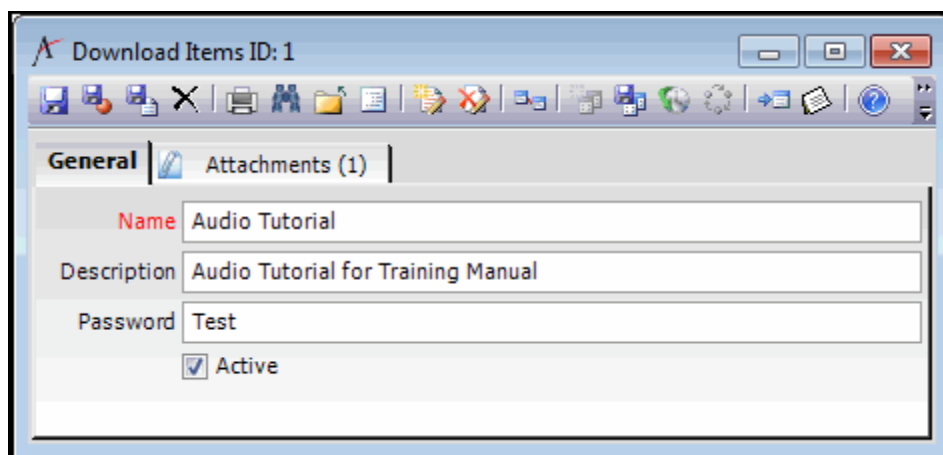
This section provides field-by-field information on forms used in the configuration of a Downloadable Product. These services are located in the Product Maintenance application.

- [Download Items Form](#)
- [Product Downloads Form](#)

### Download Items Form

A Products record links to a Download Items record to identify the details about a downloadable item that is tied to a product.

Figure 4.35  
Download  
Items Form



The screenshot shows a web browser window titled "Download Items ID: 1". The browser's address bar and toolbar are visible at the top. The main content area displays a form with two tabs: "General" and "Attachments (1)". The "General" tab is selected and contains the following fields:

- Name:** Audio Tutorial
- Description:** Audio Tutorial for Training Manual
- Password:** Test
- Active:**

#### Attachments Tab

The attachments tab generally stores any attachments relevant to the record. For a Download Items record the attachment included on this record will be the item that is downloaded as part of the Product, (e.g. audio files, PDF, etc...)

#### General Tab

##### Name

The name of the Download Item.

##### Description

A Description of the Download Item.

##### Password

The password to access the Download Item.



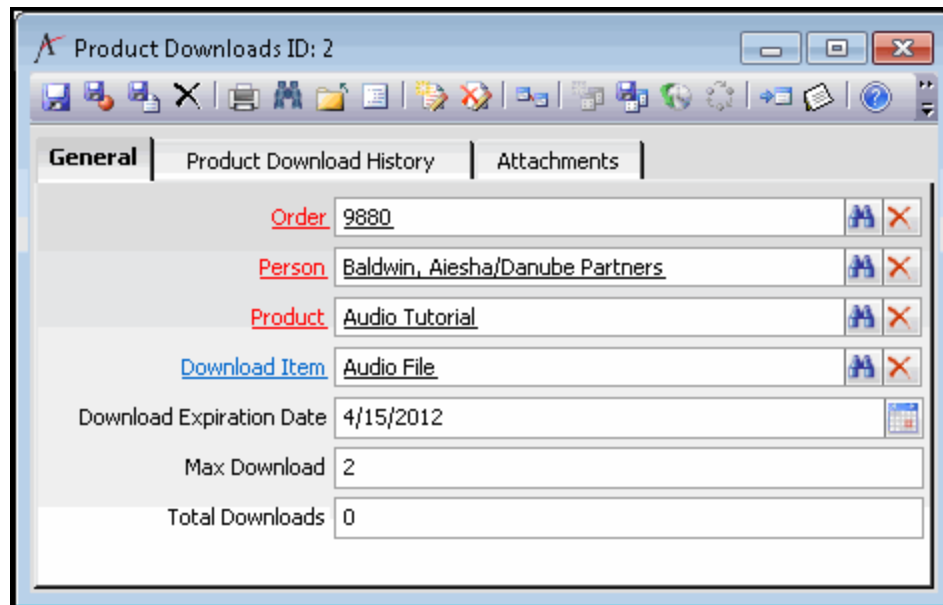
## Active

Checking the Active box enables the Download Item.

## Product Downloads Form

The Product Download Form is generated when a user places an Order for a Product that includes a Downloadable item. When the Order status is shipped a Product Download record is generated to track the attributes associated with the Order and downloadable item.

Figure 4.36  
Product  
Downloads  
Form



The screenshot shows a web application window titled "Product Downloads ID: 2". The window has a toolbar with various icons and three tabs: "General", "Product Download History", and "Attachments". The "General" tab is active and contains the following fields:

Order	9880	A X
Person	Baldwin, Aiesha/Danube Partners	A X
Product	Audio Tutorial	A X
Download Item	Audio File	A X
Download Expiration Date	4/15/2012	Calendar icon
Max Download	2	
Total Downloads	0	

## Attachments Tab

This tab generally stores any attachments relevant to the record.

## General Tab

### Order

The linked Order that generated the Product Downloads record.

### Person

The name of the person who ordered the Product with the Download.

### Product

The name of the downloadable product ordered by the Person.

**Download Item**

The name of the Download Item linked to the Product.

**Download Expiration Date**

The date that the Download expires. This is defined on the Web tab of the Products record under Download Details. This field can manually edited by a staff member in instances where additional time is required.

**Max Download**

The maximum number of downloads allowed for the downloadable product. This is defined on the Web tab of the Products record under Download Details. This field can manually edited by a staff user in instances where additional downloads are needed.

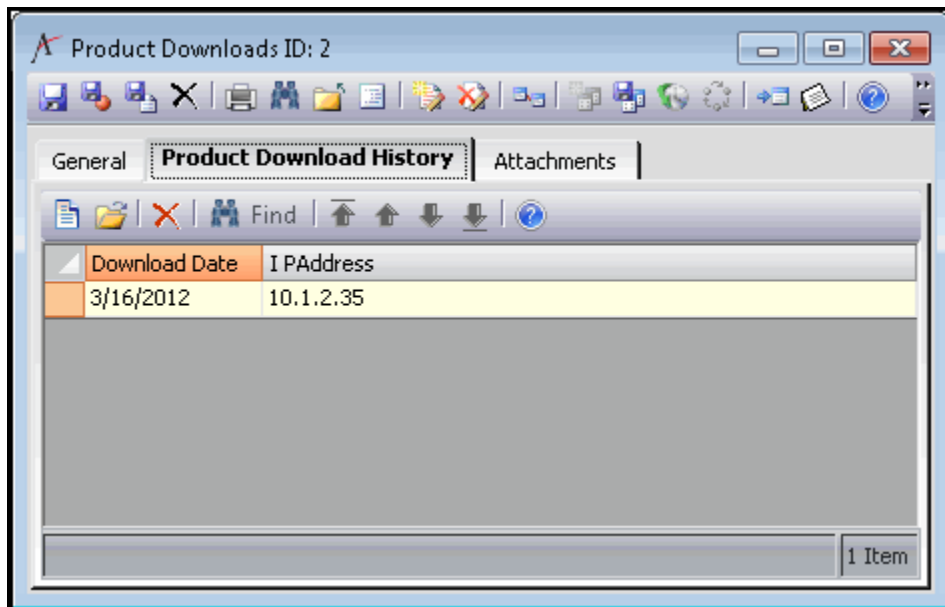
**Total Downloads**

The total number of downloads for the product. This field is updated each time the product is downloaded.

**Product Download History Tab**

The Product Download History Tab displays the specific details of each download including the Download Date and IP Address as shown in the example below.

Figure 4.37  
Product  
Download  
History



# Chapter 5

## Integrating with a Content Management System

### Introduction

Starting with Aptify e-Business 5.0, the website functionality delivers all Aptify functionality in the form of granular and reusable ASP.NET User Controls. These controls can be hosted in any Content Management System (CMS) environment that supports the use of ASP.NET User Controls.

With this approach in mind, the Aptify e-Business 5.5 setup program provides out-of-the-box integration with two leading CMS solutions, Sitefinity and Ektron. In addition, Aptify e-Business 5.5 includes the ICE theme starter site for Sitefinity 4.4. See “Installing the e-Business Sample Site in a new Sitefinity Site” in the **Aptify e-Business 5.5 Installation Guide** for information about installing in a Sitefinity environment.

An organization can also choose to install within any CMS environment that supports the ASP.NET User Control architecture such as Ektron or Sitecore. See the **Aptify e-Business 5.5 Installation Guide** for information about installing to a CMS.

This chapter describes the framework provided with Aptify e-Business to integrate with any third-party Content Management Systems (CMS) which supports User Control imports. It also describes the functionality provided with Aptify’s out-of-the-box integration with Sitefinity and Ektron.

- [CMS Integration Architecture](#): This section provides an overview of the CMS Integration Architecture provided by Aptify.
- [CMS Integration Configuration](#): This section provides information on the different forms within the Aptify 5.0 client application to integrate a CMS to the client application. Note that the examples in this section refer to the default Sitefinity implementation.
- [CMS Integration Forms](#): This section describes the fields that appear on the forms of the Content Management services.

### CMS Integration Architecture

Aptify e-Business provides a framework for integrating with any third-party Content Management Systems (CMS) which supports User Control imports. Many organizations use a CMS to create, maintain, and publish content to their websites. e-Business provides an integration architecture for displaying CMS-managed content on an Aptify e-Business site.

Aptify’s CMS integration includes the following key features:

- Synchronization between Aptify users and CMS users, including the ability to automatically create new CMS users when new Aptify users are added.
- Ability to provide a unified login between Aptify and the CMS. For example, if a user logs in at the e-Business site, his or her login credentials are automatically passed to the CMS when accessing CMS content.
- Synchronization between Aptify Topic Codes and an CMS equivalent.
- Ability to display HTML content from the CMS to Aptify users based on matching Topic Codes using the e-Business CMS Contents user control.
  - Content management is still handled within the CMS application but content delivery can occur through the e-Business site using the CMSContents user control.

To implement this architecture, Aptify e-Business deploys the following entities, metadata, and wizards to Aptify during installation:

- **Content Management Application and its related services:** e-Business adds a Content Management application that includes three services:
  - **Content Management Systems:** This service stores information about the Content Management Systems that are available for integration with Aptify. By default, Aptify adds a record for the Sitefinity CMS during installation.
  - **CMS Topic Code Relations:** This service stores links between Aptify Topic Codes and the corresponding topic codes in a CMS. Records in this service are created automatically using the CMS-Aptify Topic Code Synchronization wizard. See “Aptify Topic Code Synchronization Wizard” on page 100 for information on this service.
  - **CMS User Relations:** This service stores links between Aptify users and the corresponding users in a CMS (for example, in Sitefinity these users are known as “users” and in Ektron these users are known as “Membership Users”). Records in this service are created automatically by e-Business (depending on the *User Link Behavior* setting in the corresponding Content Management Systems record) or using the CMS-Aptify User Synchronization wizard. See “Aptify Topic Code Synchronization Wizard” on page 100 for information on this service.
- **CMS-Aptify Topic Code Synchronization Wizard:** This wizard simplifies the process of linking Aptify Topic Codes with corresponding topic codes in the CMS. Note that a CMS may use different terminology to refer to the topic code concept (for example, Sitefinity refers to this functionality as “Tags” while Ektron refers to this functionality as “Taxonomies”). To support functionality in the CMS-Aptify Topic Code Synchronization wizard, e-Business adds an Ignored by CMS sub-type tab to the standard Topic Codes form. Records in this sub-type are created automatically based on actions that occur in the wizard. See the “Aptify Topic Code Synchronization Wizard” on page 100 for information on how to use this wizard.

- **CMS-Aptify User Synchronization Wizard:** This wizard simplifies the process of linking Aptify users with corresponding users in the CMS. Note that a CMS may use different terminology to refer to this type of user. See “Ektron CMS Integration” on page 112 for information on how to use this wizard.

## CMS Integration Configuration

This section will focus on the different forms within the Aptify 5.0 client application to integrate a CMS to the client application. This section includes the following:

- [Aptify Content Management Systems Setting](#)
- [Aptify Topic Code Synchronization Wizard](#)
- [Aptify CMS User Synchronization Wizard](#)
- [Ektron CMS Integration](#)
- [Troubleshooting Common Errors](#)

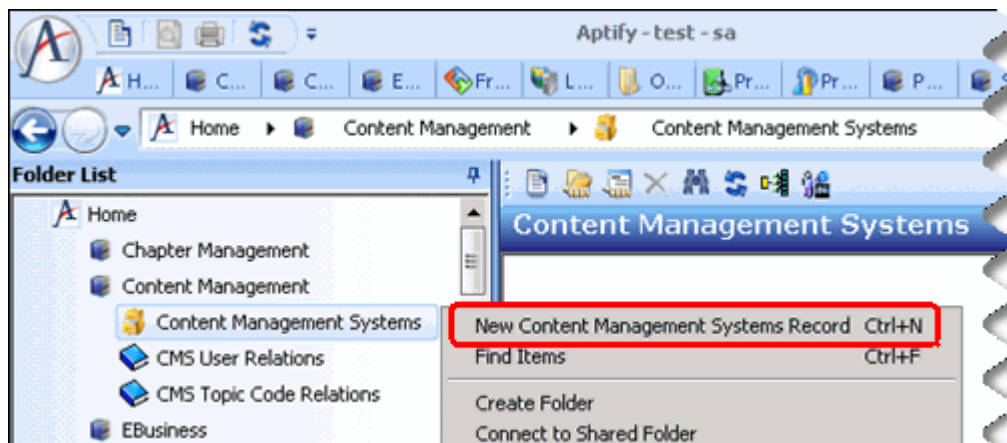
Aptify e-Business provides a framework for integrating with any third-party Content Management Systems which supports User Control imports. However, the examples in this section refer to integration with Sitefinity (minus the “Ektron CMS Integration” on page 112), since e-Business ICE starter site uses Sitefinity.

## Aptify Content Management Systems Setting

Follow these steps to create a new Content Management Systems record. Note that Aptify e-Business already has CMS records pre-installed for Sitefinity and Ektron.

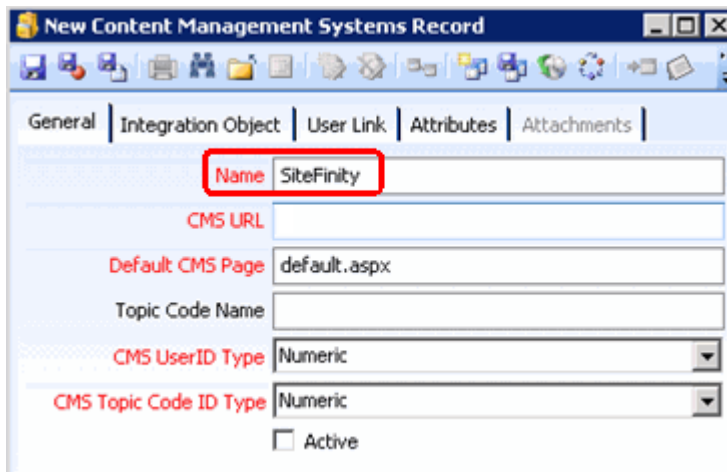
1. Select the 'New Record' option in the Content Management System service within Aptify.

Figure 5.1  
Open dialog  
for New CMS  
entry



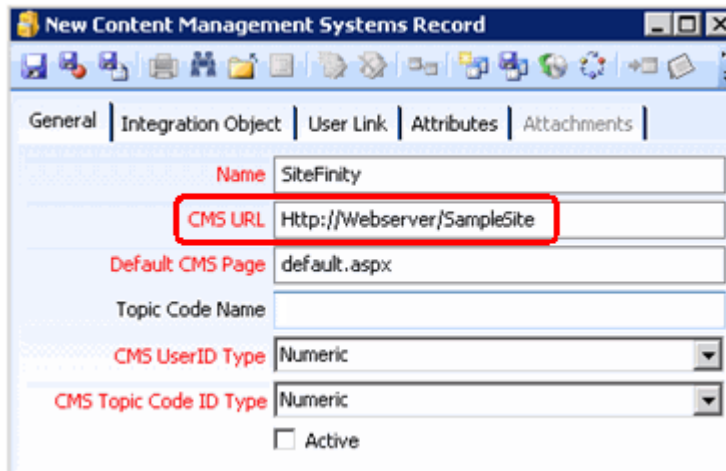
2. Enter the **Name** of the CMS provider.

Figure 5.2  
CMS name



3. Specify the base URL for your CMS site in the **CMS URL** field.
  - For example, **Http:// [Your Webserver] / [Your Site Name]**

Figure 5.3  
CMS URL

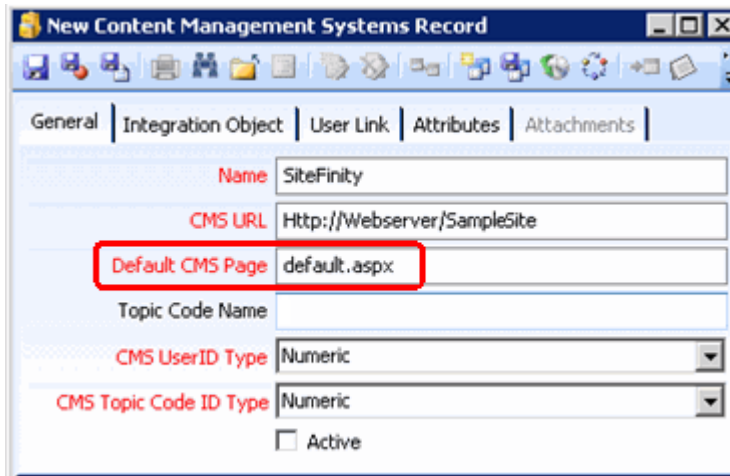


The screenshot shows a web browser window titled "New Content Management Systems Record". The "General" tab is selected. The form contains the following fields:

Name	SiteFinity
CMS URL	Http://Webserver/SampleSite
Default CMS Page	default.aspx
Topic Code Name	
CMS UserID Type	Numeric
CMS Topic Code ID Type	Numeric
<input type="checkbox"/> Active	

- Specify the default page you want to use for your CMS site in the **Default CMS Page** field, most sites use default.aspx as the starting page.

Figure 5.4  
CMS Default  
page



The screenshot shows the same "New Content Management Systems Record" form as in Figure 5.3. The "Default CMS Page" field is now highlighted in red.

Name	SiteFinity
CMS URL	Http://Webserver/SampleSite
Default CMS Page	default.aspx
Topic Code Name	
CMS UserID Type	Numeric
CMS Topic Code ID Type	Numeric
<input type="checkbox"/> Active	

- Specify the CMS term relating to **Topic Code Name**.
  - For example, Sitefinity refers to topic codes as "Tags".

Figure 5.5  
CMS Topic  
Code Name

Name	SiteFinity
CMS URL	Http://Webserver/SamplSite
Default CMS Page	default.aspx
Topic Code Name	Tags
CMS UserID Type	Numeric
CMS Topic Code ID Type	Numeric
<input type="checkbox"/> Active	

- Specify the **User ID** and **Topic Code ID** type format, either numeric or GUID.
  - Sitefinity uses GUID, a hashed value for security.

Figure 5.6  
CMS User and  
Topic Code ID  
type

Name	SiteFinity
CMS URL	Http://Webserver/SampleSite
Default CMS Page	default.aspx
Topic Code Name	Tags
CMS UserID Type	GUID
CMS Topic Code ID Type	GUID
<input type="checkbox"/> Active	

- Place a check mark in the **Active** box.
  - The record is inactive by default.



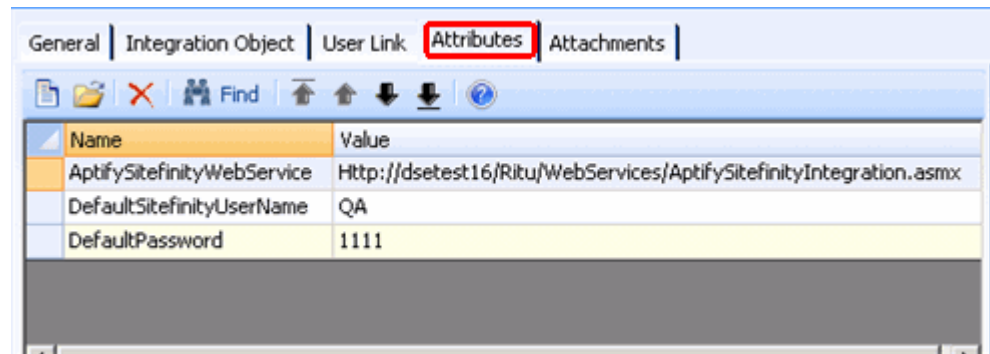
Figure 5.7  
Setting CMS  
Activation

The screenshot shows a Windows-style dialog box titled "New Content Management Systems Record". It has a tabbed interface with "General" selected. The fields are as follows:

Name	SiteFinity
CMS URL	Http://Webserver/SampleSite
Default CMS Page	default.aspx
Topic Code Name	Tags
CMS UserID Type	GUID
CMS Topic Code ID Type	GUID
Active	<input checked="" type="checkbox"/>

8. Click the **Attributes** tab.
9. Specify the appropriate value for each attribute. The first attributes identify the location of the Web Services *asmx* files for your CMS installation. Below are attributes specific to Sitefinity.
  - **AptifySitefinityWebService:** Identifies the location of the Web Services *asmx* files for your Sitefinity installation.
    - You should also confirm that you have the appropriate version of `AptifySitefinityIntegration.vb` in the site's `App_Code` folder. The e-Business 5.5 Updater media include two versions of this file: one for Sitefinity 3.7 and one for Sitefinity 4.4.
  - **DefaultSitefinityUserName:** This attribute defines the Sitefinity User's Username with administrative privileges that should be used to access Sitefinity's Content Management System via Web services. This should be the admin or an equivalent login created by your organization.
  - **DefaultPassword:** This attribute specifies the password for the Sitefinity User with administrative privileges that should be used to access Sitefinity's Content Management System via Web services. This should be the password for the admin or an equivalent login created by your organization.

Figure 5.8  
CMS Web Service Attributes

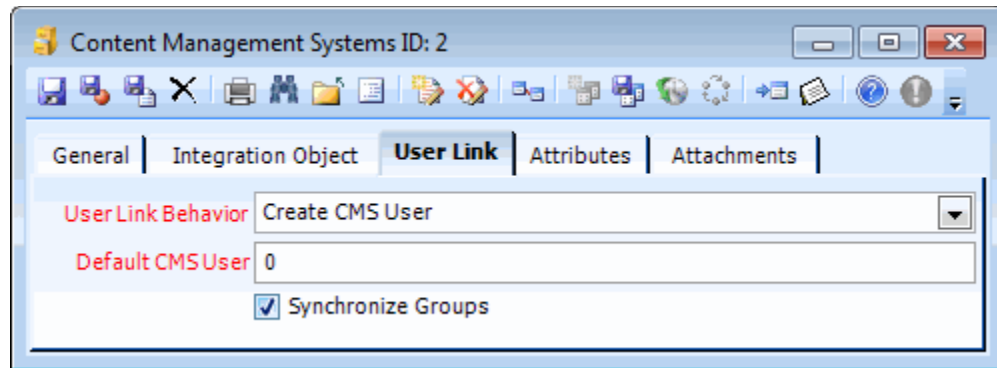


10. Click the **User Link** tab and select the **User Link Behavior** between Aptify and the CMS. The options include:

- **Create CMS User:** Select this option to automatically create a corresponding CMS User when a user logs into e-Business for the first time. Aptify then automatically links the two users together.
  - When a user not already linked to a CMS user logs in to e-Business, Aptify determines if there is an existing CMS user with the same username. If so, Aptify links them together. If not, Aptify creates a new CMS User for the user (using the same username and password as the Aptify user).
  - Note that when creating a new user from the e-Business site, the user is logged in automatically at the end of the process. This in turn generates the appropriate CMS User link at the time the new user is created and logs the user into CMS as that CMS User.
- **Use Anonymous User:** Select this option to have Aptify users connect to the CMS site as an anonymous guest user. For new Aptify users created from an e-Business site, Aptify will attempt to match the user to an existing CMS user with the same username. If a match is not found, then the system will not link the Aptify user to any CMS User. When an Aptify user attempts to access CMS content and that user is not linked to a CMS User, Aptify does not attempt to log the user into the CMS (in other words, the user can access the public areas of the CMS site only).
- **Use Default CMS User:** Select this option if you want new Aptify users to link to a particular CMS User by default. In this case, when an Aptify user logs in for the first time and that user is not already linked to an CMS user, Aptify links the user to the default CMS user. If you select this option, you should also specify the ID of the default CMS User you want to use in the **Default CMS User** field.
  - If you select the Use Default CMS User option, then the specified default user's password should match the Default Password specified on the Content Management Systems record's Attributes tab.

- When a user not already linked to a CMS user logs in to e-Business, Aptify determines if there is an existing CMS user with the same user name. If so, Aptify links them together. If not, Aptify links the user to the Default CMS User.
  - Note that when creating a new user from the e-Business site, the user is logged in automatically at the end of the process. This in turn links the user to the Default CMS User automatically at the time the new user is created and then logs the user into the CMS using the Default CMS User's credentials.
11. If you want to a Web User's group affiliations to apply from Aptify to Sitefinity, check the **Synchronize Groups** box.
- This option is only applicable for the Sitefinity CMS.
  - To synchronize Sitefinity roles with Aptify Web Groups do the following:
    - Create Web Groups in Aptify.
    - Create Roles in Sitefinity that have the same name as the Web Groups in Aptify.
    - Check the Synchronize Groups box on the Sitefinity Content Management Systems record.
  - When the Synchronize Groups option is checked, if a Web User creates a new account in e-Business, the integration automatically creates a new user account in Sitefinity and adds the new Sitefinity user to the roles that correspond to the groups in Aptify.
  - If an existing Sitefinity user is linked to an existing Aptify Web User, then the Sitefinity user's roles update automatically.
  - Each time a Web User logs into the e-Business site and then into Sitefinity, the e-Business/Sitefinity single sign on (SSO) integration re-synchronizes the Sitefinity roles with the user's current Web Groups.
    - This means, removing the user from roles if the user is no longer linked to the corresponding Web Group, or adding the user to roles he/she is not already in if the user is now in a corresponding Web Group.
    - The only exception to this is the built-in Sitefinity administrator role. The e-Business/Sitefinity integration does not set or modify a user's membership in the administrator role.

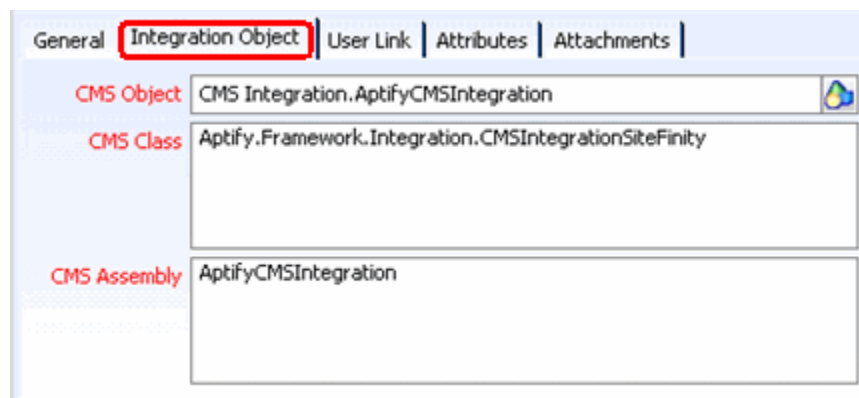
Figure 5.9  
Set User Link  
Behavior



12. Click the **Integration Object** tab.

- **CMS Object:** The object in the Object Repository that provides the integration logic between Aptify and the CMS.
- **CMS Class:** The class within the CMS Object that implements the integration logic between Aptify and the CMS.
- **CMS Assembly:** The assembly name for the object that provides the integration logic between Aptify and the CMS.

Figure 5.10  
Set Integration  
Object



13. Save and close the Content Management Systems record.

## Aptify Topic Code Synchronization Wizard

In the Sitefinity integration model, Aptify Topic Codes link to Sitefinity Tags. This provides a connection between Aptify users and Sitefinity content as follows:

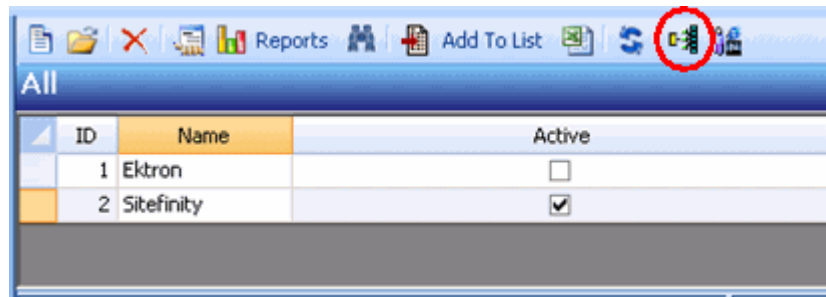
- Aptify users are linked to Persons.
- Aptify Persons are linked to Topic Codes.
- Aptify Topic Codes are linked to SitefinityTags.

- Sitefinity Tags are linked to Sitefinity content pages.

Follow these steps to use the Aptify Topic Code Synchronization wizard to link Aptify Topic Codes with Sitefinity Tags:

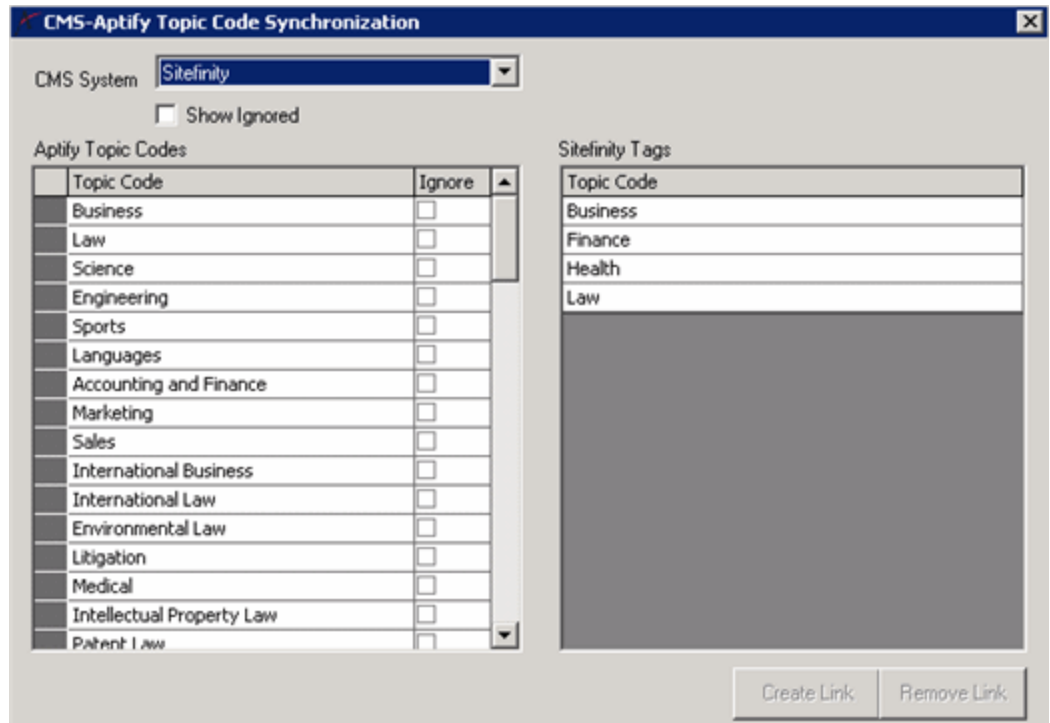
1. Open the Content Management Systems service or a list view of that service.
2. Click the **Topic Code Synchronization** wizard in the view toolbar to open the wizard. Note that there may be a short delay the first time you launch the wizard during an Aptify session.

Figure 5.11  
Launch Topic  
Code Sync  
Wizard



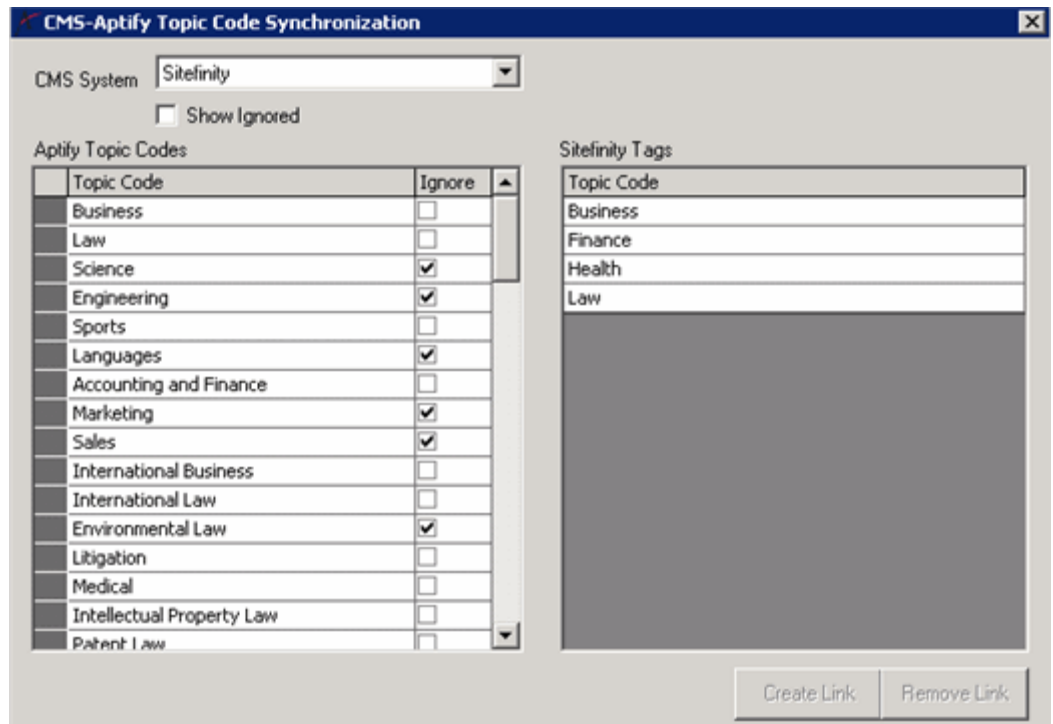
3. Select Sitefinity from the **CMS System** drop-down list if you have more than one Content Management Systems record on your system.
  - The set of active Aptify Topic Codes appears on the left side and the set of available Sitefinity Tags appears on the right side.
  - Note that only active Topic Codes appear. Also, one or more Topic Codes may be marked as **ignore** for the purposes of this wizard so they will not display in the list unless you check the **Show Ignored** button in the wizard's top area.
  - Note that all top-level Sitefinity Tags are displayed.

Figure 5.12  
Topic Code  
Synchroniza-  
tion Wizard



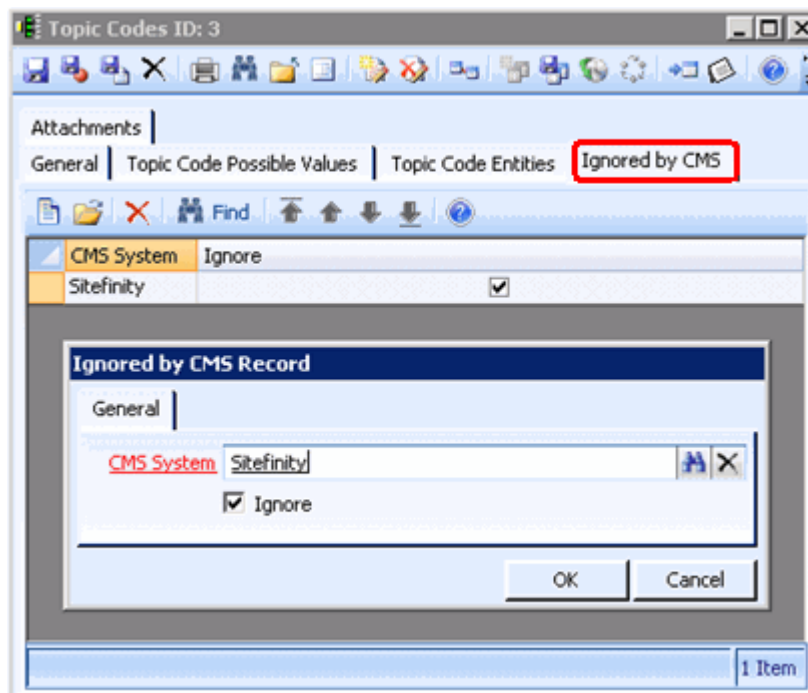
- To limit the number of Aptify Topic Codes that appear in the wizard, place a check mark in the **Ignore** column for those topics that you do not want to appear.

Figure 5.13  
Ignore Topic  
Codes



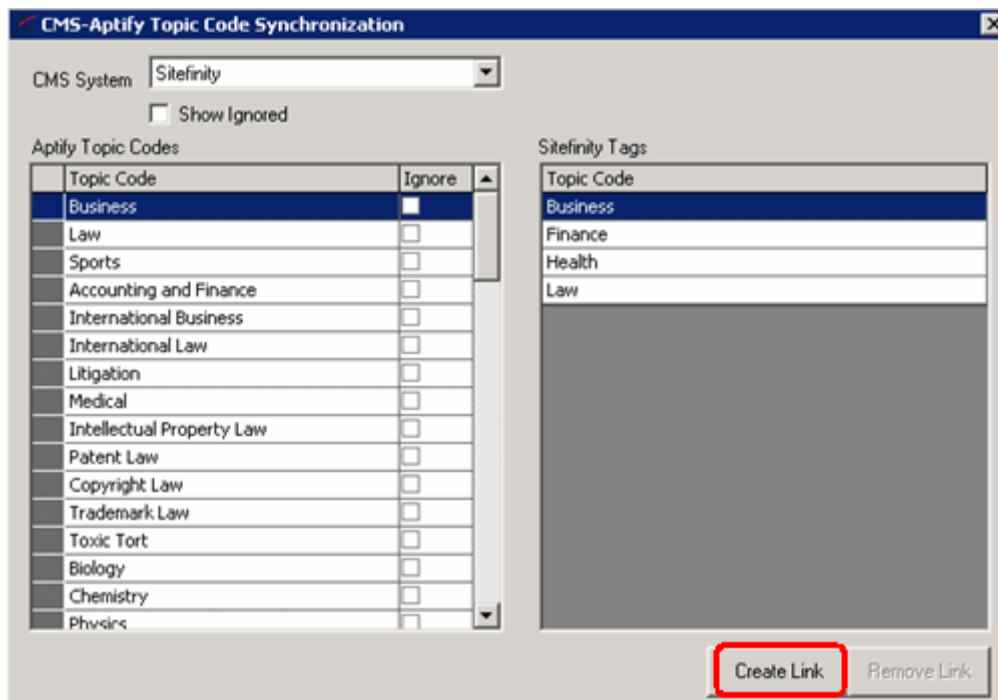
- If you close and reopen the wizard, the topic codes that you marked as Ignore no longer appear unless you check the **Show Ignored** box in the top area of the wizard.
- To add an Ignored topic code back to the grid, click **Show Ignored** to display it and remove the check mark from the **Ignore** column. Then, the next time you launch the wizard, the topic code will reappear in the grid by default. Alternatively, you can manually edit the Topic Code's Ignored by CMS record if needed.
- Behind the scenes, when you check a topic code as **Ignore** and then close the wizard, Aptify adds a record to the Ignore by CMS sub-type tab on the Topic Codes record, as shown in Figure 5.14.

Figure 5.14  
Ignored Topic  
Code Meta-  
data



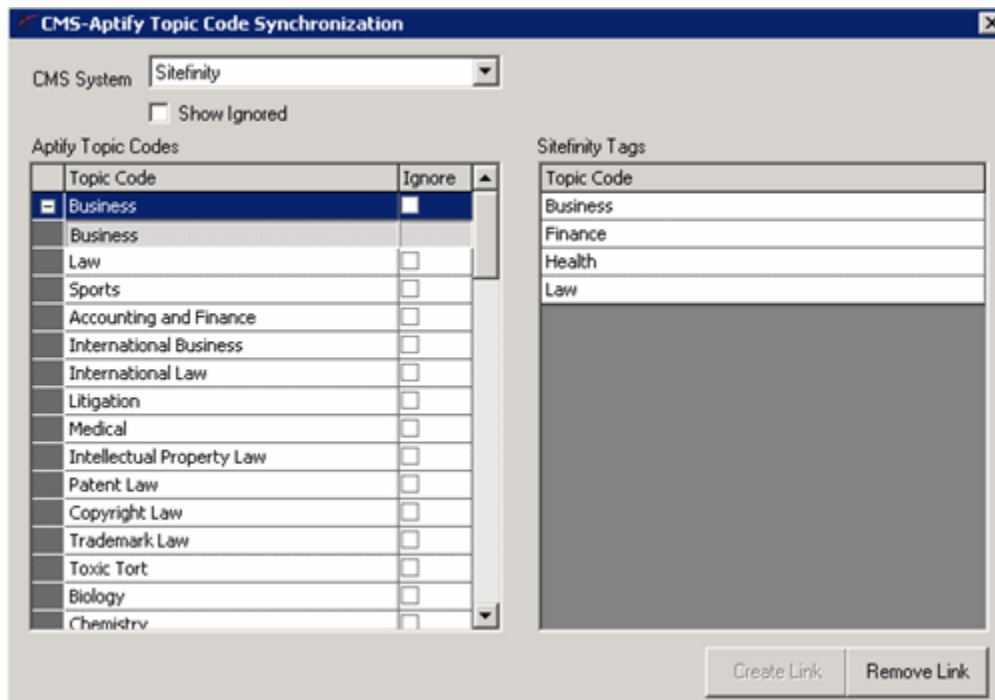
5. Link Aptify Topic Codes to Sitefinity Tags, as applicable.
  - To link topic codes to taxonomies, select a topic code from the left side and the corresponding tag from the right side. Then, click the **Create Link** button.
  - Aptify automatically creates a CMS Topic Code Relations record to track the link. See "Aptify Topic Code Synchronization Wizard" on page 100 for details.

Figure 5.15  
Select Items to Link



- A plus (+) sign appears to the left of the Aptify Topic Code to indicate that it is linked to one or more Sitefinity Tags. Clicking the + sign expands the topic code heading to display the linked tags. (A particular Aptify Topic Code can be linked to multiple Sitefinity Tags, as applicable.)

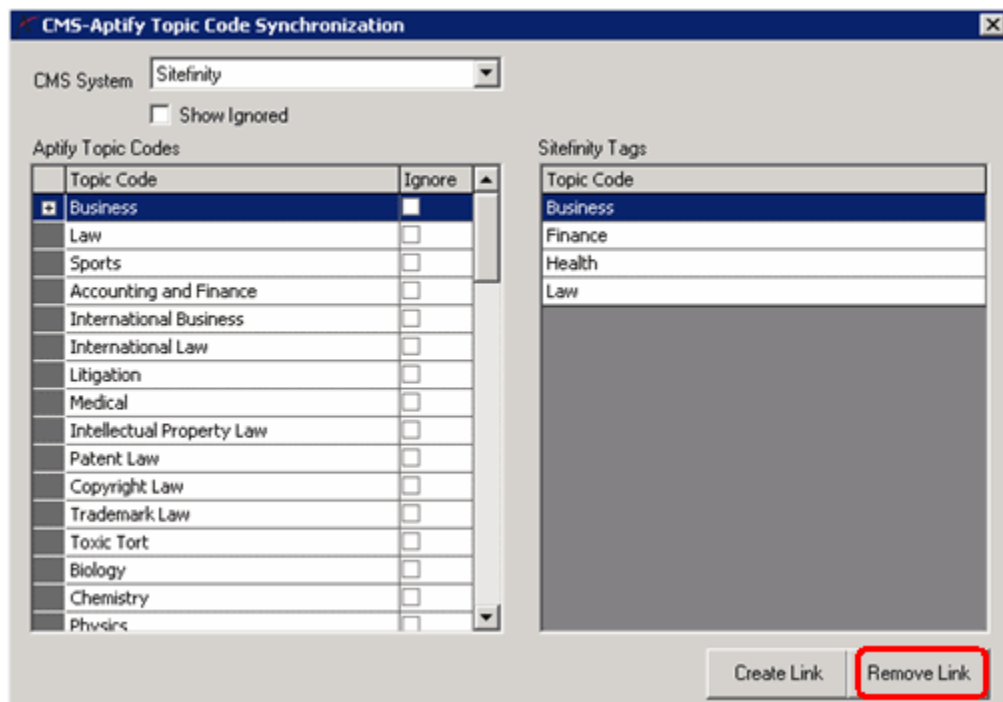
Figure 5.16  
Linked Topic Code





- You can also link multiple items in a single operation. To select multiple items on either side, select the first item that you want to link and while holding down the SHIFT key, select the last item to link. All of the items in between are also highlighted and will be linked to the corresponding item(s) in the other column.
  - For example, you could highlight five engineering-related topic codes that are adjacent to one another and then select an “engineering” tag. When you click *Create Link*, all five engineering topic codes will be linked to the engineering tag.
6. Remove any Topic Code/Tag links, as necessary.
- To remove a Topic Code/Tag link, select the applicable topic code and click the **Remove Link** button. When prompted, click **OK** to complete the operation. Note that if the selected topic code has multiple links, all links are removed.
  - Aptify automatically deletes any applicable CMS Topic Code Relations records. See “Aptify Topic Code Synchronization Wizard” on page 100 for details.

Figure 5.17  
Remove Link



7. When finished, close the wizard by clicking the **X** in the upper right corner of the wizard.

## Aptify CMS User Synchronization Wizard

In the Sitefinity integration model, Aptify users link to Sitefinity users. This provides the ability for a single, unified login. Once a user logs into e-Business, he or she does not need to log in to Sitefinity separately to view Sitefinity-based content that is displayed on an e-Business page or to browse content directly on the Sitefinity site. Note that the unified login concept applies to Sitefinity users and not to Sitefinity Users who are responsible for maintaining and modifying website content.

Depending on how you have configured the Sitefinity Content Management Systems record, Aptify may automatically create Sitefinity users when new Aptify users are created or automatically create a link between the Default Sitefinity user and new Aptify users (see “Aptify Content Management Systems Setting” on page 94 for information on the available CMS User Link settings).

However, these User Link Behavior settings are optional and does not apply to any existing Aptify users. Therefore, Aptify also provides a wizard to assist with linking and unlinking Aptify users and Sitefinity users, (and other CMS providers).

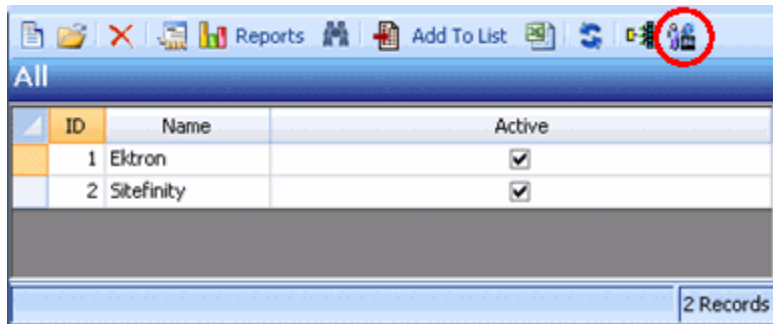
Keep in mind the following points when setting up links between Aptify users and Sitefinity users to utilize the unified login feature:

- When a new user is created from the e-Business site, Aptify can automatically generate a new, corresponding Sitefinity users (with the same password as the Aptify user). However, for any Sitefinity users created from the CMS User Synchronization wizard, Aptify assigns the default password specified in the Sitefinity Content Management Systems record.
- When an Aptify user logs in to the e-Business site, Aptify automatically attempts to login the user within the Sitefinity site as well using the Aptify user password. If that fails, then Aptify attempts to log the user into the Sitefinity site using the Default Password.
- Note that the unified login feature is not applicable if an Sitefinity user’s password does not match the corresponding Aptify user’s password or the Default Password specified in the Content Management Systems record. This situation can occur when linking existing Sitefinity users to Aptify users or if an Aptify user’s password is subsequently changed (changing an Aptify user’s password does not modify the password for the Sitefinity users linked to it).
- To support unified login with Sitefinity 4.4, you must use the LoginSF4 user control rather than the Login user control. See “LoginSF4” on page 244 for more information.

Follow these steps to use the CMS User Synchronization wizard to link Aptify users with Sitefinity users:

1. Open the Content Management Systems service or a list view of that service.
2. Click the **CMS User Synchronization** wizard in the view toolbar to open the wizard.

Figure 5.18  
Launch User  
Sync Wizard



3. Select Sitefinity from the **CMS System** drop-down list if you have more than one Content Management Systems record on your system.
  - The set of Aptify users appears on the left side and the set of Sitefinity users appear on the right side.
  - By default, all users are displayed. To display a sub-set of users, select another option from the Select Filter drop-down list:
    - **Show Linked Users:** Show only Aptify users who are linked to a Sitefinity User and Sitefinity Users who are linked to an Aptify user.
    - **Show Unlinked Users:** Show only Aptify users not currently linked to an Sitefinity users and Sitefinity users who are not currently linked to an Aptify user.

Figure 5.19  
User Sync  
Wizard

The screenshot shows the 'CMS-Aptify User Synchronization' wizard. At the top, there are two dropdown menus: 'CMS System' is set to 'Sitefinity' and 'Select Filter' is set to 'Show All Users'. Below these are two tables. The 'Aptify Web Users' table has columns 'User ID' and 'User Name' with rows for 'IanB' (Ian Beck), 'JessicaA' (Jessica Aaronson), and 'test' (Test Tester). The 'Sitefinity Users' table has columns 'User ID' and 'User Name' with rows for 'admin', 'ravi', 'ritu', and 'test'. At the bottom, there are four buttons: 'Add/Update Link', 'Remove Link', 'Add Sitefinity Web User', and 'Add Aptify Web User'.

4. Create new Aptify users from the wizard as necessary. Follow these steps:
  - Click the **Add Aptify** user button to open a new users form.
  - Complete the necessary fields and then save and close the form to create the user. See “Creating users from within Aptify” on page 60 for detailed instructions.
  - Note that when you create new users from this interface or directly from the users service, Aptify does not automatically link the new user to an Sitefinity users. This only occurs when the new user logs in to the e-Business site for the first time. (When creating a new user from the e-Business site, the user is logged in automatically at the end of the process, which in turn generates the appropriate Sitefinity user link.)
5. Create new Sitefinity users from the wizard as needed. Follow these steps:
  - Click the **Add Sitefinity** user button to open the Add Sitefinity User form.
  - Enter the user’s information in the fields provided and click **Add User** to create the Sitefinity user.
  - Note that Aptify automatically assigns the Default Password to any new Sitefinity user created from this dialog. The Default Password is specified in the Content Management Systems record.

Figure 5.20  
Add Sitefinity  
User Dialog

- Click **OK** when prompted that the user was successfully created and to return to the CMS User Synchronization wizard. Behind the scenes, Aptify created a new Sitefinity user, who now appears in the Sitefinity user list within the CMS User Synchronization wizard (see Figure 5.21). This user uses the Default Password, specified in the Sitefinity Content Management Systems record.

Figure 5.21  
Sitefinity users  
List

Aptify Web Users		Sitefinity Users	
User ID	User Name	User ID	User Name
IanB	Ian Beck	admin	
JessicaA	Jessica Aaronson	ravi	
test	Test Tester	ritu	
		test	
		newTest	New Test

6. Link Aptify users to Sitefinity users, as applicable.
  - To link users together, select an Aptify user from the left side and the corresponding Sitefinity user from the right side. Then, click the **Add/Update Link** button.

- Aptify automatically creates a CMS User Relations record to track the link. See “Aptify Topic Code Synchronization Wizard” on page 100 for details.

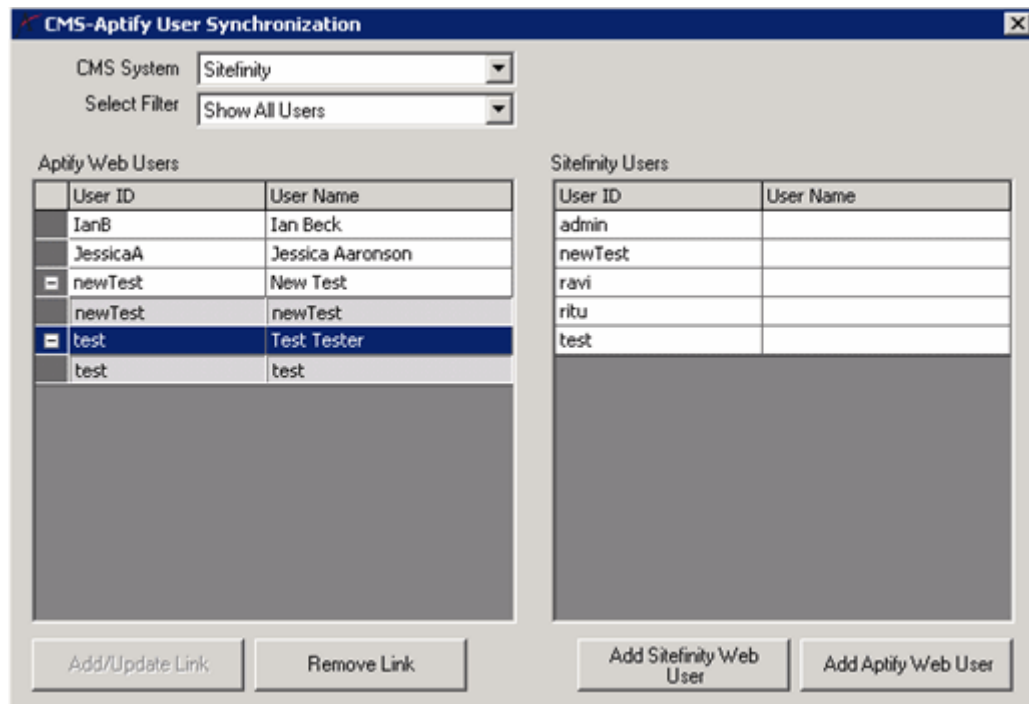
Figure 5.22  
Select Users to  
Link

User ID	User Name
IanB	Ian Beck
JessicaA	Jessica Aaronson
newTest	New Test
test	Test Tester

User ID	User Name
admin	
newTest	
ravi	
ritu	
test	

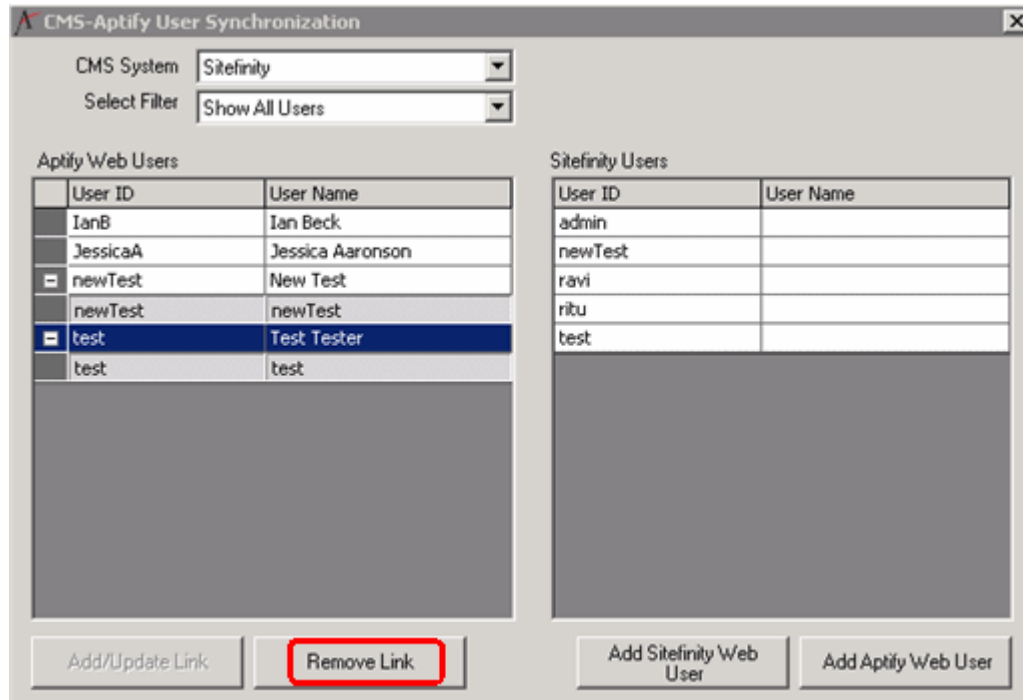
- A plus (+) sign appears to the left of the Aptify user to indicate that it is linked to a Sitefinity user. Clicking the + sign expands the user heading to display the linked Sitefinity user. (A particular Aptify user can be linked to only one Sitefinity user but a Sitefinity user can be linked to multiple Aptify users, as applicable.)

Figure 5.23  
Linked Users



- You can also link multiple Aptify users to a single Sitefinity user in a single operation. To select multiple Aptify users, select the first user that you want to link and while holding down the *SHIFT* key, select the last item to link. All of the items in between are also highlighted and will be linked to the corresponding Sitefinity user selected in the other column.
7. Update any existing links, as necessary.
    - To change the Sitefinity user to which a particular Aptify user is linked, select the applicable Aptify user from the left side and the new Sitefinity user from the right side. Then, click the **Add/Update Link** button. When prompted, click **OK** to complete the operation.
    - Aptify automatically updates any applicable CMS User Relations records. See “Aptify Topic Code Synchronization Wizard” on page 100 for details.
  8. Remove any existing links, as necessary.
    - To remove a user link, select the applicable Aptify user and click the **Remove Link** button. When prompted, click **OK** to complete the operation.
      - Aptify automatically deletes any applicable CMS User Relations records. See “Aptify Topic Code Synchronization Wizard” on page 100 for details.

Figure 5.24  
Remove Link



9. When finished, close the wizard by clicking the **X** in the upper right corner of the wizard.

## Ektron CMS Integration

Aptify's integration with Ektron uses Web services to communicate between an e-Business site and an Ektron CMS site. This section describes how to configure integration between Aptify e-Business and an Ektron CMS400 site. With e-Business 5.5, Aptify supports integration with Ektron 8.5 for new Ektron installations.

- [Add Aptify Web Services to the Ektron Site](#)
- [Update User Controls](#)
- [Configure Ektron CMS Settings in Aptify](#)
- [Link Aptify Topic Codes to Ektron Taxonomies](#)
- [Link Existing Aptify users to Ektron Membership Users \(As Appropriate\)](#)
- [Embed e-Business Controls in Ektron Pages](#)

### Add Aptify Web Services to the Ektron Site

Complete the steps below to setup the Ektron environment to support integration:

1. Copy the files from the **Ektron Integration** folder in the Aptify e-Business 5.5 Setup files to the Ektron Web server, as described below.



2. Copy **AptifyIntegrationWS.asmx** to the Ektron website's `Workarea\WebServices` folder. You can also create a new, separate Aptify sub-folder in that location (but be sure to specify the correct path for attribute value as described in "Step 3: Configure Ektron CMS Settings in Aptify" on page 76).
  - For example, if you have the sample Ektron EDU site installed, you would copy the `AptifyIntegrationWS.asmx` file to a location like this:

```
C:\inetpub\wwwroot\Edu\Workarea\webservices\
```
  - Also, you may want to confirm that the file is inheriting permissions from the security permissions from its folder. See for details.
3. Copy **AptifyIntegrationWS.vb** to Ektron site's `App_Code` folder.
  - For example, if you have the sample Ektron EDU site installed, you would copy the `AptifyIntegrationWS.vb` file to a location like this:

```
C:\inetpub\wwwroot\Edu\App_Code\vbcode
```

## Update User Controls

1. Copy the files from the `\Ektron Integration\UserControls\Aptify_General` folder to the Web site's `UserControls\Aptify_General` folder.
2. Copy the `SyncProfile.ascx` and `SyncProfile.ascx.vb` files from the `\Ektron Integration\UserControls\Aptify_Customer_Service` folder to the Web site's `UserControls\Aptify_Customer_Service` folder.
  - Overwrite the existing `SyncProfile` control files if prompted.

## Configure Ektron CMS Settings in Aptify

1. Create or open a view of the Content Management Systems service.
  - The Content Management Systems service is located under the Content Management application by default.
2. Locate the appropriate Ektron record, based on your version of Ektron.
  - The Name field of each Ektron related Content Management Systems record has the word "Ektron" followed by one of Aptify supported version of the CMS.
  - With e-Business 5.5, Aptify supports version 8.5 for new Ektron installations. Aptify continues to support versions 7.6 and 8.0, and 8.0.2.35 for existing sites running e-Business, not for new e-Business installations.

Figure 5.25  
Available  
Content  
Management  
Systems  
Records for  
Ektron

ID	Name	Active	CMS URL	Default CMS Page
1	Ektron 7.6	<input type="checkbox"/>	[Insert Ektron CMS URL]	default.aspx
2	Sitefinity	<input type="checkbox"/>	[Insert Sitefinity CMS URL]	default.aspx
3	Ektron 8.0	<input type="checkbox"/>	[Insert Ektron CMS URL]	default.aspx
4	Ektron 8.5	<input type="checkbox"/>	[Insert Ektron CMS URL]	default.aspx

3. Edit the **CMS URL** field to specify the base URL for your Ektron site.
  - By default, this field reads: [Insert Ektron CMS URL]. Replace this placeholder with the appropriate URL for your Ektron site.
4. Edit the **Default CMS Page** field to specify the default page you want to use for your Ektron site.
5. Place a check mark in the **Active** box. The record is inactive by default.
  - See the “Content Management Systems Form” on page 131 for more information about the other fields on this tab.

Figure 5.26  
Edit Ektron  
CMS Settings

Content Management Systems ID: 1

General | Integration Object | User Link | Attributes | Attachments

Name: Ektron 7.6

CMS URL: http://localhost/EktronSite

Default CMS Page: default.aspx

Topic Code Name: Taxonomies

CMS UserID Type: Numeric

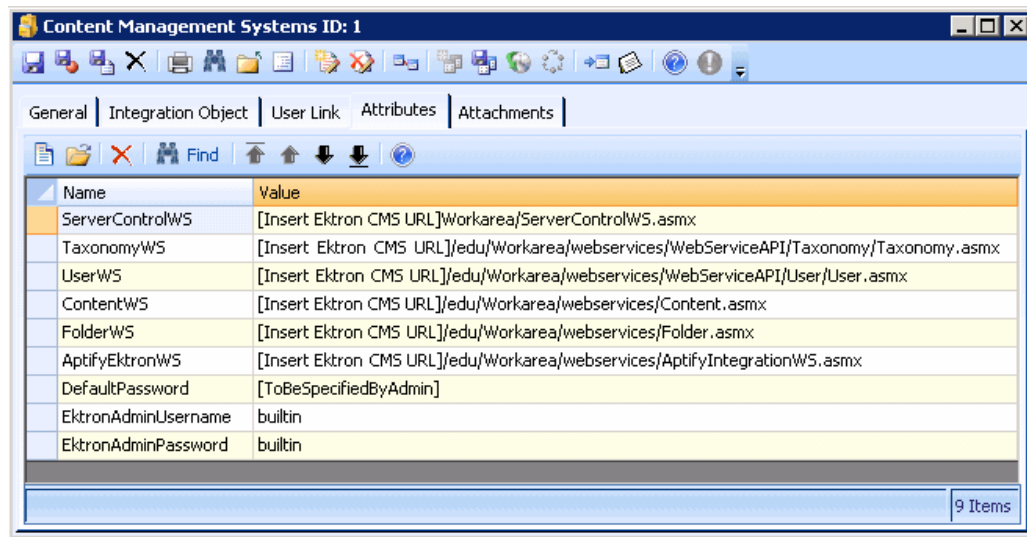
CMS Topic Code ID Type: Numeric

Active

6. Select the **Attributes** tab.
7. Specify the appropriate value for each attribute. The first six attributes identify the location of the Web Services asmx files for your Ektron installation.
  - **ServerControlWS:** Identifies the location of the Ektron Server Control Web service.
  - **TaxonomyWS:** Identifies the location of the Ektron Taxonomy Web service.
  - **UserWS:** Identifies the location of the Ektron User Web service.

- **ContentWS:** Identifies the location of the Ektron Content Web service.
- **FolderWS:** Identifies the location of the Ektron Folder Web service.
- **AptifyEktronWS:** Identifies the location of the Aptify Integration Web service on the Ektron site. This is the file you copied to the Ektron site in “Add Aptify Web Services to the Ektron Site” on page 112.
- **DefaultPassword:** Specify a default password that will be assigned to Ektron Membership Users created from within the CMS-Aptify User Synchronization wizard.
  - When a new user is created from the e-Business site, Aptify can automatically generate a new, corresponding Ektron Membership User (with the same password as the Aptify user). However, for any Ektron Membership User created from the wizard, Aptify assigns the default password specified here.
  - When an Aptify user logs in to the e-Business site, Aptify automatically attempts to login the user within the Ektron site as well using the Aptify user password. If that fails, then Aptify attempts to log the user into the Ektron site using the Default Password.
  - Note that the unified login feature is not applicable for an existing Ektron Membership User who is subsequently linked to an Aptify user and that Ektron user’s password does not match the Aptify user’s password (or the Default Password specified here).
  - If you use the Use Default CMS User Link option, the specified Default User’s password must match the Default Password you provide for this attribute value.
- **EktronAdminUsername:** This attribute defines the Ektron User’s Username with administrative privileges that should be used to access Ektron’s Content Management System via Web services. This should be the admin or builtin user or an equivalent login created by your organization.
- **EktronAdminPassword:** This attribute specifies the password for the Ektron User with administrative privileges that should be used to access Ektron’s Content Management System via Web services. This should be the password for the admin or builtin user or an equivalent login created by your organization.

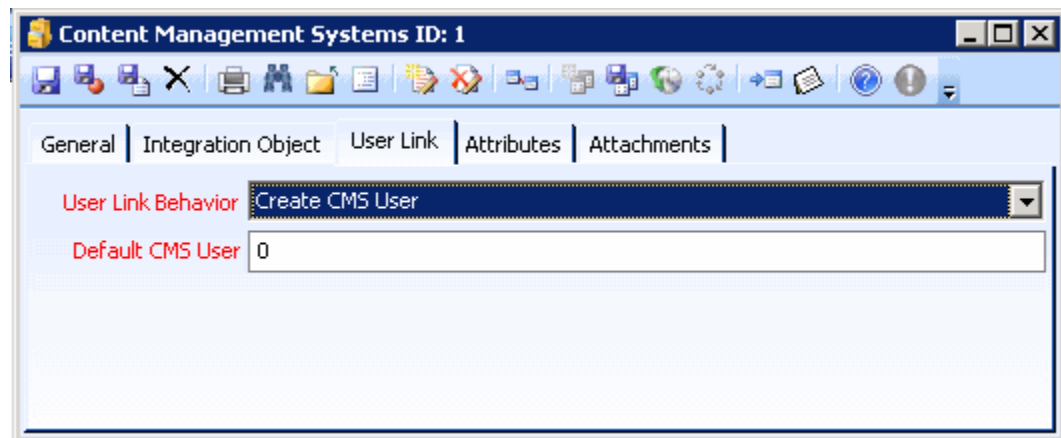
Figure 5.27  
Edit Ektron  
Web Service  
Attributes



8. Click the **User Link** tab and select the **User Link Behavior** between Aptify and Ektron. The options include:
  - **Create CMS User:** Select this option to automatically create a corresponding Ektron Membership User when a user logs in to e-Business for the first time. Aptify then automatically links the two users together.
  - When a user not already linked to an Ektron user logs in to e-Business, Aptify determines if there is an existing Ektron user with the same user name. If so, Aptify links them together. If not, Aptify creates a new Ektron Membership User for the user (using the same username and password as the Aptify user).
    - Note that when creating a new user from the e-Business site, the user is logged in automatically at the end of the process. This in turn generates the appropriate Ektron Membership User link at the time the new user is created and logs the user into Ektron as that Ektron Membership User.
  - **Use Anonymous User:** Select this option to have Aptify users connect to the Ektron site as an anonymous guest user. For new Aptify users created from an e-Business site, Aptify will attempt to match the user to an existing Ektron user with the same username. If a match is not found, then the system will not link the Aptify user to any Ektron User. When an Aptify user attempts to access CMS content and that user is not linked to an Ektron Membership User, Aptify does not attempt to log the user into Ektron (in other words, the user can access the public areas of the Ektron site only).
  - **Use Default CMS User:** Select this option if you want new Aptify users to link to a particular Ektron Membership User by default. In this case, when an Aptify user logs in for the first time and that user is not already linked to an Ektron user, Aptify links the user to the default CMS user. If you select this option, you should also specify the ID of the default Ektron Membership User you want to use in the **Default CMS User** field.

- If you select the Use Default CMS User option, then the specified default user's password should match the Default Password specified on the Content Management Systems record's Attributes tab.
- When a user not already linked to an Ektron user logs in to e-Business, Aptify determines if there is an existing Ektron user with the same user name. If so, Aptify links them together. If not, Aptify links the user to the Default CMS User.
- Note that when creating a new user from the e-Business site, the user is logged in automatically at the end of the process. This in turn links the user to the Default CMS User automatically at the time the new user is created and then logs the user into Ektron using the Default CMS User's credentials.

Figure 5.28  
Set User Link  
Behavior



9. Save and close the Ektron Content Management Systems record.

## Link Aptify Topic Codes to Ektron Taxonomies

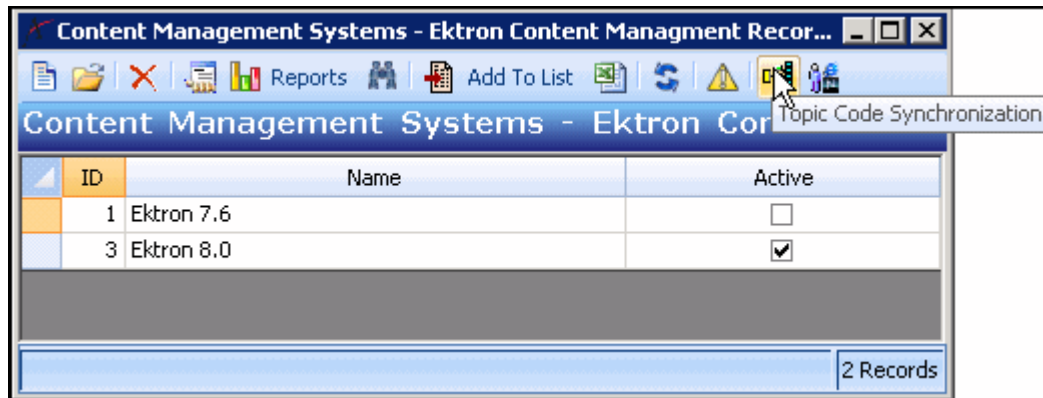
In the Ektron integration model, Aptify Topic Codes link to Ektron Taxonomies. This provides a connection between Aptify users and Ektron content as follows:

- Aptify users are linked to Persons.
- Aptify Persons are linked to Topic Codes.
- Aptify Topic Codes are linked to Ektron Taxonomies.
- Ektron Taxonomies are linked to Ektron content pages.

Follow these steps to use the CMS-Aptify Topic Code Synchronization wizard to link Aptify Topic Codes with Ektron Taxonomies:

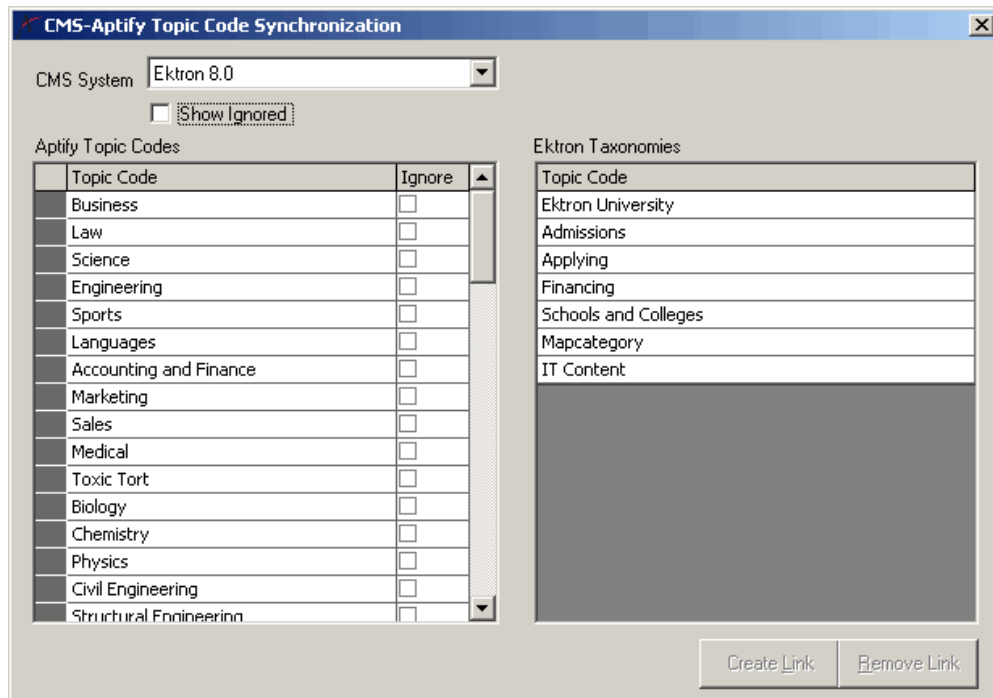
1. Open the Content Management Systems service or a list view of that service.
2. Click the **Topic Code Synchronization** wizard in the view toolbar to open the wizard. Note that there may be a short delay the first time you launch the wizard during an Aptify session.

Figure 5.29  
Launch Topic  
Code Sync  
Wizard



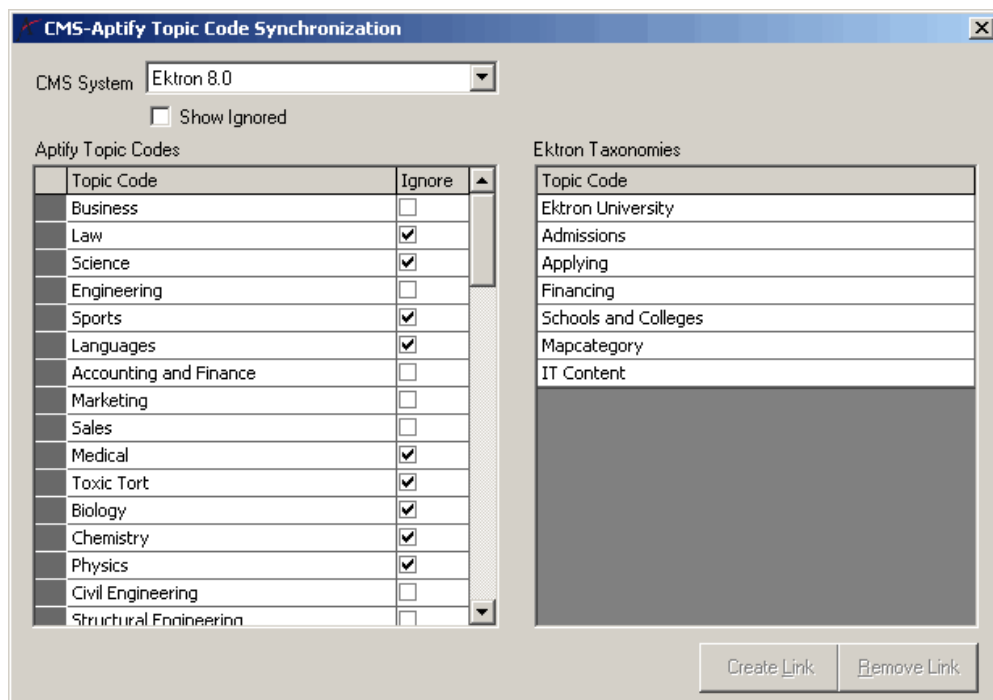
3. Select the appropriate **Ektron** version from the **CMS System** drop-down list if you have more than one Content Management Systems record on your system.
  - The set of active Aptify Topic Codes appears on the left side and the set of available Ektron Taxonomies appears on the right side.
  - Note that only active Topic Codes appear. Also, one or more Topic Codes may be marked as **ignore** for the purposes of this wizard so they will not display in the list unless you check the **Show Ignored** button in the wizard's top area.
  - Note that all top-level Ektron taxonomies display. First level child taxonomies display only if they are linked to one or more content articles. Lower level child taxonomies display only if all of the taxonomies in its hierarchy are linked to at least one content article (this is not a requirement for the top-level taxonomies). This behavior is specific to the Ektron-provided Web service that is used in the Topic Code linking process.

Figure 5.30  
Topic Code  
Synchroniza-  
tion Wizard



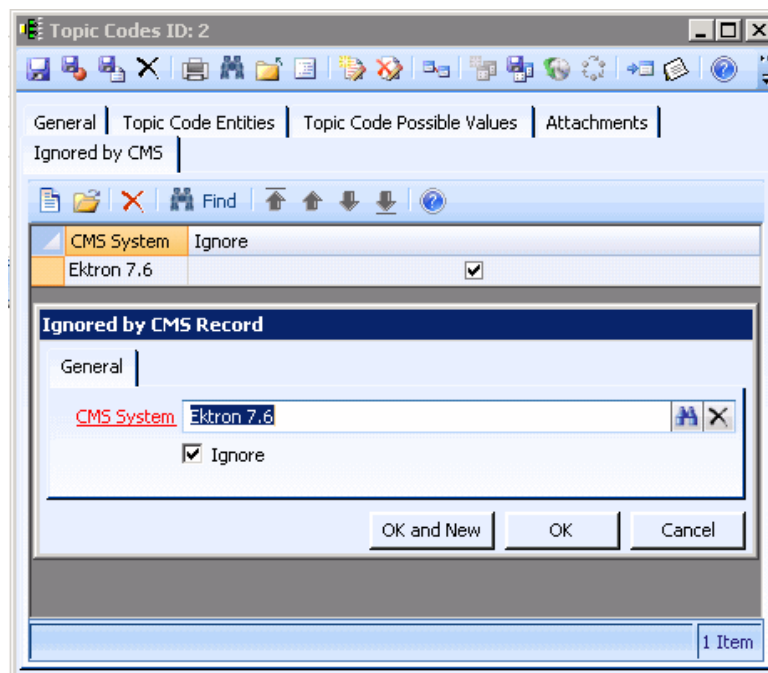
- To limit the number of Aptify Topic Codes that appear in the wizard, place a check mark in the **Ignore** column for those topics that you do not want to appear.

Figure 5.31  
Ignore Topic  
Codes



- If you close and reopen the wizard, the topic codes that you marked as Ignore no longer appear unless you check the **Show Ignored** box in the top area of the wizard.
- To add an Ignored topic code back to the grid, click **Show Ignored** to display it and remove the check mark from the **Ignore** column. Then, the next time you launch the wizard, the topic code will reappear in the grid by default. Alternatively, you can manually edit the Topic Code's Ignored by CMS record if needed (see below).
- Behind the scenes, when you check a topic code as **ignore** and then close the wizard, Aptify adds a record to the Ignore by CMS sub-type tab on the Topic Codes record, as shown in Figure 5.14.
  - Note that you may need to add this tab to your Topic Codes form, this tab is not visible by default.

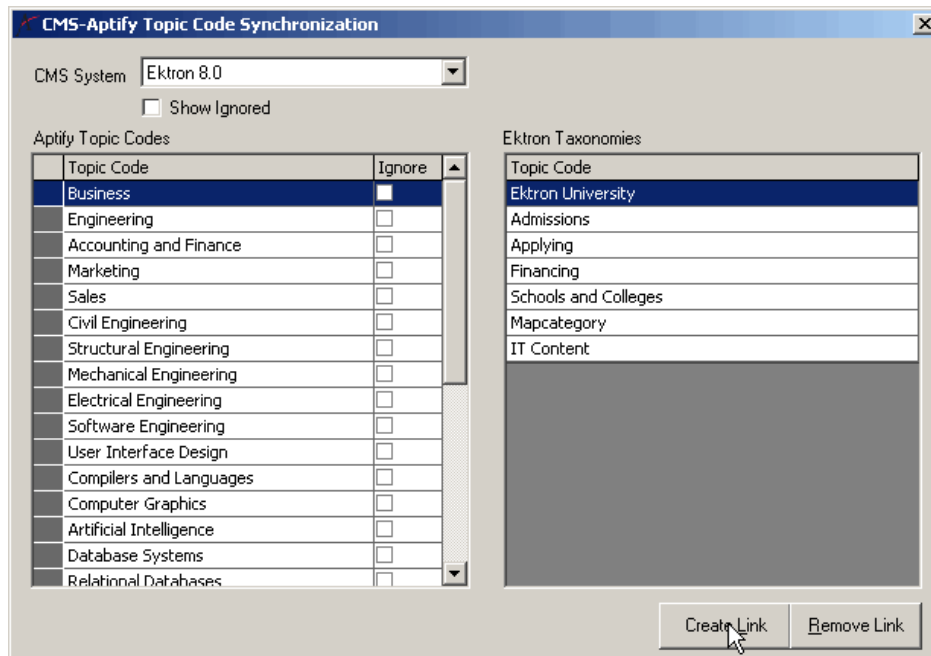
Figure 5.32  
Ignored Topic  
Code Meta-  
data



5. Link Aptify Topic Codes to Ektron Taxonomies, as applicable.
  - To link topic codes to taxonomies, select a topic code from the left side and the corresponding taxonomy from the right side. Then, click the **Create Link** button.
  - Aptify automatically creates a CMS Topic Code Relations record to track the link. See “CMS Topic Code Relations Form” on page 129 for details.

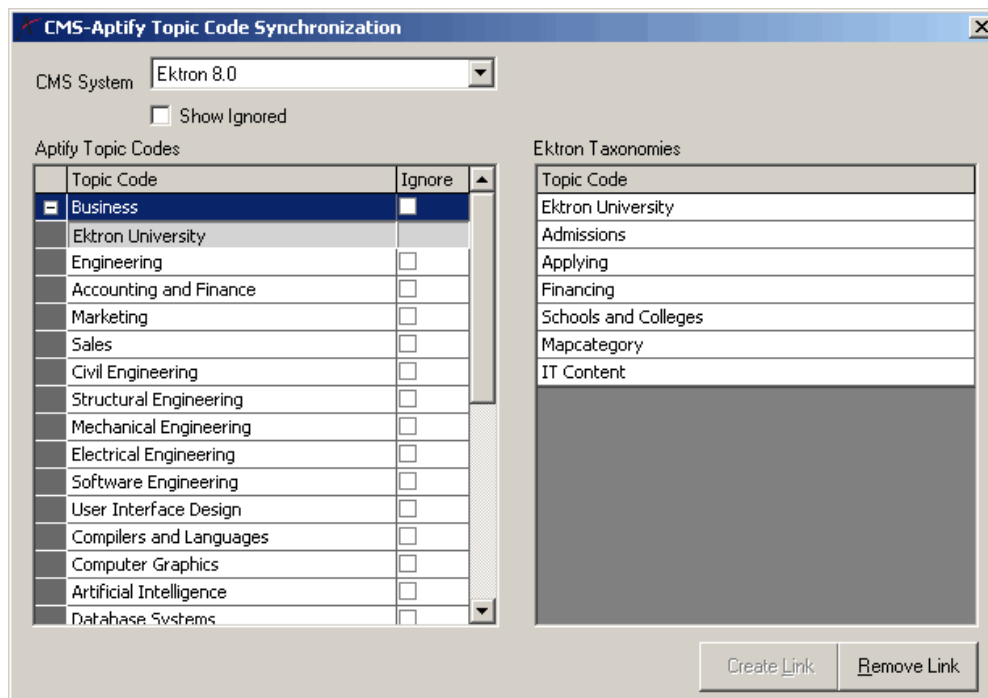


Figure 5.33  
Select Items to Link



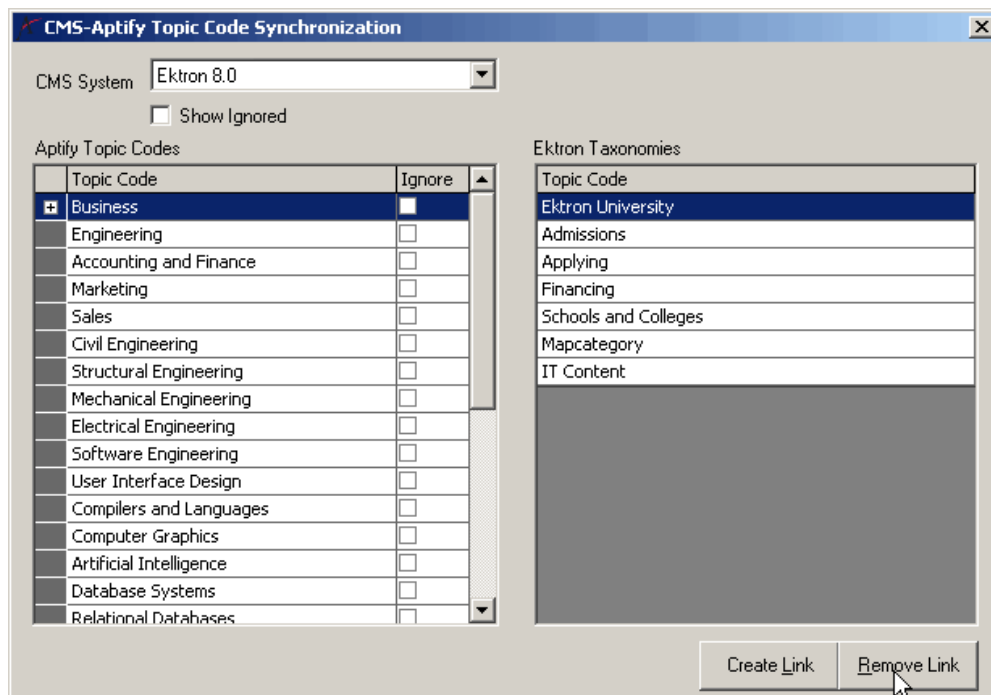
- A plus (+) sign appears to the left of the Aptify Topic Code to indicate that it is linked to one or more Ektron Taxonomies. Clicking the + sign expands the topic code heading to display the linked taxonomies. (A particular Aptify Topic Code can be linked to multiple Ektron Taxonomies, as applicable.)

Figure 5.34  
Linked Topic Code



- You can also link multiple items in a single operation. To select multiple items on either side, select the first item that you want to link and while holding down the SHIFT key, select the last item to link. All of the items in between are also highlighted and will be linked to the corresponding item(s) in the other column.
  - For example, you could highlight five engineering-related topic codes that are adjacent to one another and then select an “engineering” taxonomy. When you click *Create Link*, all five engineering topic codes will be linked to the engineering taxonomy.
6. Remove any Topic Code/Taxonomy links, as necessary.
- To remove a Topic Code/Taxonomy link, select the applicable topic code and click the **Remove Link** button. When prompted, click **OK** to complete the operation. Note that if the selected topic code has multiple links, all links are removed.
  - Aptify automatically deletes any applicable CMS Topic Code Relations records. See “CMS Topic Code Relations Form” on page 129 for details.

Figure 5.35  
Remove Link



7. When finished, close the wizard by clicking the **X** in the upper right corner of the wizard.

## Link Existing Aptify users to Ektron Membership Users (As Appropriate)

In the Ektron integration model, Aptify users link to Ektron Membership Users. This provides the ability for a single, unified login. Once a user logs into e-Business, he or she does not need to log in to Ektron separately. Note that the unified login concept applies to Ektron Membership Users and not to Ektron Users who are responsible for maintaining and modifying website content.

See the Ektron Help documentation for more information on the distinction between Ektron Users and Ektron Membership Users.

Depending on how you have configured the Ektron Content Management Systems record, Aptify may automatically create Ektron Membership Users when new Aptify users are created or automatically create a link between the Default Ektron Membership User and new Aptify users (see “Configure Ektron CMS Settings in Aptify” on page 113 for information on the available CMS User Link settings).

However, these User Link Behavior settings are optional and does not apply to any existing Aptify users. Therefore, Aptify also provides a wizard to assist with linking and unlinking Aptify users and Ektron Membership Users.

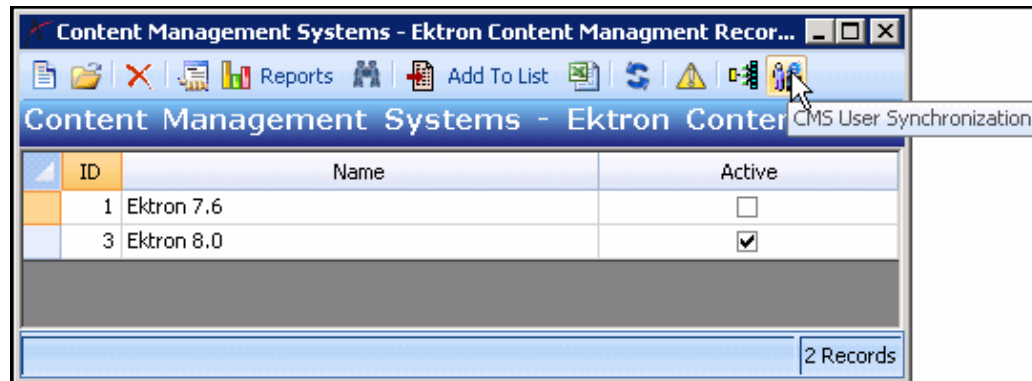
Keep in mind the following points when setting up links between Aptify users and Ektron Membership Users to utilize the unified login feature:

- When a new user is created from the e-Business site, Aptify can automatically generate a new, corresponding Ektron Membership User (with the same password as the Aptify user). However, for any Ektron Membership User created from the CMS-Aptify Synchronization wizard, Aptify assigns the default password specified in the Ektron Content Management Systems record.
- When an Aptify user logs in to the e-Business site, Aptify automatically attempts to login the user within the Ektron site as well using the Aptify user password. If that fails, then Aptify attempts to log the user into the Ektron site using the Default Password.
- Note that the unified login feature is not applicable if an Ektron Membership User’s password does not match the corresponding Aptify user’s password or the Default Password specified in the Content Management Systems record. This situation can occur when linking existing Ektron Membership Users to Aptify users or if an Aptify user’s password is subsequently changed (changing an Aptify user’s password does not modify the password for the Ektron Membership User linked to it).

Follow these steps to use the CMS-Aptify User Synchronization wizard to link Aptify users with Ektron Membership Users:

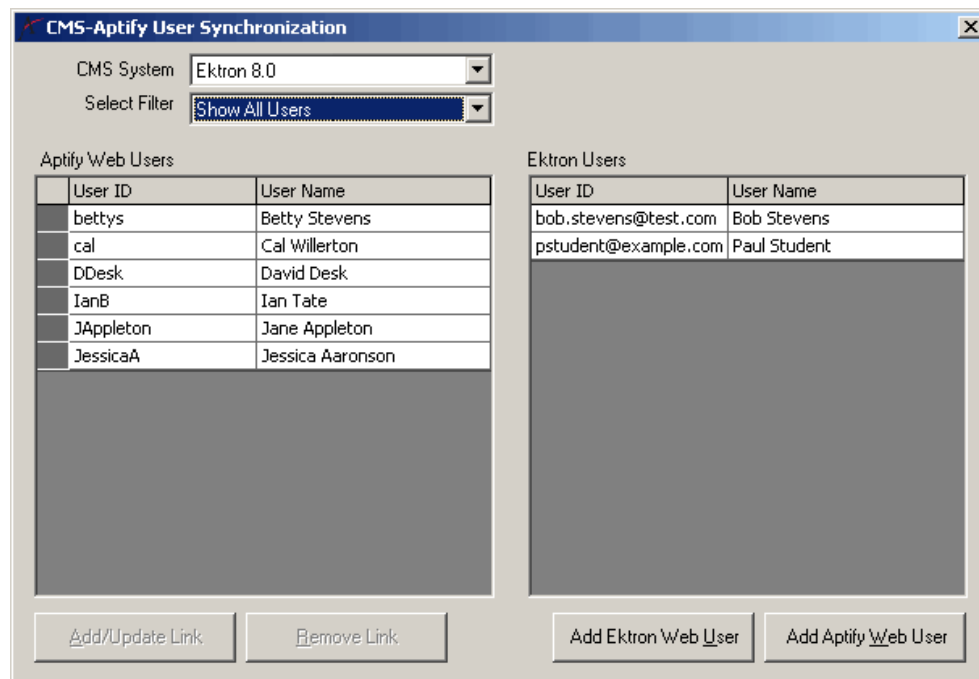
1. Open the Content Management Systems service or a list view of that service.
2. Click the **CMS User Synchronization** wizard in the view toolbar to open the wizard.

Figure 5.36  
Launch User  
Sync Wizard



3. Select the appropriate **Ektron** version from the **CMS System** drop-down list if you have more than one Content Management Systems record on your system.
  - The set of Aptify users appears on the left side and the set of Ektron Membership Users appear on the right side.
  - By default, all users are displayed. To display a sub-set of users, select another option from the Select Filter drop-down list:
    - **Show Linked Users:** Show only Aptify users who are linked to an Ektron User and Ektron Users who are linked to an Aptify user.
    - **Show Unlinked Users:** Show only Aptify users not currently linked to an Ektron Membership User and Ektron Membership Users who are not currently linked to an Aptify user.

Figure 5.37  
User Sync  
Wizard



4. Create new Aptify users from the wizard as necessary. Follow these steps:
  - Click the **Add Aptify** user button to open a new users form.
  - Complete the necessary fields and then save and close the form to create the user. See “Creating users from within Aptify” on page 60 for detailed instructions.
  - Note that when you create new users from this interface or directly from the users service, Aptify does not automatically link the new user to an Ektron Membership User. This only occurs when the new user logs in to the e-Business site for the first time. (When creating a new user from the e-Business site, the user is logged in automatically at the end of the process, which in turn generates the appropriate Ektron Membership User link.)
5. Create new Ektron Membership Users from the wizard as needed. Follow these steps:
  - Click the **Add Ektron** user button to open the Add Ektron User form.
  - Enter the user’s information in the fields provided and click **Add User** to create the Ektron Membership User.
  - Note that Aptify automatically assigns the Default Password to any new Ektron Membership User created from this dialog. The Default Password is specified in the Content Management Systems record.

Figure 5.38  
Add Ektron  
User Dialog

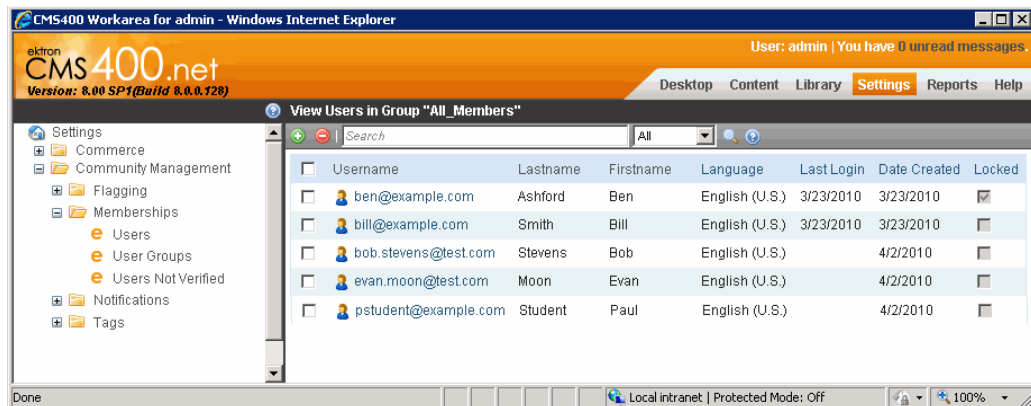


The screenshot shows a dialog box titled "Add Ektron 8.0 User". The dialog contains the following fields and controls:

- User Name: evan.moon@test.com
- First Name: Evan
- Last Name: Moon
- Display Name: Evan Moon
- E-Mail Address: evan.moon@test.com
- Zip: 20006
- Region: (dropdown menu)
- Buttons: Add User, Cancel

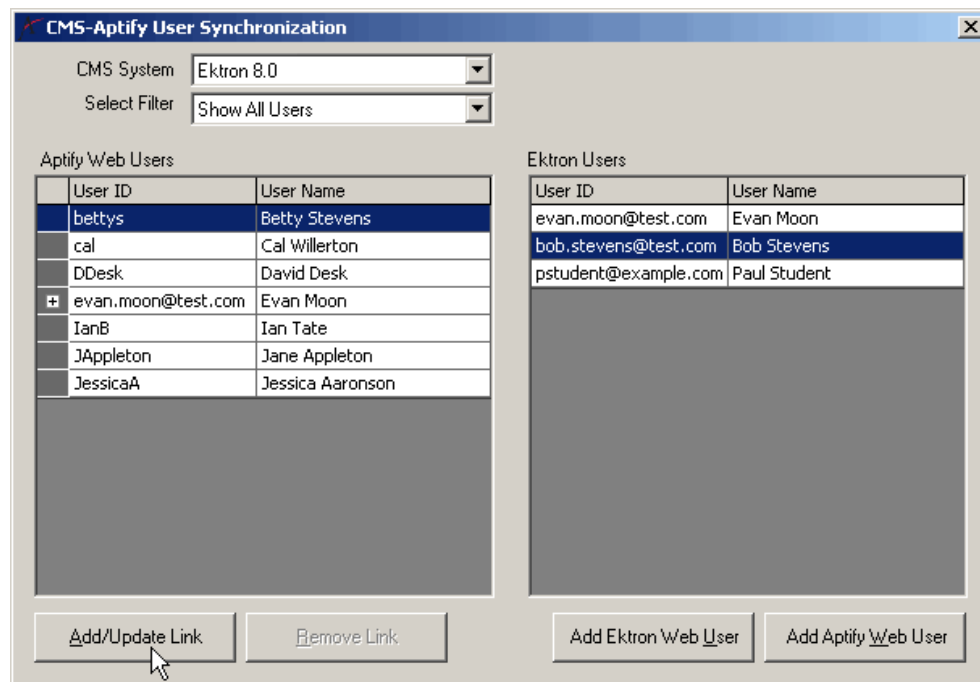
- Click **OK** when prompted that the user was successfully created and to return to the CMS-Aptify User Synchronization wizard. Behind the scenes, Aptify created a new Ektron Membership User, who now appears in the Ektron Membership User list within the Ektron management tool (see Figure 5.39). This user uses the Default Password, specified in the Ektron Content Management Systems record (see “Configure Ektron CMS Settings in Aptify” on page 113).

Figure 5.39  
Ektron  
Membership  
Users List



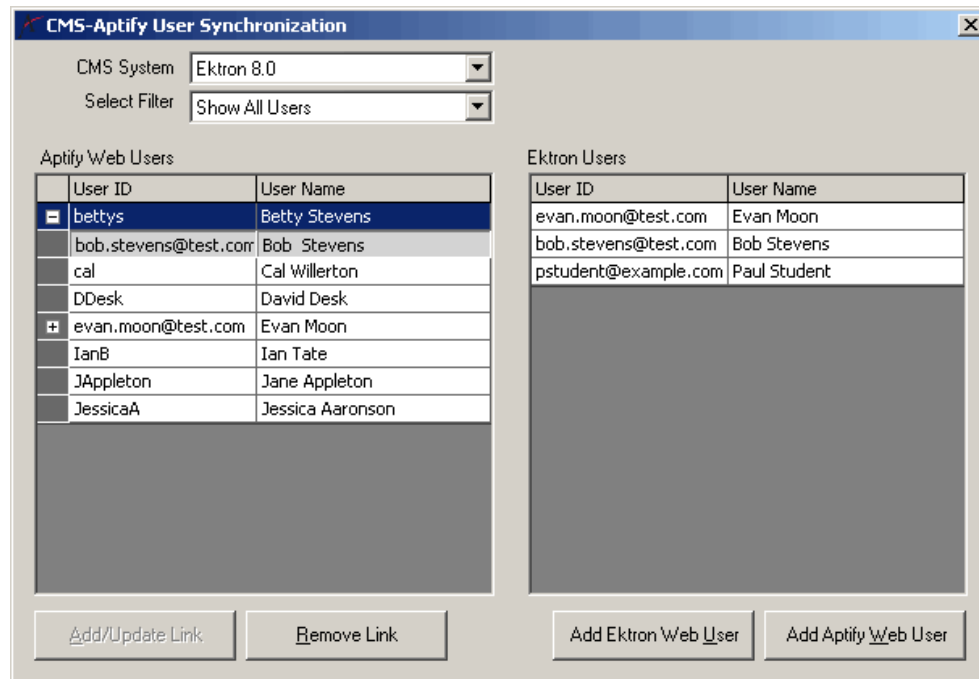
- Link Aptify users to Ektron Membership Users, as applicable.
  - To link users together, select an Aptify user from the left side and the corresponding Ektron Membership User from the right side. Then, click the **Add/Update Link** button.
  - Aptify automatically creates a CMS User Relations record to track the link. See “CMS User Relations Form” on page 130 for details.

Figure 5.40  
Select Users to  
Link



- A plus (+) sign appears to the left of the Aptify user to indicate that it is linked to an Ektron Membership User. Clicking the + sign expands the user heading to display the linked Ektron user. (A particular Aptify user can be linked to only one Ektron Membership User but an Ektron Membership User can be linked to multiple Aptify users, as applicable.)

Figure 5.41  
Linked Users



- You can also link multiple Aptify users to a single Ektron Membership User in a single operation. To select multiple Aptify users, select the first user that you want to link and while holding down the *SHIFT* key, select the last item to link. All of the items in between are also highlighted and will be linked to the corresponding Ektron user selected in the other column.
7. Update any existing links, as necessary.
    - To change the Ektron Membership User to which a particular Aptify user is linked, select the applicable Aptify user from the left side and the new Ektron user from the right side. Then, click the **Add/Update Link** button. When prompted, click **OK** to complete the operation.
    - Aptify automatically updates any applicable CMS User Relations records. See “CMS User Relations Form” on page 130 for details.
  8. Remove any existing links, as necessary.
    - To remove a user link, select the applicable Aptify user and click the **Remove Link** button. When prompted, click **OK** to complete the operation.
      - Aptify automatically deletes any applicable CMS User Relations records. See “CMS User Relations Form” on page 130 for details.
  9. When finished, close the wizard by clicking the **X** in the upper right corner of the wizard.

## Embed e-Business Controls in Ektron Pages

Design your integration points with Aptify and add e-Business user controls to Ektron pages as needed. See “User Control Development” on page 168 for more information.

## Troubleshooting Common Errors

This section provides an overview of some common errors that can occur when setting up an integration environment between e-Business and your CMS. Review these items if you encounter a problem while configuring the systems:

- **Aptify users Cannot Access CMS Content and Are Not Logged in to the CMS Site:** Confirm that all of the attributes on the Content Management Systems record have the correct value. For example, the e-Business/Sitefinity integration will not function properly if one or more Web Services have the wrong path specified. See “Aptify Content Management Systems Setting” on page 94. For Ektron, specific attribute, see “Configure Ektron CMS Settings in Aptify” on page 113.
- **Cannot Load CMS Tags/Taxonomies or CMS Users in Synchronization Wizards:** If you do not see the CMS Tags/Taxonomies or CMS Users in one or both wizards, confirm that you have specified the correct username and password for the CMS administrative user in the Content Management Systems record. See “Aptify Content Management Systems Setting” on page 94. For Ektron integrations, see “Configure Ektron CMS Settings in Aptify” on page 113.
- **User Does Not Exist/Appears in Exception Log:** If Aptify logs an error related to the CMS functionality that states “User Does Not Exist,” confirm the username and password you entered for the CMS administrative user in the Content Management Systems record. The record may not contain the correct user information. See “Aptify Content Management Systems Setting” on page 94. For Ektron integrations, see “Configure Ektron CMS Settings in Aptify” on page 113.
- **Access to Path Defined for AptifyIntegration.asmx:** If you receive a notification that the *AptifyIntegration.asmx* file cannot be accessed, grant permissions to that file as necessary. Follow these steps:
  - Browse to the location where you placed the **AptifyIntegration.asmx** file on the Web server.
  - Right-click the file and select **Properties** from the pop-up menu.
  - Click the **Security** tab and review the file’s current permissions.
  - If no users or groups have permission to the file, click the **Advanced** button to open the Advanced Security Settings dialog.
  - Place a check mark in the **Allow inheritable permissions from the parent to propagate to this object and all child objects** option (if not already checked).
  - Click **Apply**. Then, click **OK** to close all open dialogs.
- **Aptify users Linked to the Default User Cannot Log in to the CMS:** Confirm that the Default User you specified is using the Default Password defined in the Content Management Systems record. The Default User’s account must use this password in order for the *Use Default User* Link option to function properly. See “Aptify Content Management Systems Setting” on page 94. For Ektron integrations, see “Configure Ektron CMS Settings in Aptify” on page 113.



## CMS Integration Forms

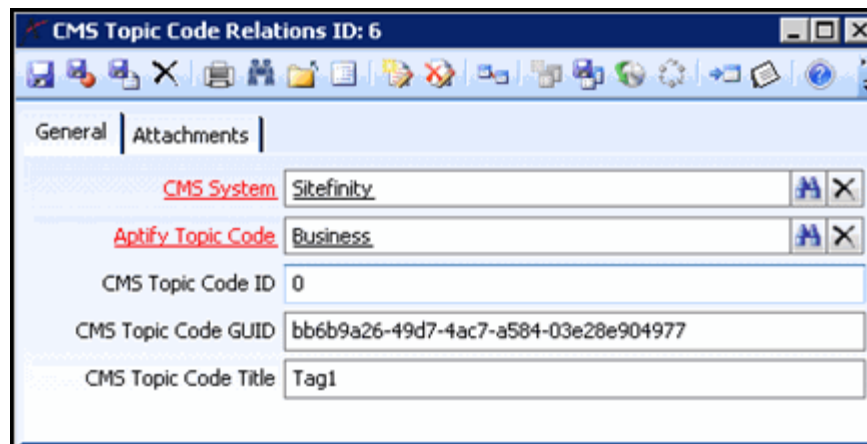
This section is for reference purposes and describes the fields that appear on the forms for the Content Management services.

- [CMS Topic Code Relations Form](#)
- [CMS Topic Code Relations Form](#)
- [Content Management Systems Form](#)

### CMS Topic Code Relations Form

This service stores the relationships between Aptify Topic Codes and corresponding CMS topic codes. The records in this service are created and updated automatically using the CMS-Aptify Topic Code Synchronization wizard. See the “Aptify Topic Code Synchronization Wizard” on page 100 for more information on this process.

Figure 5.42  
CMS Topic  
Code Rela-  
tions Record



The screenshot shows a web application window titled "CMS Topic Code Relations ID: 6". The window has a standard toolbar and two tabs: "General" (selected) and "Attachments". The "General" tab contains the following fields:

<b>CMS System</b>	Sitefinity
<b>Aptify Topic Code</b>	Business
<b>CMS Topic Code ID</b>	0
<b>CMS Topic Code GUID</b>	bb6b9a26-49d7-4ac7-a584-03e28e904977
<b>CMS Topic Code Title</b>	Tag1

#### Attachments Tab

This tab stored any attachments relevant to the record.

#### General Tab

##### CMS System

The Content Management System to which this topic code relationship applies. This field links to the Content Management Systems service.

##### Aptify Topic Code

The Topic Code record in Aptify that corresponds to a topic code on the CMS. This field links to the Topic Codes service.

### CMS User ID

The ID of the user on the CMS that links to the specified Aptify user.

### CMS Topic Code GUID

The Hashed-ID value of the topic code on the CMS that links to the specified Aptify Topic Code, some CMS's prefer to use this format.

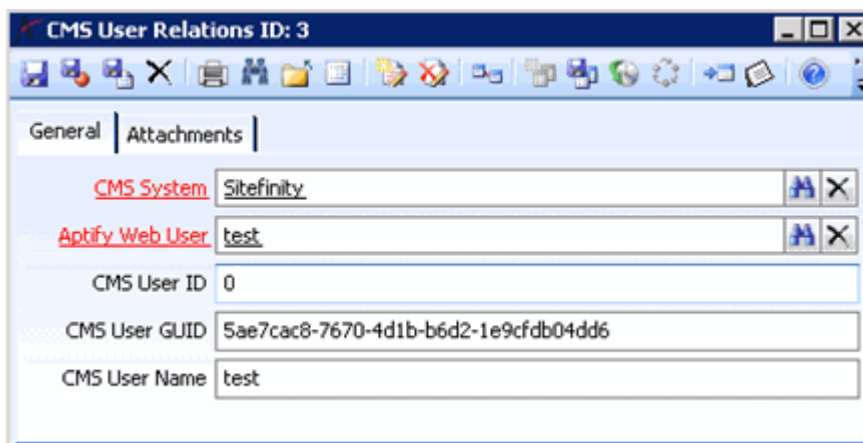
### CMS Topic Code Tab

The name of the topic code on the CMS that links to the specified Aptify Topic Code.

## CMS User Relations Form

This service stores the relationships between Aptify users and corresponding CMS users. The e-Business login component and the CMS-Aptify **User Synchronization** wizard create and update records in this service automatically.

Figure 5.43  
CMS User  
Relations  
Record



The screenshot shows a web application window titled "CMS User Relations ID: 3". The window has a standard Windows-style title bar and a toolbar with various icons. Below the toolbar, there are two tabs: "General" (selected) and "Attachments". The "General" tab contains several input fields:

- CMS System:** A text box containing "Sitefinity" with a blue 'A' icon and a red 'X' icon to its right.
- Aptify Web User:** A text box containing "test" with a blue 'A' icon and a red 'X' icon to its right.
- CMS User ID:** A text box containing "0".
- CMS User GUID:** A text box containing "5ae7cac8-7670-4d1b-b6d2-1e9cfdb04dd6".
- CMS User Name:** A text box containing "test".

### Attachments Tab

This tab stored any attachments relevant to the record.

### General Tab

#### CMS System

The Content Management System to which this user relationship applies. This field links to the Content Management Systems service.

#### Aptify user

The users record in Aptify that corresponds to a user on the CMS. This field links to the users service.

**CMS User ID**

The ID of the user on the CMS that links to the specified Aptify user.

**CMS User GUID**

The Hashed-ID value of the user on the CMS that links to the specified Aptify user, some CMS's prefer to use this format.

**CMS User Name**

The name of the user on the CMS that links to the specified Aptify user.

## Content Management Systems Form

This service stores information about the Content Management Systems which your Aptify installation can integrate. By default, the e-Business installation adds a record for the Sitefinity CMS.

Figure 5.44  
Content Management Systems Record

New Content Management Systems Record	
General   Integration Object   User Link   Attributes   Attachments	
Name	SiteFinity
CMS URL	Http://Webserver/SampleSite
Default CMS Page	default.aspx
Topic Code Name	Tags
CMS UserID Type	GUID
CMS Topic Code ID Type	GUID
<input checked="" type="checkbox"/> Active	

**Attachments Tab**

This tab stores any attachments relevant to this record.

**Attributes Tab**

This tab stores name/value pairs for attributes used to communicate between Aptify and the CMS system. For integration with Sitefinity, the Attributes tab identifies the location of the Sitefinity Web Services that Aptify e-Business uses to communicate with the Sitefinity site. See "Aptify Content Management Systems Setting" (page 94) for more details.

Figure 5.45  
Content Management Systems Attributes Tab

Name	Value
AptifySitefinityWebService	Http://dsetest16/Ritu/WebServices/AptifySitefinityIntegration.asmx
DefaultSitefinityUserName	QA
DefaultPassword	1111

## General Tab

### Name

The name of the Content Management System.

### CMS URL

The base URL for the Content Management System.

### Default CMS Page

The name of the default Web page for the Content Management System.

### Topic Code Name

The name that the CMS uses for functionality that is equivalent to Aptify Topic Codes. For example, Sitefinity uses the term, “Tags”, to describe Topic Code functionality.

### CMS UserID Type

The type format the CMS uses to track users, either numeric or GUID.

### CMS Topic Code IDType

The type format the CMS uses to track topic codes, either numeric or GUID.

### Active

Identifies if integration with the specified CMS is currently active or inactive. New records and the delivered Sitefinity record are inactive by default.

## Integration Object Tab

### CMS Object

The object in the Object Repository that provides the integration logic between Aptify and the specified Content Management System.

### **CMS Class**

The class in the CMS Object that implements the integration logic between Aptify and the specified Content Management System.

### **CMS Assembly**

The assembly name for the object that provides the integration logic between Aptify and the specified Content Management System.

### **User Link Tab**

#### **User Link Behavior**

This field specifies how Aptify integrates with the Content Management System to synchronize users. This field supports the options listed below. For information on how these options are used when integrating with Sitefinity, see “Aptify Content Management Systems Setting” on page 94 for more details.

- **Create CMS User:** When user not already linked to a CMS user logs into e-Business, Aptify determines if there is an existing CMS user with the same username. If so, Aptify links them together. If not, Aptify creates a new CMS User for the user and links the two together. Note that when creating a new user from the e-Business site, the user is logged in automatically at the end of the process, which in turn generates the appropriate CMS User link at the time the new user is created.
- **User Anonymous User:** When an Aptify user attempts to access CMS content and that user is not linked to a CMS User, Aptify connects the user to the CMS as an anonymous, or guest, user.
- **User Default CMS User:** When A user not already linked to a CMS user logs into e-Business, Aptify determines if there is an existing CMS user with the same username. If so, Aptify links them together. If not, Aptify links the user to the specified Default CMS User (see below). Note that when creating a new user from the e-Business site, the user is logged in automatically at the end of the process, which in turn generates the link to the Default CMS User at the time the new user is created.

#### **Default CMS User**

Specifies the ID of the default CMS User that Aptify will use to link users to a CMS user. This is only applicable when User Link Behavior is set to Use Default CMS User. See “Aptify Content Management Systems Setting” on page 94 for information on the requirements for defining the Default CMS User when integrating with Sitefinity.

#### **Synchronize Groups**

Check this box to synchronize a User’s Roles in Sitefinity with his/her Web Groups in Aptify. This option is only applicable for the Sitefinity CMS and requires that you create Roles in Sitefinity that have names identical to the Web Groups in Aptify.

# Chapter 6

## Integrating with Social Networking Sites

### Introduction

Integrating your e-Business website with a social network can speed up your interaction with users by keeping your organization in the loop when users make updates to their social network profiles. For example, when someone changes jobs and updates his or her social network profile to reflect the change of employment, this information can be automatically updated in the Aptify database. This chapter describes the framework provided with Aptify e-Business to integrate third-party social networking applications. It also describes the functionality provided with Aptify's out-of-the-box integration with LinkedIn.

- [Social Networking Integration Overview](#): This section provides an overview of the Social Networking Architecture provided by Aptify.
- [Configuring Social Networking Integration](#): This section provides information on the different forms within the Aptify 5.0 client application to integrate social networking.
- [Using Social Networking with Aptify](#): This section provides details on how to utilize popular social networking applications with Aptify.
- [Social Networking Forms](#): This section provides field-by-field information on the forms used in social network integration.

### Social Networking Integration Overview

This section provides an overview of how to integrate and utilize social networking with your e-Business implementation.

1. A web developer obtains an API key from the social network application with which your organization wants to integrate.
  - See “Obtaining an API Key for a Social Network Application” on page 135 for steps on how to obtain a API key for LinkedIn.
2. A developer configures the appropriate External Systems record in Aptify to link the social network application with your e-Business site. By default, Aptify includes out-of-the-box integration with the popular social networking site, LinkedIn.
  - See “Linking Aptify with a Social Networking Application” on page 138 for more information and an example of linking your e-Business implementation with LinkedIn.

3. A developer updates the Aptify\_UC\_Navigation.config file according to the organization's social network integration. See "Updating the User Control Config for Social Networks" on page 139 for more details.
4. When users visit your site, they log in using their social network credentials. They can also choose whether or not to synchronize their social network profile with Aptify, allowing your organization to pull status and profile updates directly into Aptify. See "Logging into e-Business with Social Network Credentials" on page 141 for more details.
5. An administrator runs the Social Network User Profile Synchronization process flow (through a Scheduled Task or an Event Handler) to pull public information from the user's social network profile, based on the available information and the accessibility settings of their social network account. This can include connections, employment and education information.
  - See "Updating Social Network Data" on page 146 for more information about the process flow that Aptify provides to update a user's social network profile.
6. On a regular basis, an administrator runs the Expire Token process flow (through a Scheduled Task or an Event Handler) to expire the synchronization of social network profiles when a user has a set number of failed login attempts.
  - See "Expiring Social Network Accounts" on page 150 for details.

You can further develop your website to take advantage of social networking. For example, Aptify e-Business 5.5 enhances the meeting registration functionality to allow users to view people they may know who are already registered, based on their social network connections. See "View Others Who Are Attending A Meeting" on page 145 for more details.

## Configuring Social Networking Integration

This section provides instructions on how to integrate Aptify with third party Social Networking Applications. The example steps below use LinkedIn to illustrate this functionality.

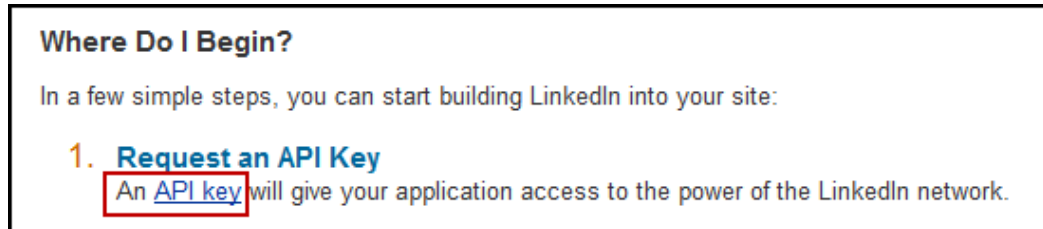
- [Obtaining an API Key for a Social Network Application](#)
- [Linking Aptify with a Social Networking Application](#)
- [Updating the User Control Config for Social Networks](#)
- [Configuring Process Flow Properties for Social Networks](#)

### Obtaining an API Key for a Social Network Application

To take advantage of social network integration with Aptify e-Business, you must first obtain an API key for the social network application you want to link to. Below are steps to obtain an API key for connecting your e-Business site with LinkedIn.

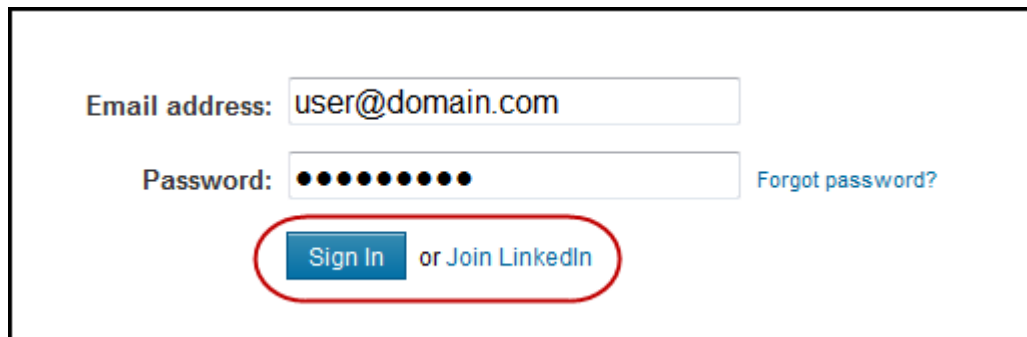
1. Open a Web browser and go to the LinkedIn Developer Network Site at: <http://developer.linkedin.com/community/apis>.
  - Refer to the Documentation and Discussion sections of the LinkedIn Developer Network website for more information about building a website integration with LinkedIn functionality.
2. In the Where do I Begin section, **select API Key** under the Request an API Key step.

Figure 6.1  
Requesting an  
API Key



3. For users with an existing LinkedIn account profile, provide your email address and password and select **Sign In**.
  - For users who do not have an existing LinkedIn account, select **Join LinkedIn** and create an account.

Figure 6.2  
Sign in or Join  
LinkedIn



4. Once you have successfully logged into the LinkedIn Developer Network select **Add New Application**.
5. Fill out the form to complete the application for the API Key. See the LinkedIn Developer documentation for details on how to complete each field. At a minimum, you must populate the following fields for integration with Aptify:
  - **Company Info:** Enter the name of your organization in the **Company Name** field.
  - **Application Info:**
    - **Application Name:** Name of the web server that will host e-Business, this will be used as the Application ID in the External Systems record in Aptify. See “Linking Aptify with a Social Networking Application” on page 138 for more details.
    - **Description:** Enter a description for the use of the API Key.



- **Integrated URL:** The URL address of your e-Business site’s Social Network Navigation page, for example, *http://www.testsite01.com/ebusiness/Social-NetworkNavigation.aspx*.
  - **Application Type:** Select **Web application** from the drop-down list.
  - **Application Use:** Select the appropriate category from the drop-down list.
  - **Live Status:** Select the appropriate option from the drop-down list. While in development, your network updates will only go to the developers you choose. When live, they will go to your connections.
  - **Contact Info:** At minimum, provide your email address and phone number.
  - **OAuth User Agreement:** In the **OAuth Redirect URL field**, provide the URL address of your e-Business site’s Social Network Navigation page, for example, *http://www.testsite01.com/ebusiness/SocialNetworkNavigation.aspx*. You will also need to select an **Agreement Language**, which is the language in which the agreement screen is displayed.
6. Check the **Agree** check box.
  7. If prompted, enter the **Security Text as shown** on the LinkedIn page.
  8. **Click Add Application** to submit your completed form.
  9. **Copy/Save** the details provided for the API and Security Keys.

Figure 6.3  
LinkedIn API  
and Secret  
Key



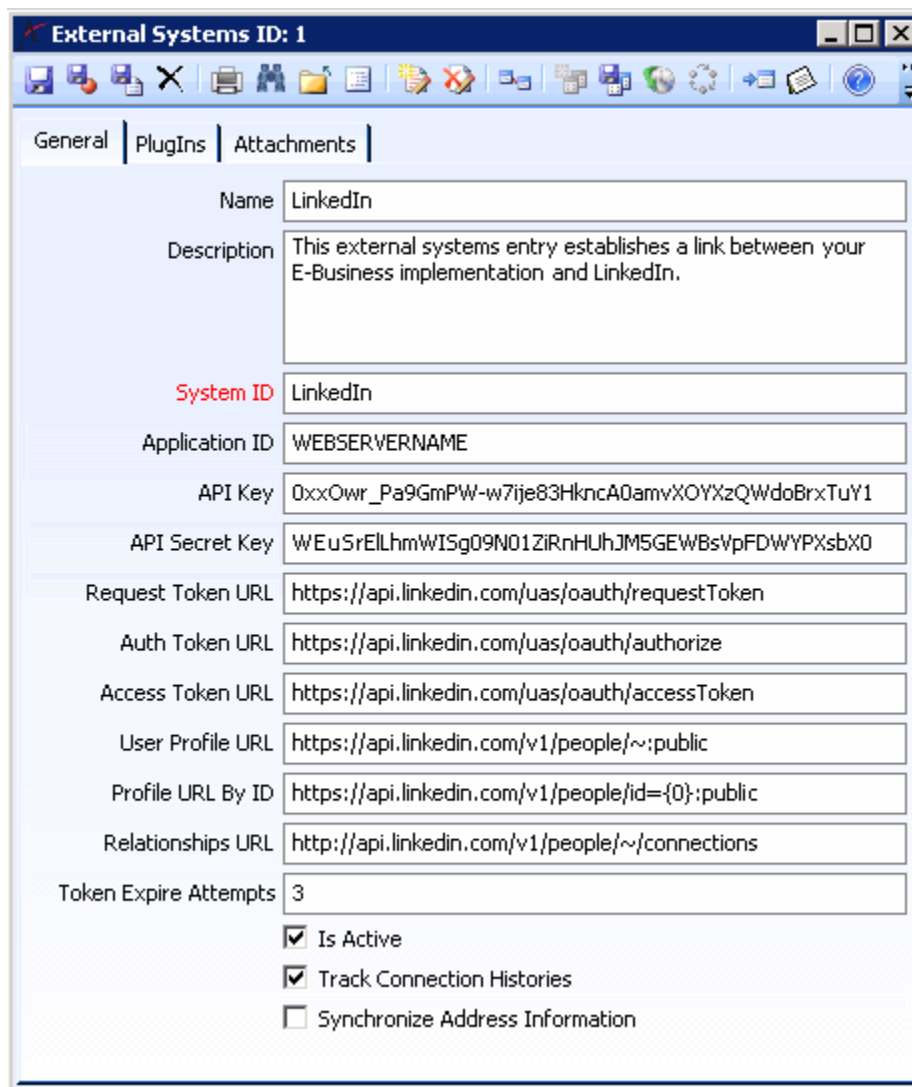
## Linking Aptify with a Social Networking Application

Once you have obtained the proper API key, you can link your e-Business implementation with the social network application. Aptify includes standard integration with LinkedIn.

Follow these steps to configure the LinkedIn External Systems record in Aptify to enable this integration.

1. Open the LinkedIn record from the External Systems service.
  - The External System service is located under the e-Business application

Figure 6.4  
Configuring the  
External  
Systems  
Record



The screenshot shows a web browser window titled "External Systems ID: 1". The window has a toolbar with various icons and a tabbed interface with "General", "PlugIns", and "Attachments" tabs. The "General" tab is active, displaying a configuration form for an external system named "LinkedIn". The form includes the following fields and options:

Name	LinkedIn
Description	This external systems entry establishes a link between your E-Business implementation and LinkedIn.
System ID	LinkedIn
Application ID	WEBSERVERNAME
API Key	0xxOwr_Pa9GmPW-w7ije83HkncA0amvXOYXzQWdoBrxTuY1
API Secret Key	WEuSrELhmWISg09N01ZiRnHUhJM5GEWBsVpFDWYPXsbX0
Request Token URL	https://api.linkedin.com/uas/oauth/requestToken
Auth Token URL	https://api.linkedin.com/uas/oauth/authorize
Access Token URL	https://api.linkedin.com/uas/oauth/accessToken
User Profile URL	https://api.linkedin.com/v1/people/~:public
Profile URL By ID	https://api.linkedin.com/v1/people/id={0}:public
Relationships URL	http://api.linkedin.com/v1/people/~connections
Token Expire Attempts	3
Is Active	<input checked="" type="checkbox"/>
Track Connection Histories	<input checked="" type="checkbox"/>
Synchronize Address Information	<input type="checkbox"/>

2. Enter the **Application ID** that you specified with LinkedIn.
3. Enter the **API Key** that you were assigned by LinkedIn.
4. Enter the **API Secret Key** that you were assigned by LinkedIn.

5. Check the **Is Active** check box.
6. Save and close the External Systems record.

## Updating the User Control Config for Social Networks

There are several attributes in the Aptify\_UC\_Navigation.config file that may need to be modified to support your social network integration. Below is a list of attributes that should be reviewed.

- **SocialNetworkSystemName:** This attribute defines the name of the social network you are integrating with. By default, the value is *LinkedIn*.
- **SocialNetworkIAgreeSynchText:** This attribute defines the text to display with the social networking's synchronization option. By default, the value is *I agree to synchronize my social network profile with Aptify*.
- **SocialNetworkUsePhotoText:** This attribute defines the text that appears for the check box that determines if e-Business uses a person's social network profile photo as his/her e-Business profile photo. By default, the value is *Use my social network photo for this profile*.
- **SocialNetworkSynchTnCText:** This attribute defines the text to display for the hyperlink to the Terms and Conditions page. By default, the value is *Terms and Conditions*.
- **SocialNetworkSynchTnCPage:** This attribute defines the location of the Terms and Condition page that user can access to know what they are agreeing to by syncing their e-Business profile with their social network account.

See "Overview of the User Control Web Config File" on page 168 for more information about how to modify the above attributes.

## Configuring Process Flow Properties for Social Networks

There are many attributes in the **Social Network User Profile Synchronization** process flow that can be modified to support your social network integration. Below is a list of attributes that you should be familiar with.

- **SynchronizeUserProfile:** This attribute updates a person's company, title, and address based on information from a person's social network profile. For LinkedIn, Aptify recommends that you leave this property set to **False** since in many cases, automatically applying these updates may create unnecessary duplicates or modify data that you do not want updated automatically. Aptify provides other functionality described in this chapter for how an organization can review and compare their data with information from LinkedIn.
- **SynchronizePersonRelationships:** Set this to True to download connection data for Web Users who have agreed to sync their profiles.

- **SynchronizePersonCompanies:** Set this to True to download a person's job history as PersonCompanies records, assuming that this information is shared in the person's public profile and the Web User has agreed to sync his/her profile.
- **SynchronizePersonEducationDetails:** Set this to True to download a person's education history as PersonEducation records, assuming that this information is shared in the person's public profile and the Web User has agreed to sync his/her profile.
- **DefaultEducationLevelID:** This identifies the default Education Levels record to use if a particular person is sharing some education details in his/her profile but not the degree level.
- **DefaultEducationFieldID:** This identifies the default Education Fields record to use if a particular person is sharing some education details in his/her profile but not the field of study.
- **AutoUpdateCompanyOnMatch:** Set this attribute to true if you want the process flow to automatically update a person's company with the value from the social network if it can match against an existing Companies record that is different from the one to which the Person is currently linked. There are two criteria considered for matching a Company and if either is met/true the Company's Person record is updated automatically.
  - The LinkedIn Company name matches the name of a Company in the Aptify database.
  - The CompanyID in LinkedIn matches the Company.ExternalSystemCompanyID for a company in Aptify.
- **AutoUpdateTitleOnMatch:** Set this attribute to true if you want the process flow to automatically update a person's title with the value from the social network if the different from the Persons record's current title.

## Using Social Networking with Aptify

This section provides information about how a user can sign on to your e-Business website using their social network credential, as well as an example of additional social network functionality provided by e-Business 5.5.

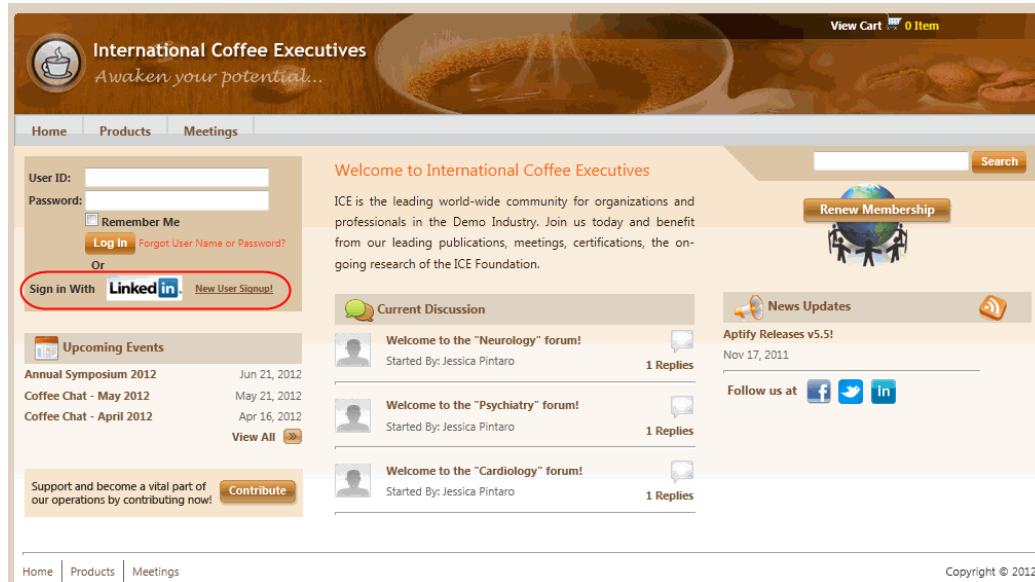
- [Logging into e-Business with Social Network Credentials](#)
- [View Others Who Are Attending A Meeting](#)

## Logging into e-Business with Social Network Credentials

If the social networking application you are linking with supports single sign on, users who have accounts for that application can log into your e-Business site using their social network credential. The steps below illustrated this functionality with LinkedIn with the Sitefinity-based ICE starter site (see the *Aptify 5.5 Installation Guide* for information about installing this sample site).

1. Open a Web browser window and enter the address to connect to your e-Business site:
  - For example, **http://testsite01/ebusiness.**
2. Click the **LinkedIn** button in the Login area.

Figure 6.5  
LinkedIn Login  
Button



3. Enter the **Email** and **Password** information for your LinkedIn account.
  - If you do not have LinkedIn account, you can select the **Join Now** button to create one.
4. Click **Ok, I'll Allow It.**
  - Select **Cancel** if you do not wish to grant the e-Business site access to your LinkedIn account.

Figure 6.6  
Granting  
Accessing to  
LinkedIn  
Account

5.

LinkedIn

Don't have an account? [Join Now](#)

**Grant testsite01 access to your LinkedIn Account**  
Only allow access if you trust this application with your LinkedIn network information

Email:

Password:  [Forgot password?](#)

Access Duration: **Until Revoked** [change](#)

ou are redirected to the Social Network Connection Option page. Select one of these options:

- Select **I have an existing account. My user name and password are;** if you have an existing e-Business account and enter your user name and password.
  - Select **I do not have an account. I need to create one,** if you do not have an existing e-Business account.
    - Choosing this option will take you to the form displayed in Figure 6.8.
6. Check the **I agree to synchronize my social network profile with Aptify** box to agree to allow the site access to your public profile.
  7. If you checked the *I agree to synchronize my social network profile with Aptify* box, you can also check the **Use my social network photo for this profile** box to automatically download and apply your social network photo to your e-Business profile (if you have a photo available).

Figure 6.7  
Social Network  
Connection  
Options

The screenshot shows a login form with the following elements:

- Login** header
- Radio button selected: **I have an existing account. My user name and password are:**
- Input fields for **User ID** and **Password**
- Radio button: **I do not have an account. I need to create one**
- Checkboxes:
  - I agree to synchronize my social network profile with Aptify
  - Use my social network photo for this profile
- Links: [Terms and Conditions](#) and [Need Help? Contact Us](#)
- Buttons: **Continue** and **Cancel**

8. Click Continue to proceed to the next page. If you selected the *I do not have an account* option, you are redirected to the new user page with information from LinkedIn pre-populated on the form.
9. Complete all of the fields marked with an asterisk (\*).

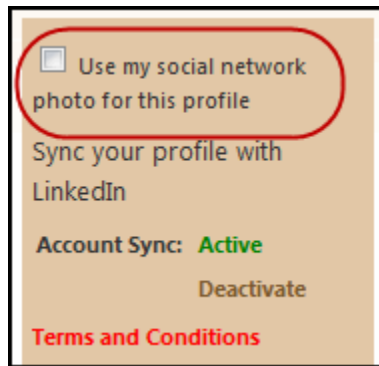
Figure 6.8  
Creating a  
New User

The screenshot shows the 'New User' registration page with the following sections and fields:

- Navigation: Home, Products, Meetings, Search
- Section: **Personal Information**
  - \*First Name: Test
  - \*Last Name: User
  - \*Email: test@email.com
  - Company: Test Company
  - Title: Marketing Coordinator
  - Primary Job Function: Advertising
- Section: **Web Account Information**
  - \*User ID: [input field]
  - \*Password: [input field]
  - \*Repeat Password: [input field]
  - \*Hint Question: My favorite color is? [dropdown]
  - \*Password Hint Answer: [input field]
- Section: **Contact Information** (partially visible)
- Left sidebar:
  - Your Photo (GIF, JPG or PNG; Limit 2MB) with a **Browse...** button
  - Sync your profile with LinkedIn
  - Account Sync: **Inactive** (with **Activate** button)
  - [Terms and Conditions](#)
  - Join ICE** button

10. The main profile page includes a sidebar that activates/deactivates the LinkedIn synchronization.
  - If you selected to Sync your profile when you created your account the Account Sync status will display as **Active**.
  - Click the **Terms and Conditions** option to view your organization's defined terms and conditions for synchronizing a social network profile with your Aptify system.
11. If you did not choose to Sync your profile when you created your account, your account will be set to **Inactive**, when it is first created.
  - Selecting **Activate**, will synchronize your account with your external Social Media account. Active accounts enable additional options as follows:
    - **Deactivate**: Clicking this will deactivate the synchronization
    - Check the **Use my social network photo for this profile** box if you want your account to synchronize with the photo in your LinkedIn account.
    - **Note**: The maximum supported size for a photo upload is 2 MB. See the [Limitations on File Uploads](#) section in the [Working with an e-Business Site](#) Chapter for more information.

Figure 6.9  
Synchronizing  
a LinkedIn  
Photo



12. Click **Submit** at the bottom of the form displayed in Figure 6.8
  - The user's e-Business account is created.

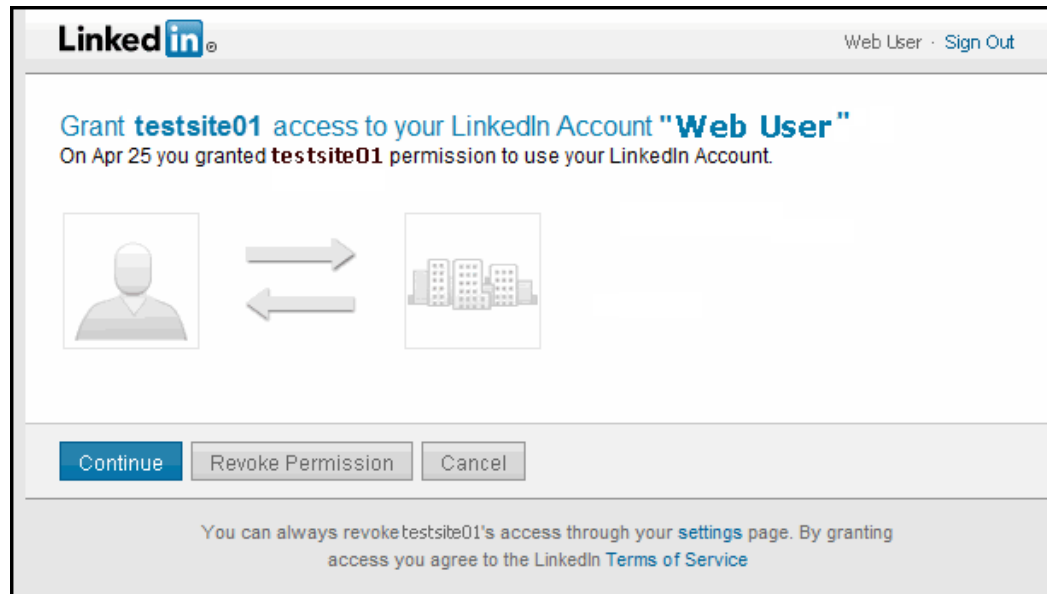
The next time you log into the e-Business site by selecting the **LinkedIn** button, the following screen is displayed. Select **Continue** to log into the e-Business website.

If you no longer want your LinkedIn account synchronized with Aptify, navigate to the Customer Service and **select View/Edit Profile** and select the Deactivate option.

- Note that revoking access will disable your ability to sign into this site using your social network account.



Figure 6.10  
LinkedIn  
Access Screen



## View Others Who Are Attending A Meeting

If a user chooses to sync their social network profile with Aptify, when they register for a meeting through your e-Business website, they can view a list of others who are already registered for that meeting. This visibility is based on their social network contacts (also referred to as “connections” or “friends” depending on the social network you selected) that have been downloaded into Aptify as Person Relationships. Below is an example of this functionality with LinkedIn and the ASP.Net sample site (see the *Aptify 5.5 Installation Guide* for information about installing this sample site). When a user views the details for a particular meeting, they can click the **People at Meeting link to view a list of people they may know who are also registered to attend.**

Note that the grid only displays the name and company for connections that link to Persons record in Aptify. Also, if information about a particular person or company is available within the e-Business directory, the person’s or company’s name within the table will be a hyperlink to the corresponding directory entry.

Figure 6.11  
List of People  
You May Know  
Attending the  
Meeting



## Social Network Administration

This section provides information about how a system administrator can schedule and manage how public social network data is downloaded into Aptify.

- [Updating Social Network Data](#)
- [Expiring Social Network Accounts](#)

### Updating Social Network Data

When a user first connects to the e-Business site using their social network account, they can choose to synchronize their social network connections with Aptify. Aptify provides a process flow to accomplish this task. An administrator can configure a Scheduled Task or Event Handler to run this process on a regular basis.

The Social Network User Profile Synchronization process flow pulls public profile information about the user. This information may include their current employer, education history, employment history, and contacts (also referred to as “connections” or “friends” depending on the social network you selected). This information is mapped to the following locations:

- Current Employer: Maps to Persons record’s Company.
- Current Title: Maps the Persons record’s Current Title
- Education History: Maps to PersonEducation sub-type records.
- Employment History: Maps to PersonCompanies sub-type records.
- Contacts/Connections/Friends: Maps to PersonRelationships.

If you are planning on synchronizing information related to education history, the Social Network User Profile Synchronization process flow has several required fields that must be configure prior to use. The fields are as follows:

- **DefaultInstitutionCompanyTypeID:** The record ID of the default Company Type. The default value is 6, which corresponds to Education in the Aptify sample data.
- **DefaultEducationLevelID:** The record ID of the default Education Level that is populated by default when creating Persons Education sub-type records. The default value is 1.
- **DefaultEducationFieldID:** The record ID of the default Education Field that is populated when creating Persons Education sub-type records. The default value is 1.

## Reviewing Mismatched Social Network Data

Currently in Aptify a user can choose to synchronize e-Business with their social network accounts. In some cases there may be a discrepancy between fields in the Aptify record in comparison to the social network record. Beginning with e-Business 5.5, Aptify provides a workflow tool to manually resolve these discrepancies.

This tool is available on the Social Network Integration Dashboard and includes two mismatch workflows as follows:

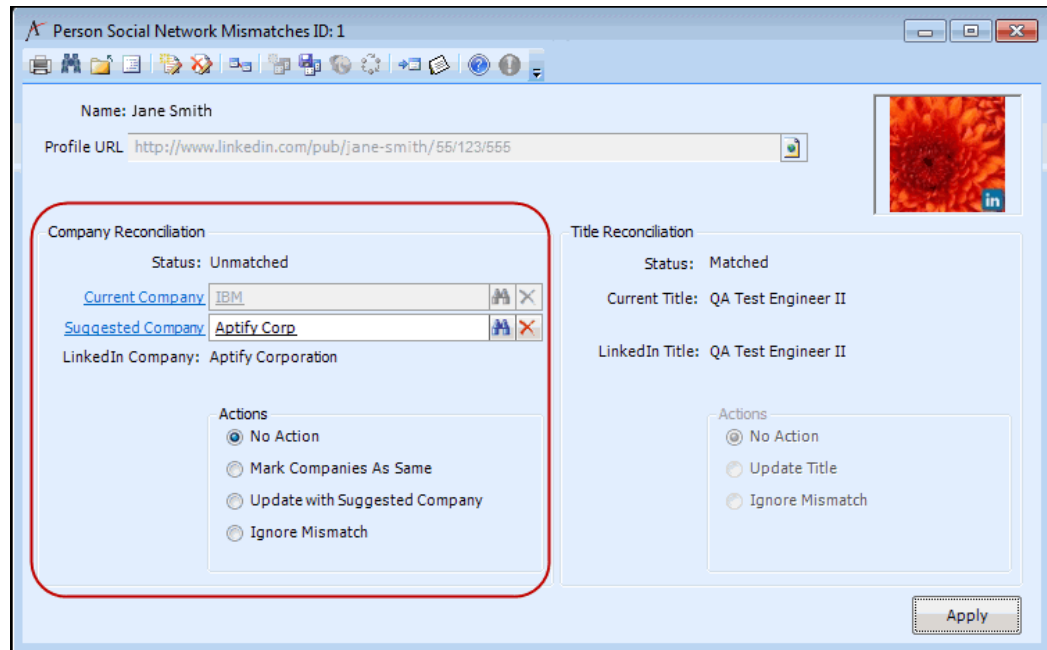
- [Company Reconciliation](#)
- [Title Reconciliation](#)

Persons records that have either Company or Title mismatched appear in the view.

### Company Reconciliation

1. Click the row of the mismatch you want to review.
  - The Person Social Network Mismatches preview pane opens at the bottom of the view. Otherwise, you can double-click to open the record.
  - When the Company Match Status is Matched, then the other fields/options in the Company Reconciliation area will be disabled.
2. Select one of the following options, to resolve the mismatch.
  - **No Action:** Selecting this option will not resolve the mismatch and will leave the data as-is, it will remain unchanged and continue to appear on this dashboard.
  - **Mark Companies As Same:** This option will updates the Person company's ExternalSystemCompanyID to match the LinkedIn CompanyID. It includes an option to update the company name to match the LinkedIn company name. If you choose Yes, it will update the name, if not the company name in Aptify is not changed. You use this option if you believe the person's current company in Aptify is the same as that person's company in LinkedIn, even if the company names differ.
    - This option is available when the status for the Company reconciliation is unmatched.
  - **Update With Suggested Company:** By selecting this option, a user can update the Current Company with a different value, by either accepting the suggested Company or manually populating the Suggested Company field.
  - **Ignore Mismatch:** Select this option to ignore a Company Mismatch. This will set the IgnoreSocialNetworkCompanyDifferences flag and the person will no longer show up in the Company Mismatch view on the Social Network Integration dashboard until the person's company changes on the social network side.

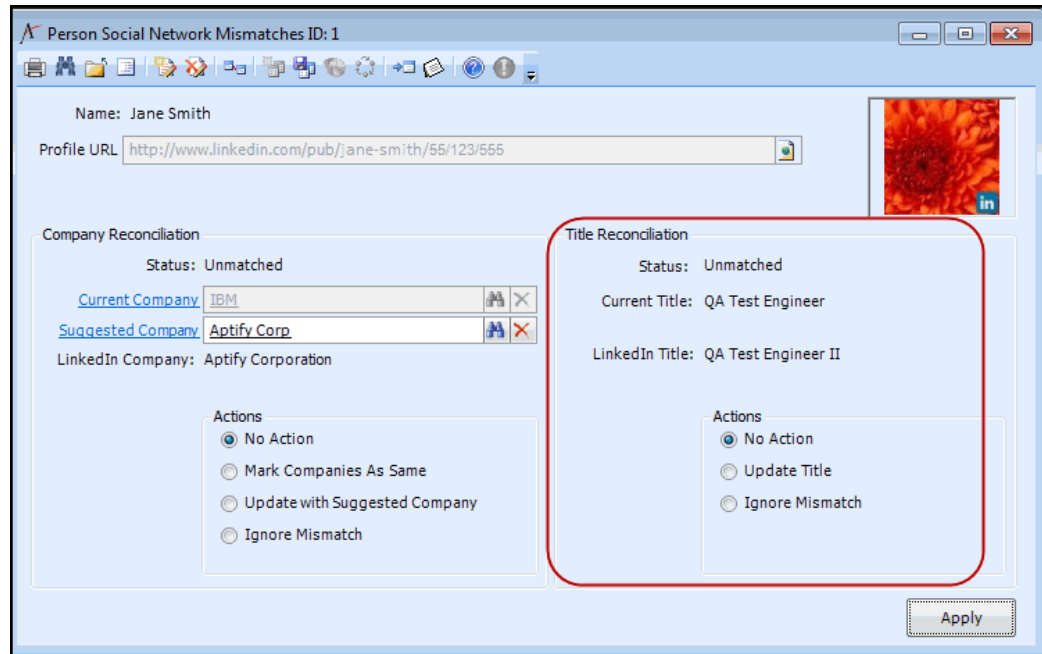
Figure 6.12  
Company  
Mismatch  
Reconciliation



## Title Reconciliation

- Click the row of the mismatch you want to review.
  - The Person Social Network Mismatches record opens.
  - When the **Title Match Status** is Matched, then the other fields/options in the Company Reconciliation area will be disabled.
- Select one of the following options, to resolve the mismatch.
  - No Action:** Selecting this option will not resolve the mismatch and will leave the data as-is, it will remain unchanged and continue to appear on this dashboard.
  - Update Title:** Selecting this option update the person's title to match the title he/she uses on the social media site.
  - Ignore Mismatch:** Select this option to ignore a Title Mismatch. This will set the IgnoreSocialNetworkTitleDifferences flag and the person will no longer show up in the Mismatch view on the Social Network Integration dashboard until the person's title changes on the social network side.
    - The Ignore Title Mismatch option will be disabled however, the Update Aptify Title option will remain enabled since the status is still Unmatched.

Figure 6.13  
Title Mismatch  
Reconciliation



## Expiring Social Network Accounts

When a user no longer wishes to synch their social network profile through your e-Business website, Aptify provides a process flow to expire the token associated with their Persons External Accounts record.

## Social Networking Forms

This section provides field-by-field information on the forms used in social network integration and includes forms found in the e-Business applications and on the Details tab of a Persons record.

The following forms are located in the e-Business application and are used to configure a social network integration and update the Aptify database with information from a user's social network profile.

- [External Systems Form](#)
- [Persons External Accounts Form](#)

The following forms are located on the Details tab of a Persons record and are used to store information about the user's social network profile and activities.

- [Educations Form](#)
- [Educations Form](#)
- [Relationships Form](#)

## External Systems Form

The External Systems services stores the information related to establishing a link between your e-Business implementation and a social network application.

Figure 6.14  
External  
Systems Form

External Systems ID: 1	
General   PlugIns   Attachments	
Name	LinkedIn
Description	This external systems entry establishes a link between your E-Business implementation and LinkedIn.
System ID	LinkedIn
Application ID	WEBSERVERNAME
API Key	0xxOwr_Pa9GmPW-w7ije83HkncA0amvXOYXzQWdoBrxTuY1
API Secret Key	WEu5rELhmWISg09N01ZiRnHUhJM5GEWBsVpFDWYPXsbX0
Request Token URL	https://api.linkedin.com/uas/oauth/requestToken
Auth Token URL	https://api.linkedin.com/uas/oauth/authorize
Access Token URL	https://api.linkedin.com/uas/oauth/accessToken
User Profile URL	https://api.linkedin.com/v1/people/~:public
Profile URL By ID	https://api.linkedin.com/v1/people/id={0}:public
Relationships URL	http://api.linkedin.com/v1/people/~:connections
Token Expire Attempts	3
	<input checked="" type="checkbox"/> Is Active <input checked="" type="checkbox"/> Track Connection Histories <input type="checkbox"/> Synchronize Address Information

### Attachments Tab

This tab stores any attachments relevant to the record.

### General Tab

#### Name

The name of the social networking site or resource.



**Description**

A description of the social networking site or resource.

**System ID (required)**

The name of the social network application that the e-Business implementation is linked to.

**Application ID**

The application name as specified when requesting an API for the social network application.

**API Key**

API key provided by social network application.

**API Secret Key**

The Secret Key provided by the social network application.

**Request Token URL**

The Request Token URL provided by the social network application.

**Auth Token URL**

The Auth Token URL provided by the social network application.

**Access Token URL**

The Access Token URL provided by the social network application.

**User Profile URL**

The User Profile URL provided by the social network application.

**Profile URL by ID**

The Profile URL by ID provided by the social network application.

**Relationships URL**

The Relationships URL provided by the social network application.

**Token Expire Attempts**

The number of invalid login attempts before Aptify no longer synchronizes with the social network application, as disabled by the Expire Social Network Accounts process flow. The default value is 3.

**Is Active**

When checked, this box indicates an active link between your e-Business website and the social network application. When unchecked, the link is not active and profile information is not synchronized between the social network application and Aptify.

**Track Connection History**

When checked, Aptify keeps track of each time the user's social network profile is synchronized with the Aptify database. This information is stored on the Connection Information tab of the user's Persons External Accounts record. See the "Persons External Accounts Form" on page 155 for more details.

**Synchronize Address Information**

When checked, Aptify will attempt to synchronize address data in Aptify with corresponding data retrieved from the social network. In the case of LinkedIn, LinkedIn does not store address data so this box is unchecked.

**Plugins Tab****Social Network Object**

This field specifies the location of the plug-in object for integrating with the specific social network application in the Aptify Object Repository.

**Social Network Assembly**

The field specifies the .NET assembly name of plug-in for integrating with the specific social network application.

**Social Network Class**

The field specifies the class that provides the logic for the integration with the specific social network application plug-in.

**User Profile Object**

This field specifies the location of the object that defines a user profile in Aptify for this social network application.

**User Profile Assembly**

This field specifies the .NET assembly name of the plug-in that defines a user profile for this social network application.

**User Profile Class**

This field specifies the class within the User Profile Object that defines a user profile for this social network application.

## Persons External Accounts Form

The Persons External Accounts service stores information regarding the synchronization between a user's social network profile and Aptify.

Figure 6.15  
Person  
External  
Accounts Form

**New Person External Accounts Record**

General | Attributes | ConnectionHistories | Attachments

**External System** LinkedIn

**Web User** Test User

Account ID NjzVYwdSu

Access Token 33e8d6f6-0408-4291-a5b9-d4d4e97618a8

Access Secret 3a142b55-701d-4ea0-88c2-deb579917fb9

Access Verifier 11293

Profile URL http://www.linkedin.com/pub/web-user/0/280/a09

Last Connection Date 4/21/2011 4:47:21 PM

Last Synch Date 4/24/2011 11:50:01 PM

Rank 1

Synchronize Profile

Token Expired

Use Social Media Photo

**Linked Person**

ID	Name/Company	Title
2547	User, New/Test123	

1 Record

### Attachments Tab

This tab stores any attachments relevant to the record.

### Attributes Tab

This tab stores information about user's social network profile.

## Connection Histories Tab

Tracks each time the user's social network profile is synchronized with Aptify. Note that Connection Histories records are only created if the Track Connection History option is selected on the social network integration's External Systems record.

Figure 6.16  
Connection  
Histories  
Sub-Type  
Form

When Connected	Status	Comments
3/8/2012	Success	Person External Account synchronized successfully.
3/8/2012	Success	UserProfile configured successfully.
3/8/2012	Success	Person External Account synchronized successfully.
3/8/2012	Success	Relationships synchronized successfully.
3/8/2012	Success	Relationships synchronized successfully.
3/8/2012	Success	Companies synchronized successfully.
3/8/2012	Success	EducationDetails synchronized successfully.
3/8/2012	Success	Person External Account synchronized successfully.
3/8/2012	Success	Person External Account synchronized successfully.
3/8/2012	Success	Person External Account synchronized successfully.

10 Items

## General Tab

### External System

The name of the social network application in which the user is linked. This field links to the External Systems service.

### Web User

The user in which this record is associated. This field links to the Web users service.

### Account ID

The account ID for the user's social network profile.

### Access Token

The access token for the user's social network profile.

**Access Secret**

The access secret for the user's social network profile.

**Access Verifier**

The access verifier for the user's social network profile.

**Profile URL**

The URL address of the user's social network profile.

**Last Connection Date**

The last date in which the user connected to the e-Business using their social network credentials.

**Last Synch Date**

The last date in which the user's social network profiles was synchronized with Aptify.

**Rank**

If the same person has multiple social network profiles, this field ranks the person's accounts relative to each other.

**Synchronize Profile**

When checked, the user's social network profile is synchronized with Aptify. When unchecked, Aptify is not updated with any changes to the user's social network profile.

**Token Expired**

When checked, the user's social network profile is no longer synchronized with Aptify and no attempt is made to synchronize with this account. The Expire Social Network Account process flow automatically checks Token Expired if a particular account has failed to connect the number of times specified by the Token Expire Attempts field in the External Systems record.

**Use Social Media Photo**

When checked, this users's social network photo will be synchronized with their account.

**Linked Person**

This view displays the details of the Web User's linked Persons record.

## Companies Form

When a person's employment history is available from a social network, Aptify creates Person Companies records to track that information. When adding the record, Aptify attempts to match the person's company against existing records in the Companies service.



If an existing record is not found, Aptify writes the name of that company to the Company Name text field. This prevents the system from generating duplicate or unnecessary Companies records.

For information on the other fields on the Person Companies form, see the *Aptify Customer/Member Management Guide*.



Figure 6.17  
Person  
Companies  
Form

Companies Record






Company Name

[Company](#)   

Title

Start Date   End Date  


**Contact** | [Details](#) | [Functions](#) | [Comments](#)

Business Address      


Line 1



Line 2

Line 3


City, State ZIP   

County

Country  

Phone   

1   x

Email  

## Educations Form

When a user grants access to their social network profile through your e-Business site, information about institutions they have attended are created as Education records. This form is accessed from the Education sub-tab on Details tab of the Persons record.

See the [Adding Education to a Persons Record](#) section in *Aptify Customer/Member Management Guide* for information.

Figure 6.18  
Persons  
Education  
Form

The screenshot shows the 'Education Record' form with the following fields and values:

Field	Value
Education Level	Bachelors
Education Field	Economics
Institution Name	Stanford University
Institution	
Start Date	9/1/1995
End Date	5/1/199
Is Completed	<input checked="" type="checkbox"/>
Degree Title	Bachelor of Science in Economics
Overall GPA	3.5
Major GPA	3.7
Comments	

Buttons at the bottom: OK and New, OK, Cancel.

### Education Level

The level of education when studies are completed. This field is linked to the Education Levels service.

### Education Field

The field of study. This field is linked to the Education Fields service.

**Institution Name**

The name of the institution where the education was received. This is a text-only field and prevents Aptify from creating duplicate records for existing Institutions if there are variations in the name or from creating extraneous records if the institution does not have an existing Companies record.

**Institution**

The institution where the education was received. This field is linked to the Companies service.

**Start Date**

The date in which the studies began.

**End Date**

The date in which the studies were completed or ended.

**Is Complete**

When checked, the required studies have been completed and the degree/certificate has been earned.

**Degree Title**

The title of the degree earned.

**Overall GPA**

The overall grade point average for all courses taken at the institution.

**Major GPA**

The grade point average for particular courses associated with the degree/certificate.

**Comments**

This field contains any additional details relevant to the Educations record

**Relationships Form**

When a user grants access to their social network profile through your e-Business site, information about persons they know are created as Relationship records. The Relationships record stores information about a person's relationship with another Person in the Aptify database. This form is accessed from the Details tab's Relationships sub-tab on the Persons record.



Figure 6.19  
Relationships  
Form

The screenshot shows a web form titled "Relationships Record" with three tabs: "General", "Comments", and "Person Relationship Attributes". The "General" tab is active. The form contains the following fields:

- First Name:** Dave
- Last Name:** Armstrong
- Related Person:** A text input field with a blue link icon and a close (X) icon.
- Relationship Type:** A dropdown menu currently showing "Community Connection".
- Start Date:** 4/23/2011, with a calendar icon.
- End Date:** An empty text input field with a calendar icon.
- External System ID:** LinkedIn, with a blue link icon and a close (X) icon.
- Account ID:** ik4Ukv5hTY

At the bottom of the form are three buttons: "OK and New", "OK", and "Cancel".

## Comments Tab

The Comments tab contains any additional details relevant to the Relationships record.

## General Tab

### First Name

The first name of the related person.

### Last Name

The last name of the related person.

### Related Person

With social network connections, if Aptify matches a connection to an existing Persons record in Aptify, this field is populated with the related person's Persons record. This field links to the Persons service.

### Relationship Type (required)

Type of relationship. This field links to the Person Relationship Types service. For relationship created through social network connections, the default value is Community Connection.

### Start Date

Start date for the relationship. For relationships creating from social network connections, the start date is the date in which the user's social network profile was first synchronized with Aptify.

**End Date**

End date for the relationship, if applicable.

**External System ID**

The record ID of the social network integration used to create this Relationships record. This field links to the External Systems record.

**Account ID**

The Account ID for the connection on the social network (which is specified by the External System field).

**Person Relationship Attributes**

This tab stores the information about the related person as pulled from the user's social network profile.

# Chapter 7

## Working with an e-Business Site

### Introduction

This chapter provides a set of guidelines for configuring an e-Business site, including how to add new functionality that interacts with Aptify Business Applications.

This chapter includes the following sections:

- [Modifying the Appearance of the Sample Site](#)
- [Adding a New Page or Site Area](#)
- [User Control Development](#)
- [Creating and Deploying a New User Control](#)
- [Leveraging the Aptify Generic Entity](#)
- [Using Web Services](#)
- [New Server Controls and Deployment](#)
- [Changes to Aptify Business Logic](#)
- [Refreshing the e-Business Cache](#)
- [Keeping Objects in Sync Between Servers](#)
- [Best Practices When Upgrading e-Business to the Latest Version](#)
- [Limitations on File Uploads](#)
- [Configuring Google Maps to Generate Meeting Directions](#)

This chapter provides an overview of the types of configurations an organization would typically implement for an e-Business site. Note that the Aptify e-Business Developer course also provides hands-on lab activities that demonstrate many of the configurations described in this chapter.

Note: Aptify e-Business provides a framework for integrating with any third-party Content Management Systems which supports User Control imports. However, the examples in this chapter refer to integration with Sitefinity, the default option for deployment with Aptify e-Business 5.5. Refer to the instructional guides for your specific CMS for information on how to configure your e-Business site with your CMS.

## Modifying the Appearance of the Sample Site

While it is possible to build an entirely new e-Business site from scratch using the Aptify e-Business Enterprise Web Architecture server controls and components, many clients find value using the existing sample site pages as a starting point.

One of the powerful benefits of ASP.NET is that it completely separates programming logic from a Web page's visual elements using code behind pages (see "Code Behind" on page 23). This makes it possible to provide the HTML to a graphic artist or some other non-programmer who wishes to improve the site's look and feel while not being exposed to the risk that a non-programmer may inadvertently alter inline code mixed into the presentation layer.

If the intended website changes do not involve the modification of any of the "code behind" classes and are simply related to the HTML, the configuration is extremely straightforward and will not even require a recompile of the assembly.

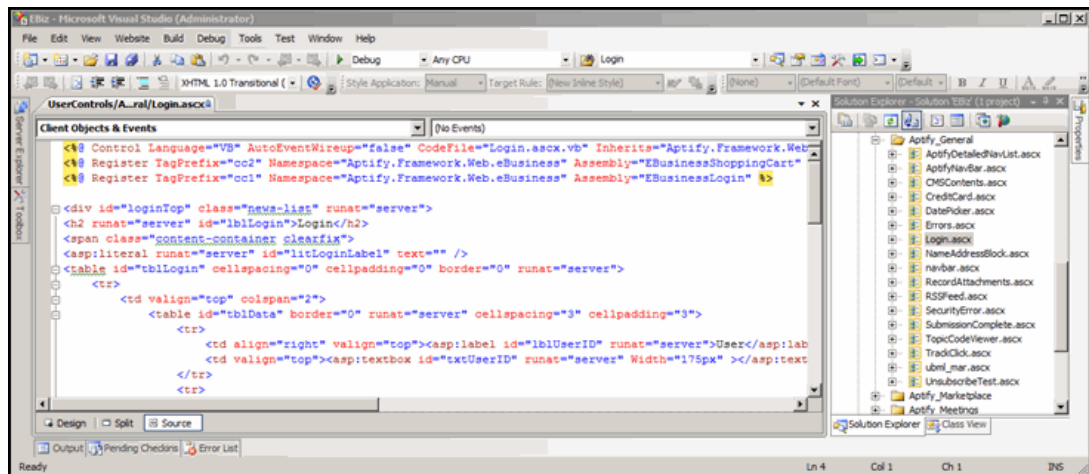
Simply provide the HTML or access for your chosen Content Management System (CMS) to the individual responsible for the change and allow the individual to modify the content, and then re-integrate the ASPX page into the website. No recompile is necessary and the changes are immediately reflected on the website.

The Sitefinity sample site takes advantage of a feature available in CMS platforms called Templates, which enforce a consistent look and feel and provide a single place for making updates to a page. All of the pages on the e-Business site are based on the HomePage and SecondLevelPage templates. The Templates include the standard header, footer, and navigation bar that appears on all of the sample site's content pages. By simply modifying the layout of the Template page or of the controls placed on it, you can easily change the appearance of the e-Business sample site. Any new page you add to the site and link to the Template page will use the same general format as all of the other pages on the site.

The following is an overview of the types of changes an organization would typically want to make to the e-Business sample site to personalize its appearance:

- Create your own style sheet to modify the font and colors used on the site. Style sheets are provided with the e-Business sample sites that you can use as a starting point.
- Modify the design of the Template page (or create a new Template page) as needed.
- Modify the design of individual controls as necessary. See "User Control Development" on page 168 for more information on the format of an ASCX page.

Figure 7.1  
Login Control  
Loaded in  
Visual Studio



## Best Practice Recommendations

Aptify provides the following recommendations when modifying the appearance of a page without modifying the code behind or recompiling code:

- Aptify recommends that a Web designer make changes to the site only through the CMS.
- Aptify recommends that the “look and feel” elements of a site be done through Style Sheets rather than through in-line styles. This approach will allow consistency throughout your site as well as making it easier to change the look of your entire site easily and quickly. See “Creating and Using Style Sheets” on page 178.
- Aptify recommends that a Web designer not open the ASPX files in an HTML editing environment, such as Adobe Dreamweaver® or Microsoft FrontPage®. These applications can alter the tags of a page and make the CMS and/or ASP.NET unable to parse the page.
- If only modifying the site’s appearance, there should be no deletions or additions of server or user controls to the page. These changes alter the code behind file.
- When altering a page layout, Aptify recommends you drag existing controls on the page to new locations using the design mode within your CMS.
- Aptify recommends against cutting and pasting areas since you may not have selected all of the necessary tags in an area. If you want to cut and paste areas, check the HTML source of the page first to ensure the appropriate HTML code is highlighted. (CMS environments provide HTML editing tools on the HTML tab of the Toolbox.)
- Record all changes to the core e-Business pages for future reference. This is particularly important in cases where a service pack or new release contains a new version of the page, which will overwrite the changes you made previously.

## Adding a New Page or Site Area

One of the most useful development scenarios for e-Business is building an entirely new section into the existing sample site. This type of configuration would be necessary when an organization has used the sample site for development, but the provided sample site does not provide access to the data of a particular entity or Aptify function. For example, an organization may wish to add a Web front-end to their Campaign Management data in Aptify. This development would call for creating a new subsection of the site and generating a number of new and independent pages.

The following instructions provide the general steps to add a new area and new pages to an e-Business site:

1. Identify the requirements for the new area or page you want to add to the e-Business site.
2. Create a new Web Modules record in Aptify and new Web Menus records as needed to correspond to the new functionality you are adding to the e-Business site.
  - See “Understanding and Creating Web Modules” on page 44 and “Configuring the Web Menu” on page 54 for more information.
  - You can also choose to add this metadata to Aptify later after you have created the new content.

The instructions below are a general overview of the typical process of adding a new page to a CMS. Please refer to your CMS provider’s instructions for adding new pages and site areas.

3. Open the e-Business site within your CMS.
4. Add a new blank page to the CMS in the desired location within the site structure.
  - Specify a Template or master page that applies the common site theme to the page.
  - Add user controls to the page for desired functionality. Remember the names you assign to those instances of the controls since you will need to reference those names in the Aptify\_UC\_Navigation.config file.
  - Publish the new page to add it to your website.
  - If you need to upload controls to your CMS or develop your own server controls (or create a new server control that inherits from an Aptify server control), see “User Control Development” on page 168 for general development guidelines.
5. Create additional pages for the new section as needed.

6. Configure the Aptify\_UC\_Navigation.config file as applicable to set the properties for the instances of the controls you dropped on the new pages.
7. Open a web browser and navigate to your e-Business site and verify that the new page (s) display correctly.

# User Control Development

Starting with e-Business 5.0 Service Pack 1, the user controls can be configured by setting attributes in a web config file rather than requiring modifications to the user control code itself. This greatly improves the upgrade capabilities of the user controls by reducing the changes required during implementation. It also vastly improves the portability of the controls between Content Management Systems by abstracting hard-coded navigation paths from the controls themselves to the config file that can be easily tailored to the specific implementation.

The section contains the following topics related to user controls development when implementing an e-Business website with e-Business 5.5:

- [Overview of the User Control Web Config File](#)
- [Making Changes to the User Control Web Config File](#)
- [Best Practices for e-Business Development with User Controls](#)

## Overview of the User Control Web Config File

The web config file that is used to configure user controls in the e-Business website is called *Aptify\_UC\_Navigation.config* and is located in the root e-Business directory. In the sample site installed, this will be *c:\inetpub\wwwroot\ebusiness*.

There are two sections in the *Aptify\_UC\_Navigation.config* file:

- [Global Settings](#)
- [User Control Settings](#)

### Global Settings

There are multiple global settings that apply to the general functions of the site, as shown in the example below:

```
<Global>
  <securityErrorPage>About/Security.aspx</securityErrorPage>
  <LoginPage>Login.aspx</LoginPage>
  <useVirtualPath>true</useVirtualPath>
  <maxLoginTries>2</maxLoginTries>
  <minPwdLength>5</minPwdLength>
  <minPwdUpperCase>1</minPwdUpperCase>
  <minPwdLowerCase>4</minPwdLowerCase>
  <minPwdNumbers>1</minPwdNumbers>
```



```
<SocialNetworkSystemName>LinkedIn</SocialNetworkSystemName>
<SocialNetworkSynchTnCText>Terms and Conditions</SocialNetworkSynchTnCText>
<SocialNetworkSynchTnCPage>/SocialNetworkTnCPage.aspx</SocialNet-
workSynchTnCPage>
<UseOrderLines>>true</UserOrderLines>
<BillMeLaterDisplayText>Bill Me Later</BillMeLaterDisplayText>
<UserDisabledAccount>Your account has been disabled. Please contact the site adminis-
trator for assistance.</UserDisabledAccount>
<SocialNetworkUsePhotoText>Use my social network photo for this profile</SocialNet-
workUsePhotoText>
  <SocialNetworkIAgreeSynchText>I agree to synchronize my social network profile with
  Aptify</SocialNetworkIAgreeSynchText>
<ImageUploadUserProfileText>Your Photo (GIF, JPG or PNG; Limit 2MB)</ImageUploadUser-
ProfileText>
  <ImageUploadUserProfileSaveText>Click Submit button to save this photo</ImageUpload-
UserProfileSaveText>
<ShowMeetingsLinkToClass>>false</ShowMeetingsLinkToClass>
  <OrderConfirmationPage>/CustomerService/OrderConfirmation</OrderConfirma-
tionPage>
</Global>
```

The global attributes are as follows:

- `securityErrorPage`: This attribute defines the path of the page that should be displayed in the event a user attempts to access an area of the site they don't have rights to. The page should implement the Security Error control.
- `LoginPage`: This attribute defines the login page that is displayed when a user attempts to access a secured page directly without first logging in.
- `useVirtualPath`: This attribute defines the paths within the site.
  - If *true*, indicates all paths should start at application's root directory and are prefixed with `Request.ApplicationPath` property.
  - If *false*, indicates all paths are either relative or absolute and are returned "as is".
- `maxLoginTries`: This attribute specified the maximum number of unsuccessful login attempts before a user's account is disabled.

Note that once a web account is disabled, an administration must follow the steps below in order to re-enable the web account:

1. Login to Aptify with a user that has permissions to modify user accounts.
2. Go to the users service under the EBusiness application.
3. Open the users record for the disabled user.
  - The **Disabled** check box should be checked and the **# Failed Logins** should be the maximum number of logins allowed by a user.
4. Un-check the Disabled check box.
5. Enter 0 in the # Failed Logins field to reset the number of login attempts for the user.
  - If the number of failed logins is not set to a number less than the maximum allowed, the user will not be able to login even if the Disable option is unchecked.

- **minPwdLength**: This attribute defines the minimum required length of new passwords. The default value is 6.
- **minPwdUpperCase**: This attribute defines the minimum number of uppercase letters that a new password must contain. The default value is 1.
- **minPwdLowerCase**: This attribute defines the minimum number of lowercase letters that a password must contain. The default value is 1.
- **minPwdNumbers**: This attribute defines the minimum number of numbers that a password must contain. The default value is 1.

**Note Concerning Passwords for Existing users Prior to Applying e-Business 5.5:** Note that the changes made in e-Business 5.0 Service Pack 2 impose stricter password requirements for newly created users or existing users who change their password after e-Business Service Pack 2 or later is applied (i.e., through the Forgot Password feature). An administrator must require the creation of new passwords for existing users (if applicable) before the stricter password policy is fully enforced. If you have questions about applying this change to all users, contact our Technical Support department at [support@aptify.com](mailto:support@aptify.com) or 800-355-6738 for assistance.

- **SocialNetworkSystemName**: This attribute defines the name of the social network you are integrating with. See “Integrating with Social Networking Sites” on page 134 for more information about this feature.
- **SocialNetworkSynchTnCText**: This attribute defines the text to display for the Terms and Conditions page hyperlink in the social media connection controls.

- **SocialNetworkSynchTnCPage:** This attribute defines the location of the Terms and Condition page that user can access to know what they are agreeing to by syncing their e-Business profile with their social network account. See “Integrating with Social Networking Sites” on page 134 for information about this feature.
- **UseOrderLines:** This attribute defines how the quantity of items in a user’s cart are displayed as part of the basic cart info that appears in the upper right corner of the site. When set to true, the default value, the item count is displayed based of the number of order lines placed in the cart. When set to false, the item count is displayed based on the total number of items placed in the cart.
- **BillMeLaterDisplayText:** This attribute defines the text that is displayed when using a e-Business website has been configured to use a Purchase Order option.
- **UserDisabledAccount:** This attribute defines the message that is displayed to a user when their account is disabled.
- **SocialNetworkUsePhotoText:** The text that appears for the check box that allows Aptify to use a person’s social media site photo as his/her e-Business profile photo.
- **SocialNetworklagreeSyncText:** This attribute defines the text to display with the social networking’s synchronization option. See “Integrating with Social Networking Sites” on page 134 for more information about this feature.
- **ImageUploadUserProfileText:** Explanatory text that appears under the photo area of the profile control.
- **ImageUploadUserProfileSaveText:** Text that describes how to save an uploaded photo to the user’s profile.
- **ShowMeetingsLinkToClass:** In Aptify, a seminar-type class may leverage Aptify’s Meetings functionality so that the underlying product tied to the Class is a meeting. This attribute determines if the meetings tied to classes should appear on their own in the Meetings area or only in the context of the linked class. When set to true, the meetings linked to classes also appear in the Meetings center.
- **OrderConfirmationPage:** Specifies the location of the page that hosts the OrderConfirmation control.

## User Control Settings

Each user control has a configuration section. The specific attributes available to each user control varies by control, but the majority of the configuration options are related to site navigation and the ability to change the site structure without altering the controls code.

An example of the Login control configuration block shown is below:

```
<UserControl type="Login" name="usercontrols_aptify_general_login_ascx1" >
  <links>
    <!--password reset page where ForgotUID control implemented-->
    <link name="ForgotUIDPage" value="ForgotUID.aspx" />
    <!--new user setup page where Profile control is implemented-->
    <link name="NewUserPage" value="NewUser.aspx" />
  </links>
</UserControl>
```

```
</links>
</UserControl>
```

Each user control configuration section has a *name* attribute that must be set. This name uniquely identifies the instance of the control used in the site. The same control with different configuration options can be used in multiple pages in the site, or even within the same page, by specifying unique control names and creating separate configuration blocks for each name. This may be desirable if different behavior is required for each instance of the control.

In the Login control configuration block above, there are two control-specific attributes that can be configured; the hyperlink targets for the Forgot User ID link and the New User link that is displayed as part of the control. By changing the *value* attributes, the navigation can be quickly changed to forward the user to different pages.

## Making Changes to the User Control Web Config File

By default, the Aptify\_UC\_Navigation.config file is read once when IIS starts up and is cached. Any changes made to the config file will not be recognized until IIS is restarted. This is normally the best practice for production websites where site and configuration changes are carefully coordinated during scheduled maintenance windows.

To support productive e-Business development where frequent changes are being made, it is possible to configure e-Business to read the Aptify\_UC\_Navigation.config file whenever a user control is loaded and the file has changed from the last time it was read. This enables iterative development without incurring the cost of IIS restarts.

A key called NavConfigAutoLoad has been added to the web.config file in the e-Business root directory.

```
<appSettings>
...
  <add key="NavConfigAutoLoad" value ="false"/>
</appSettings>
```

If the key doesn't exist or if set to *false*, the Aptify\_UC\_Navigation.config file is read only once upon IIS startup. If set to *true*, any changes to the file will be refreshed the next time a control is loaded.

**Note:** A slight performance penalty is incurred to test the last modified date on the file each time an Aptify control is loaded so it's recommended only for development use.

## Best Practices for e-Business Development with User Controls

There are a number of best practices that should be followed when implementing an e-Business site based on e-Business 5.0 Service Pack 1 and later.

Note: Do not use ampersands (&) in the Aptify\_UC\_Navigation.config file. This can cause a XML parsing error and the nav file may not work properly.

- Make as few changes as possible to the Aptify user controls during implementation, using the Aptify\_UC\_Navigation.config file when possible. When code changes are necessary, keep a detailed log of what was done to make migration of those changes easier in the future.
- If significant customizing is required for an Aptify user control, it is recommended that a new user control be created, using the Aptify version as a starting point. Choose a type that will make it easy to differentiate from the Aptify controls. This will help avoid confusion between stock Aptify and customer-created user controls.
- New releases of e-Business user controls will contain changes, primarily to fix reported issues. Determining the differences between releases can be accomplished by comparing directories containing the prior version of the user controls to the latest version using a good diff tool.
- It is recommended that the newest version of e-Business always be used as the baseline and changes made to the older version be ported to the newer version. This will ensure that you always have the latest Aptify code and fixes.

## Creating and Deploying a New User Control

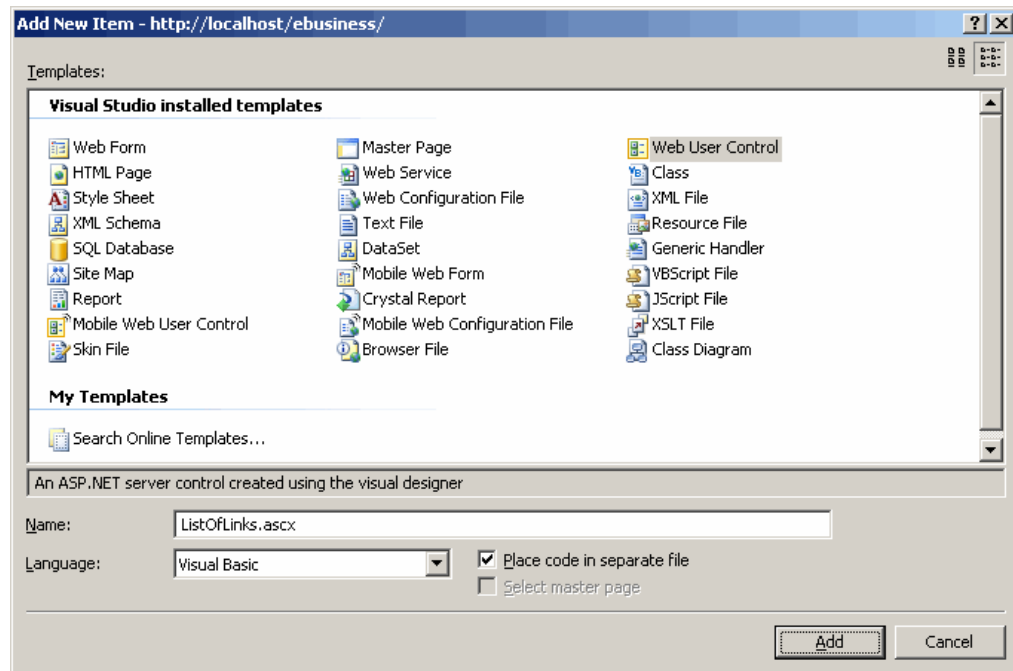
The format of a user control is the same as all ASPX files, except they cannot include <HTML>, <BODY>, or <FORM> tags. Therefore, if applicable, existing pages can be easily converted to controls by removing the inappropriate tags. User Controls are generally placed in a controls sub-directory in the web module that will utilize them (see the e-Business sample site for examples of this practice — for example, the controls related to the Product Catalog appear in the */UserControls/Aptify\_Product\_Catalog* folder.

The following instructions provide the general steps to add a new user control to an e-Business site:

1. Identify the design requirements for the new user control that you want to create.
2. Open the e-Business site in Visual Studio.
  - See “Opening the website in Visual Studio” on page 212 for more information.
3. In the Solution Explorer, create a new folder for the control if necessary.

4. Add a new user Control to the appropriate Controls folder you created using the Add New Item dialog, accessible from the Solution Explorer's right-click menu. Use this dialog to specify the details for the new file, including:
  - Specify a file name.
  - Check the Place code in separate file box to enable Code Behind support.
  - Specify the Language you wish to program the code behind page (the Aptify Sample Site and this class uses Visual Basic).

Figure 7.2  
Add New Item  
Dialog



5. Load the new page in Design mode within Visual Studio and design the control's layout.
  - You can drag and drop controls and Aptify server controls from the Visual Studio toolkit to the page as necessary. You can also drag and drop user controls from the e-Business site's Solution Explorer to automatically add a user control to the page.
  - A user control can contain references to other user controls. For example the Discussion Forum's [Message](#) user control uses the [Record Attachments](#) control in the e-Business sample site.
  - If you need to develop your own server controls (or create a new server control that inherits from an Aptify server control), see "New Server Controls and Deployment" on page 191 for general development guidelines.
6. View the source for the ASCX file and modify the code as needed.
7. Configure the ASCX.VB code behind file and then add the necessary logic to the control. Keep in mind the following:

- Aptify's Best Practices recommend having Option Explicit and Option Strict On, so add those two lines of code to the top of the file.
- A user control's class should inherit from *Aptify.Framework.Web.eBusiness.BaseUserControlAdvanced*.
- Create a Namespace block and move the class inside the block. Aptify recommends that each client adopts its own Namespace Hierarchy for all code it develops.
- After specifying your own namespace and renaming the class (if applicable), you also need to update the Inherits attribute of the @Page directive within the ASCX file to use the new namespace and class name.
- See "Leveraging the Aptify Generic Entity" on page 180 for an overview of how to configure e-Business to interact with the Aptify GE to save information to the Aptify database.
- See "Using Web Services" on page 186 for information on how to generate Aptify Web Services and integrate them into an e-Business site to create, load, edit, or delete data in Aptify.
- Aptify provides standard handling functionality with errors reported to the Errors.aspx page. To implement handling, add the following code to your functions:

```
Private Sub FunctionName()  
    Try  
        [Your code]  
    Catch ex As Exception  
        Aptify.Framework.ExceptionManagement.ExceptionManager.Publish(ex)  
    End Try  
End Sub
```

- Refer to the source files for the user controls provided by Aptify for examples of Aptify's recommended coding practices. The code behind file for the [Web Articles](#) user control (*WebArticles.ascx.vb*) is included below to illustrate the concepts described in this section:

Option Strict On

Option Explicit On

Imports System.Data

Imports Aptify.Framework.Application

Imports Aptify.Framework.DataServices

```
Namespace Aptify.Framework.Web.eBusiness
    Partial Class WebArticles
        Inherits Aptify.Framework.Web.eBusiness.BaseUserControl

        Private Sub Page_Load(ByVal sender As System.Object, ByVal e As
            System.EventArgs) Handles MyBase.Load
            'Put user code to initialize the page here
            LoadArticles()
        End Sub

        Public Sub DoLoad()
            LoadArticles()
        End Sub

        Private Sub LoadArticles()
            Dim sSQL As String, dt As DataTable, oUser As New eBusiness.User
            Try
                oUser.LoadValuesFromSessionObject(Session)
                sSQL = AptifyApplication.GetEntityBaseDatabase("Web Articles") & _
                    "..spGetPersonTopWebArticles @PersonID=" & _
                    oUser.PersonID

                dt = DataAction.GetDataTable(sSQL, IAptifyDataAction.
                    DSLCacheSetting.BypassCache)
                lstArticles.DataSource = dt
                lstArticles.DataBind()
            Catch ex As Exception
                Aptify.Framework.ExceptionManagement.ExceptionManager.Publish(ex)
            End Try
        End Sub
    End Class
End Namespace
```

8. Create additional pages for the new section as needed.



9. Save the new user control.
10. Upload the control-(s) to your CMS.

Please refer to your CMS provider's instructions for adding new controls to the work area.

For Sitefinity 4, you add new widgets to the Sitefinity Toolbox by adding your controls as new entries to the `ToolboxesConfig.config` file, which is typically located in `..\App_Data\Sitefinity\Configuration`.

- 
- 11. Once added to the CMS, you can use the new user control as needed by dragging and dropping the control on website pages.

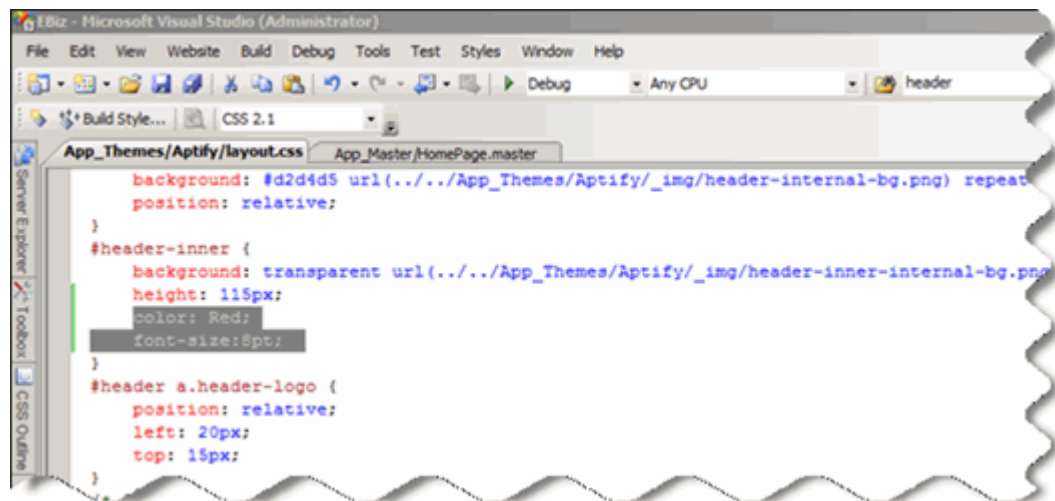
## Creating and Using Style Sheets

Cascading Style Sheets (CSS) are used in web development to control the look of an entire web application from a central source. This allows for development of a consistent look within the application and creates an easy and quick way to update an entire site. For example, you can change the background color of your website's header for each page by only updating the required color within the CSS instead of making changes page by page.

The following is an example of creating a style sheet using the styles implemented in e-Business based on the CSS files included with the ASP.NET sample site:

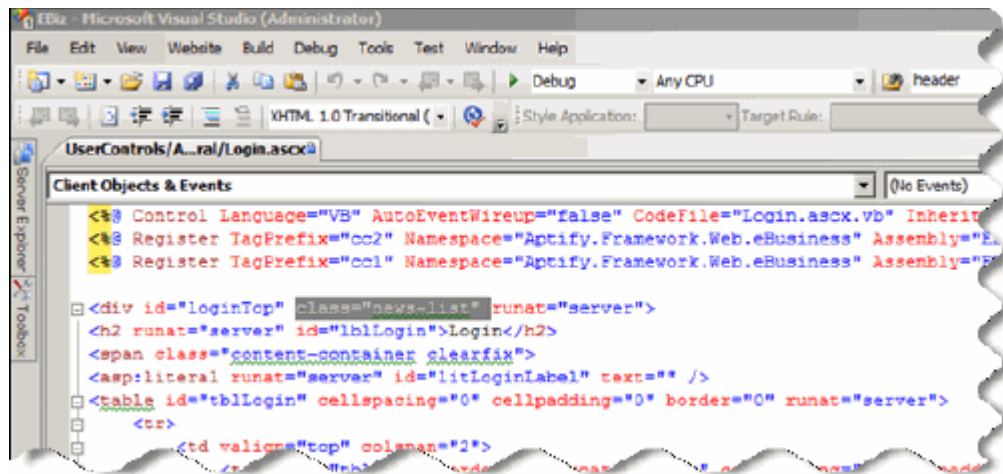
1. Using Visual Studio, navigate to the *[e-Business root folder/App\_Themes/Aptify]* folder and open the Layout.css file.
2. Add the following lines to the '#header-inner' section of the page and save:
  - `color: Red;`
  - `font-size:8pt;`

Figure 7.3  
Creating CSS  
format



3. Open a web browser and see the change to the header control's text.
4. Delete the lines added in step 2 and view the difference.
5. To apply a newly created style or change the style applied to a particular section of a page or user control simply add, if not already declared, or change the Class property of the HTML tag to the name of the style.

Figure 7.4  
Changing the  
Class Property



## Leveraging the Aptify Generic Entity

One of the main strengths of the e-Business Suite is its close integration with the Aptify Framework and Business Applications. An e-Business page can interact with Aptify's Generic Entity (GE) object to update information in the Aptify database.

The sample site includes several examples of how you can access the GE to update data in Aptify. Here are three examples from the MarketPlace Listing functionality in the sample site that use the GE to create, load, and update a record in Aptify:

- [CreateListingOrder](#): Code in NewListing.aspx.vb that uses the GE to create a new MarketPlace Listing.
- [LoadListing](#): Code in ListingEdit.ascx.vb responsible for loading the field values from an existing MarketPlace Listings record so a user can edit them.
- [EditListingOrder](#): Code in EditListing.aspx.vb that uses the GE to update an existing MarketPlace Listing with new values supplied by a user.

### CreateListingOrder

The NewListing.ascx.vb code behind file is responsible for creating a new MarketPlace Listings record when a user submits a new listing form on the e-Business website.

This file imports `Aptify.Framework.BusinessLogic.GenericEntity` and uses the `CreateListingOrder` function to load a new GE object that creates the Marketplace Listing based on information. This function is included below with additional commentary added:

```
Private Function CreateListingOrder() As Boolean
```

```
'This function is responsible for creating a MarketPlace listing order
```

```
'based on the information provided by the user in the form.
```

```
'First a GenericEntityBase object must be declared.
```

```
Dim oGE As AptifyGenericEntityBase
```

```
Try
```

```
'Transaction handling should be used for the record save.
```

```
'This is necessary so the MarketPlaceListings record is correctly
```

```
'rolled back if there is an in the save.
```

```
'Second the GenericEntityBase object will be instantiated as a new MarketPlace Listings record
```

```
oGE = AptifyApplication.GetEntityObject("MarketPlace Listings", -1)
```

```
'oGE can now be used to set all the record's field values
```

With oGE

```
.SetValue("Name", ListingEdit1.Name)
.SetValue("ListingTypeID", ListingEdit1.ListingTypeID)
.SetValue("Status", "Requested")
.SetValue("StartDate", Now.ToString)
.SetValue("CategoryID", ListingEdit1.CategoryID)
.SetValue("ContactID", User1.PersonID.ToString)
.SetValue("CompanyID", User1.CompanyID.ToString)
.SetValue("OfferingType", ListingEdit1.OfferingType)
```

```
Dim oPrice As IProductPrice.PriceInfo =
GetProductPrice(GetProductIDFromListingTypeID(ListingEdit1.ListingTypeID))
```

```
.SetValue("Price", oPrice.Price)
.SetAddValue("CurrencyTypeID", oPrice.CurrencyTypeID)

.SetValue("RequestInfoEmail", ListingEdit1.RequestInfoEmail)
.SetValue("VendorProductURL", ListingEdit1.VendorProductURL)
.SetValue("PaymentTypeID", CreditCard1.PaymentTypeID)
.SetValue("CCAccountNumber", CreditCard1.CCNumber)
.SetValue("CCExpireDate", CreditCard1.CCExpireDate)
.SetValue("PlainTextDescription", ListingEdit1.Description)
.SetValue("HTMLDescription", ListingEdit1.HTMLDescription)
```

End With

If oGE.Save(False) Then

```
TopicCodeViewer1.RecordID = oGE.RecordID
TopicCodeViewer1.SaveChanges()
Response.Redirect("ViewListing.aspx?ID=" & oGE.RecordID)
```

End If

Catch ex As Exception

```
Aptify.Framework.ExceptionManagement.ExceptionManager.Publish(ex)
```

```
End Try
```

```
End Function
```

## LoadListing

This function in the ListingEdit.ascx.vb code behind file for the [Listing Edit](#) user control uses the Generic Entity to load the values from an existing MarketPlace Listings record. The full text of this function is shown below:

```
Public Function LoadListing(ByVal ListingID As Long) As Boolean
```

```
'This function is responsible for Loading up an existing marketplace listing record.
```

```
'We have been passed a GE object, and now must load up the relevant fields
```

```
'AND disable those fields which cannot be logically changed w/o impacting pricing
```

```
'or some other attribute driving pricing.
```

```
Dim oltem As System.Web.UI.WebControls.ListItem
```

```
Dim oMPListing As AptifyGenericEntityBase
```

```
Try
```

```
oMPListing = AptifyApplication.GetEntityObject("MarketPlace Listings", ListingID)
```

```
cboListingType.Enabled = False
```

```
lblCompanyName.Text = User1.Company
```

```
lblCompanyContact.Text = User1.FirstName & " " & User1.LastName
```

```
PopulateListingTypes()
```

```
PopulateCategories()
```

```
PopulateOfferingTypes()
```

```
With oMPListing
```

```
txtListingName.Text = CStr(.GetValue("Name"))
```

```
txtEmail.Text = CStr(.GetValue("RequestInfoEmail"))
```

```
txtVendorURL.Text = CStr(.GetValue("VendorProductURL"))
```

```
txtDescription.Text = CStr(.GetValue("PlainTextDescription"))
```

```
txtHTMLDescription.Text = CStr(.GetValue("HTMLDescription"))
```

```
        oltem = cboListingType.Items.FindByValue
(CStr(.GetValue("ListingTypeID")))
        If Not oltem Is Nothing Then oltem.Selected = True

        oltem = cboCategories.Items.FindByValue
(CStr(.GetValue("CategoryID")))
        If Not oltem Is Nothing Then oltem.Selected = True

        oltem = cboOfferingType.Items.FindByValue
(CStr(.GetValue("OfferingType")))
        If Not oltem Is Nothing Then oltem.Selected = True
    End With

    Return True
Catch ex As Exception
    Aptify.Framework.ExceptionManagement.ExceptionManager.Publish(ex)
End Try
End Function
```

## EditListingOrder

The EditListing.ascx.vb code behind file is responsible for updating an existing MarketPlace Listings record when a user submits changes to an existing listing from the e-Business website. Note that the EditListing.aspx page uses the [LoadListing](#) function in the [Listing Edit](#) user control to load the existing record and then applies updates to that record using this EditListingOrder function. The full text of this function is shown below:

**Private Function** EditListingOrder() **As Boolean**

**Dim** oGE **As** AptifyGenericEntityBase

**Try**

m\_ListingID = **CLng**(Request.QueryString("ID"))

oGE = AptifyApplication.GetEntityObject("MarketPlace Listings", m\_ListingID)

**With** oGE

.SetValue("Name", ListingEdit1.Name)

.SetValue("ListingTypeID", ListingEdit1.ListingTypeID)

.SetValue("CategoryID", ListingEdit1.CategoryID)

.SetValue("OfferingType", ListingEdit1.OfferingType)

.SetValue("RequestInfoEmail", ListingEdit1.RequestInfoEmail)

.SetValue("VendorProductURL", ListingEdit1.VendorProductURL)

.SetValue("PlainTextDescription", ListingEdit1.Description)

.SetValue("HTMLDescription", ListingEdit1.HTMLDescription)

**End With**

**If** oGE.Save(**False**) **Then**

TopicCodeViewer1.EntityName = "MarketPlace Listings"

TopicCodeViewer1.RecordID = oGE.RecordID

TopicCodeViewer1.SaveChanges()

Response.Redirect("ViewListing.aspx?ID=" & oGE.RecordID)

**End If**

**Catch** ex **As** Exception



```
Aptify.Framework.ExceptionManagement.ExceptionManager.Publish(ex)
```

```
End Try
```

```
End Function
```

## Using Web Services

Web services provide the ability to create, access, and update Aptify data using any Web application that complies with the Web Services protocol. This protocol requires the exchange of XML messages between Web-based applications using the SOAP (Simple Object Access Protocol) standard. See <http://www.w3.org/2002/ws/> for more information on web services.

Aptify provides a wizard, called the Aptify Web Services Generator, that generates a web services ASMX file for a specified entity that can support basic CRUD (Create, Read, Update, Delete) functionality for an entity's records. Using Web Services, you can employ another Web application to interface with the Aptify EWA to retrieve and/or update information in the Aptify database.

For example, one use of web Services with e-Business could be to allow the members of an organization's various local chapters to update their personal information from the local chapter's website without requiring direct access to the main organization website.

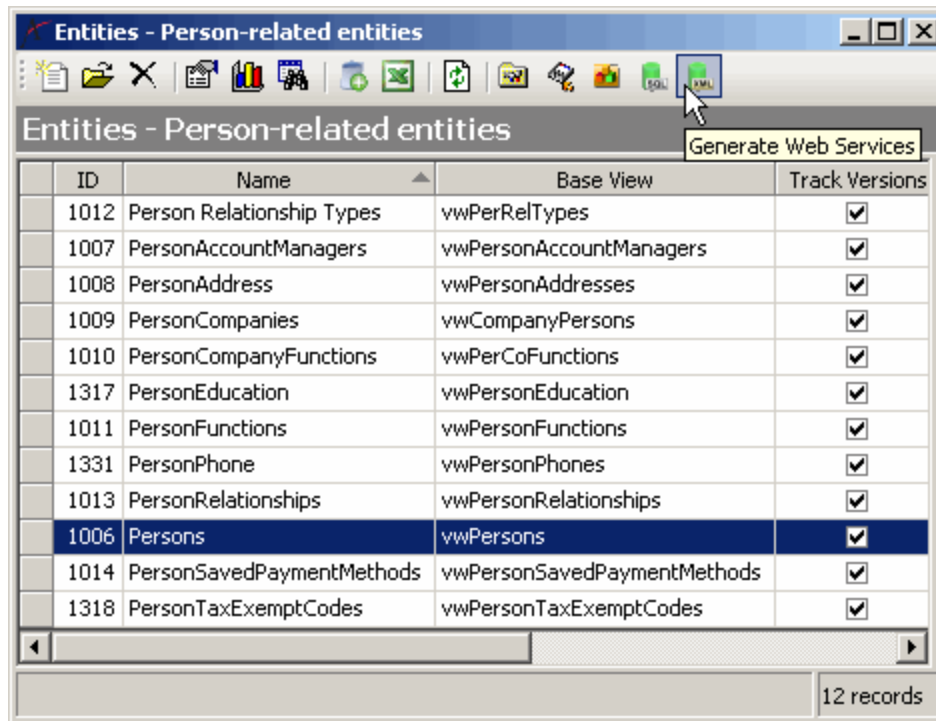
Keep in mind that Web Services must follow strict protocols that standardize how a web service is transmitted, wrapped up, and defined. This is necessary so any application can access any Web Service by the same means and be guaranteed the results in an expected format. The information transmitted to and from a Web Service is serialized in an XML document that follows the SOAP format. The Web Service created by Aptify is no different. Although the automatically generated ASMX file can be used as is, it exposes all fields in an entity by default. Therefore, if needed, you can modify this file as necessary to limit the set of fields exposed by the web service to only the ones the Web applications need access to.

This section provides an introduction to providing and consuming a Web service.

The Aptify e-Business Developer course includes a hands-on lab exercise that provides an example of how to generate and use a web service with Aptify e-Business.

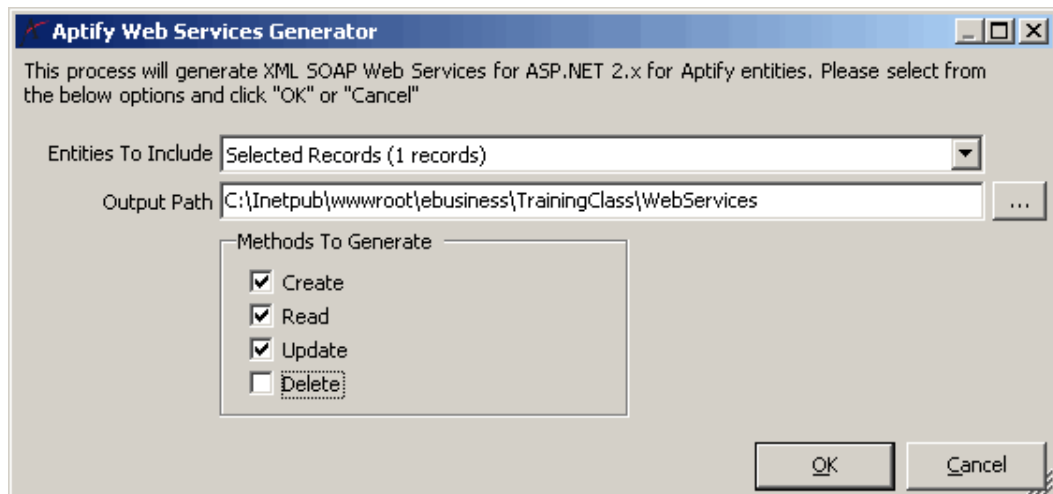
1. Define the implementation details for how your organization wants to use a web service.
2. Use the Aptify Web Services Generator to create a Web Services ASMX file for the applicable entity (or entities).
  - Open the Aptify application.
  - Open a view of the Entities service in the Aptify Framework Administration application.
  - Highlight the entity or entities in the view for which you want to generate a Web Services file and select the Aptify Web Services Generator from the toolbar.

Figure 7.5  
Launch Web  
Services  
Generator



- Select the Entities To Include (either all entities in the source view or only the ones you selected prior to launching the wizard).
- Select the path where you want to create the ASMX file.
- Specify the type of functionality you want to allow via the Web Service (options are Create, Read, Update, and Delete).

Figure 7.6  
Specify  
Generation  
Options



- Click OK for the Web service file to be generated. A message box will display once the file creation is completed.

- Aptify automatically generates a Web Services file that includes a function for each method you selected in the wizard. Each method operates against all In Table fields in the entity.
- The following is an excerpt taken from the beginning of a generated Web Services file for the Persons entity. After generating the file, you can review its full contents by opening it with Notepad or Visual Studio.

```
<%@ WebService Language="VB" Class="Aptify.Framework.Web.Common.WebServices.PersonsWebService" %>
```

```
Option Explicit On
```

```
Option Strict On
```

```
Imports System.Web
```

```
Imports System.Web.Services
```

```
Imports System.Web.Services.Protocols
```

```
Imports System.ComponentModel
```

```
Imports Aptify.Framework.BusinessLogic.GenericEntity
```

```
Namespace Aptify.Framework.Web.Common.WebServices
```

```
    ''' <summary>
```

```
    ''' This is a generated web service for working with Persons
```

```
    ''' through a SOAP based XML web service in Aptify e-Business.
```

```
    ''' </summary>
```

```
    ''' <remarks></remarks>
```

```
    <WebService(Namespace:="http://tempuri.org/")> _
```

```
    <WebServiceBinding(ConformsTo:=WsiProfiles.BasicProfile1_1)> _
```

```
    <Description("This is a generated web service for working with Persons through a SOAP based XML web service in Aptify e-Business.")> _
```

```
    Public Class PersonsWebService
```

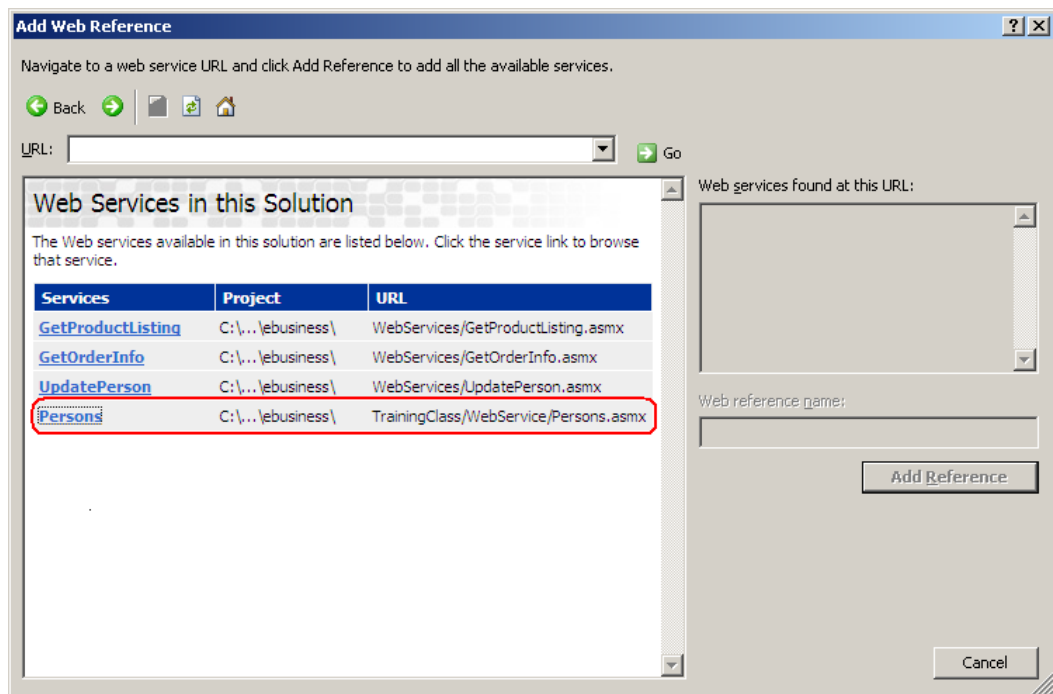
```
        Inherits Aptify.Framework.Web.eBusiness.BaseWebService
```

```
3. Add the ASMX file to a folder in the applicable website.
```

```
4. Modify the ASMX file if needed in Visual Studio.
```

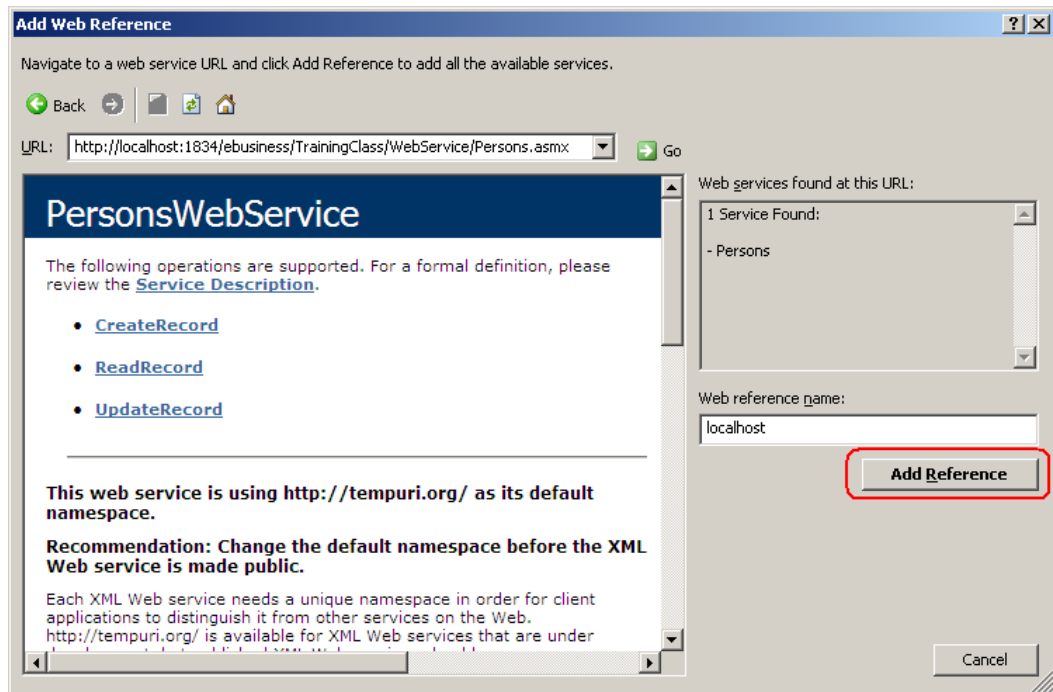
- Although the automatically generated ASMX file can be used as is, it exposes all fields in an entity by default. Therefore, you may want to modify this file to limit the set of fields exposed by the web service to only the ones the Web applications need access to.
5. Add a Web Reference to the site for the Web Service.
- ASP.NET automatically generates the necessary files to access a Web Service from within the code behind pages when it is added as a Web Reference. Once the Web Service is added as a reference, it can be used just like any other public class.
  - With the website open in Visual Studio, select Add Web Reference... from the website menu in the VS menu bar. This opens the Add Web Reference dialog.
  - The Add Web Reference dialog allows the developer to select a locally created web service by selecting one of the *Browse to:* links. A third party Web Service is just as easily added by entering the website's URL in the URL field and selecting Go. Note that the e-Business sample site ships with some built-in web services that may appear in this dialog.

Figure 7.7  
Add Web  
Reference  
Dialog



- Click the link for the Web Service you want to add as a reference.
- The methods exposed by the web service are now displayed in the window. Click the Add Reference button to complete the process. This web service can now be accessed like any other public class. The namespace to access this web service is *localhost*.

Figure 7.8  
Add Selected  
Web Service  
As a  
Reference



6. Access and interact with Web Service methods in a page's code behind just like with any public class.
  - To access the Web Service's methods, you must first declare an instance of the class. As mentioned above, the class is accessible through the *localhost* namespace.
    - For example: *Dim WebServiceTest As New localhost.PersonsWebService*
  - Once declared, you can use the object to access the Web Services methods. For example, to retrieve data using the Web Service's Read method, you could declare a DataSet and set it equal to the return value from the Web Services's ReadRecord function.
    - For example:
 

```
Dim ds As Data.DataSet = WebServiceTest.ReadRecord(PersonID)
```

The e-Business user (that is, the user you specified during installation that is running the e-Business site) may need full permissions to the Windows Temp folder to use Web Services. If you encounter a permission when trying to work with Web Services, grant the necessary permissions to the e-Business user for the Windows Temp folder and retry the operation.

## New Server Controls and Deployment

In rare cases, it might be necessary for an organization to alter the behavior of an Aptify Server control. All of the Aptify Server controls that ship with the product are documented in the *Aptify SDK*.

Since Aptify does not release source code for server controls, it is not permitted to take the source code and make direct modifications. In addition to the source code restriction, using that kind of approach would break the upgrade path because new versions of the Aptify Server controls are likely to be released in the future.

The proper method of configuration for altering the behavior of server controls is to use .NET Implementation Inheritance. By using this method, a derived class can be created which will leverage all of the functionality of the base class while overriding, pre-processing, or post-processing the functionality that requires a change.

In the case where an organization creates a new Server control that is derived from a base Aptify Server control, it will be imperative for the developer to ensure that all references to the Aptify Server control are replaced with references to the new organization-specific Server control. (You can search the website project in Visual Studio to identify all references to a particular control.)

If developing a new Server control, be sure to follow these guidelines:

- Do not attempt to modify the existing Server controls. Aptify does not release the source code for these controls.
- When creating a new Server control, use Visual Studio's Web Control Library project template.
- Build new server controls by inheriting from existing server controls.
- Add all compiled assemblies of new server controls to the /bin folder.
- When working with compiled assemblies, create strongly named assemblies using a Delayed Signing model. See Aptify's best practices for signing objects in the "Best Practices for Configurations, Writing Code, and Deployment" chapter of the *Aptify Developer Guide*. (The *Aptify Developer Guide* is distributed with the Aptify Sample Application.)

## Changes to Aptify Business Logic

As you develop an e-Business site, you may determine that a change is required to the system that impacts both e-Business and the Aptify Windows desktop interface.

For situations that require new business logic or an update to existing business logic, Aptify recommends that you do not build custom business logic components to be deployed in e-Business. Instead, since e-Business leverages the same business logic as the Windows desktop application, you should utilize Aptify's standard conventions for building business logic. See the Aptify Sample Application, *Aptify Developer Guide*, and *Aptify SDK* for information on Aptify's recommended development practices for implementing business logic.

## Refreshing the e-Business Cache

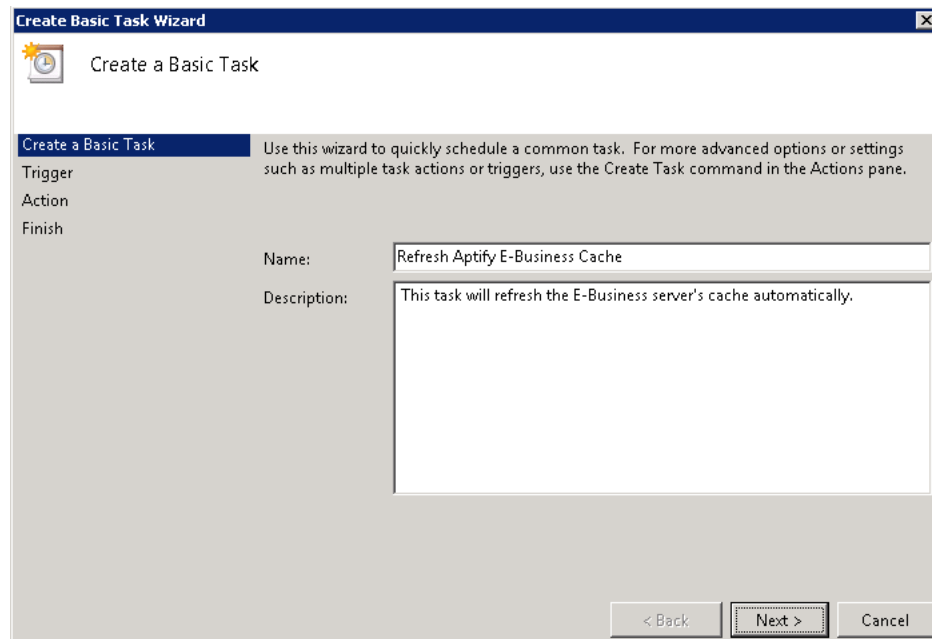
The e-Business site caches certain data, such as Sales Tax and Filter Rule information, to improve performance. When an Aptify user or administrator creates or modifies Sales Tax data or Filter Rules, an e-Business site's Internet Information Service (IIS) server needs to be restarted in order to update the e-Business site with the latest changes. Administrators and developers can update an e-Business site with changes to Sales Tax and Filter Rule data by creating a page that hosts Aptify's refresh cache user control (RefreshAptifyCache) and periodically running the page to refresh the e-Business server's cache. Aptify recommends that you create a Windows Scheduled Task to automatically run the refresh page on a recurring basis to keep information on the e-Business site up-to-date.

Once a page has been created that utilizes the RefreshAptifyCache user control (such as *AptifyRefreshCache.aspx*), an administration can a Windows Scheduled Task to automate the refresh process by following the steps below:

1. Login to the e-Business Web server as an administrative user.
2. Click Start > Control Panel > Task Scheduler to open the Task Scheduler dialog.
3. Find and select the task folder from the console tree in which you want to create the task.
  - You can also create a new task folder by right-clicking an existing task folder (or the Task Scheduler Library Folder to create a root task folder) and selecting the New Folder option.
4. From the Actions menu, select the Create a Basic Task option.
5. Enter a Name (such as *Refresh e-Business Cache*) and Description for the task.

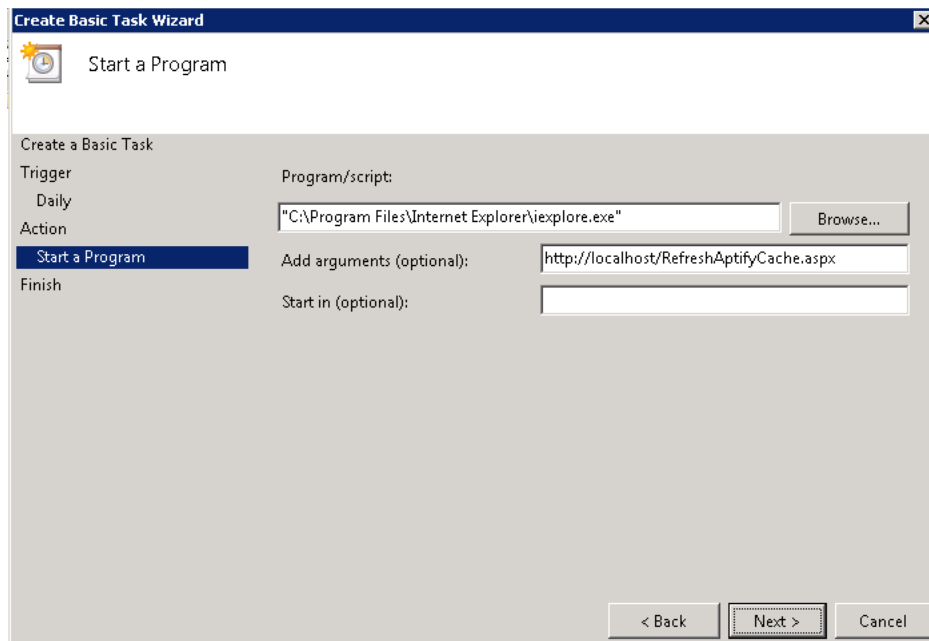


Figure 7.9  
Enter Name  
and Description  
for the  
Task



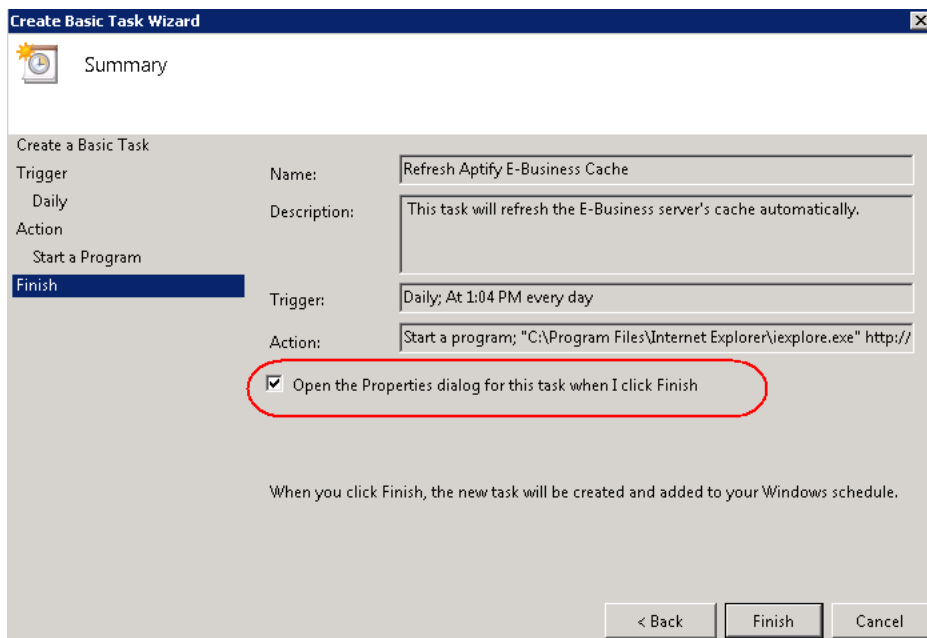
6. Click **Next** to continue.
7. Specify a frequency for how often the task should run.
  - At a minimum, Aptify recommends running this task every day (in some cases, several times a day to reduce the incidence of stale data in the e-Business cache.) You can configure more granular recurrence scheduled within the Scheduled Task's Triggers tab, described later in these instructions.
8. Click **Next** to continue.
9. Specify a start time when this task will be run each day and click **Next** to continue.
10. Select Start a program as the action that you want the task to perform.
11. Click **Next** to continue.
12. In the Program/script field, browse to (or enter) the location of the Internet Explorer executable.
  - For example, C:\Program Files\Internet Explorer\iexplore.exe
13. In the Add arguments (optional) field, enter the URL address of the refresh page created earlier.
  - For example, http://localhost/RefreshAptifyCache.aspx

Figure 7.10  
Specify  
Program to run  
and URL of  
Refresh Page



14. Click **Next** to continue
15. On the final screen of the wizard, check the **Open advanced properties for this tab when I click Finish** option and click **Finish**.

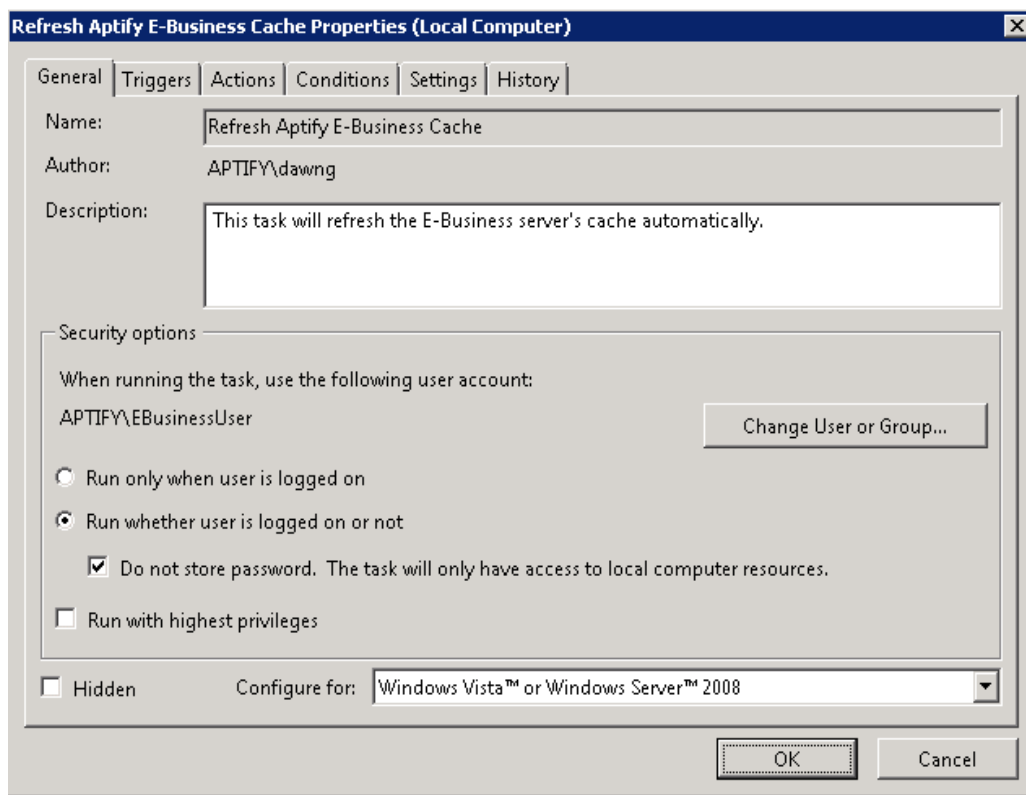
Figure 7.11  
Summary  
Screen



16. On the General tab, change the user account to the user that should run the task as needed.

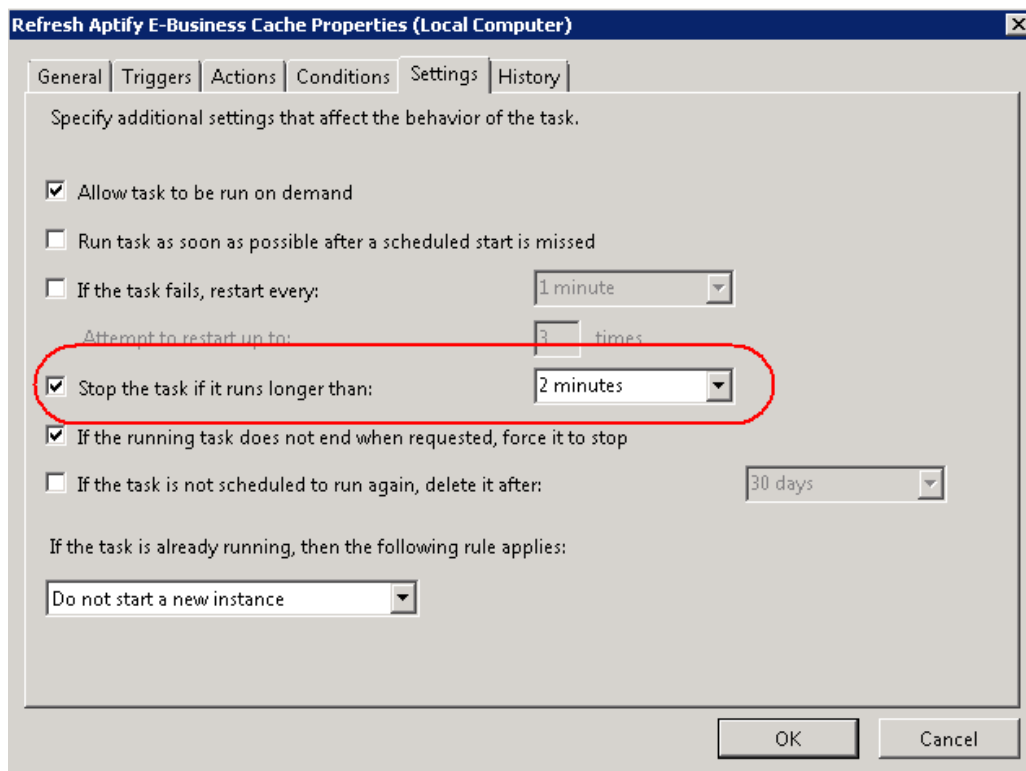
- This can be the same User Account that is already configured to run the e-Business website.
  - Note that the user account specified must have *Log on as batch job* rights in order to run a task without being logged in. See the *Microsoft Task Scheduler Help* for more details.
17. Select the Run whether user is logged on or not to ensure the task runs when the selected user is not logged into the e-Business Web server.
  18. Select the Do not store password option to ensure the task only has access to local computer resources.

Figure 7.12  
Update Run  
Path



19. Select the Triggers tab and adjust the recurrence schedule as needed.
20. Click the Settings tab and modify the Stop the task if it runs for: option so that the task stops after two minutes.

Figure 7.13  
Set Task End  
Time



21. Click **OK** to save your changes and close the dialog. Re-enter the user credentials for the task, if prompted.

## Keeping Objects in Sync Between Servers

Aptify e-Business uses the objects in its *Bin* folder to perform actions (for example, *C:\inetpub\wwwroot\ebusiness\bin*). This *Bin* folder is the e-Business equivalent to the Program Files folder on a computer that is running the Aptify Windows application. However, while the Windows application uses the Object Repository Service to automatically keep a computer's files up-to-date with the latest objects stored in the database's Object Repository, this service is not utilized by an e-Business site. To keep the e-Business site's files in sync with the database server, you need to run the Aptify Object Repository Synchronization Utility each time you update an object in the Aptify Object Repository.

Note that Aptify e-Business does not download all objects from the repository but rather deploys a streamlined set of files to the website's *Bin* folder so it encapsulates only the functionality used by the out-of-the-box user controls and clients can add additional DLLs to the list as needed.

The set of Aptify Object Repository Objects required by e-Business are specified in the e-Business Sync Repository Objects record. Whenever you run the Object Repository Synchronization Utility against an e-Business website, you should choose the **Specify a Sync Repository Objects Record** option and select and the e-**Business** entry (or your site's Sync Repository Objects record if you create one).

This section describes how to create a Sync Repository Objects record, run the Synchronization utility and how to automate it so that it runs automatically on a pre-defined schedule.

- [Creating a Sync Repository Objects Record](#)
- [Running the Object Repository Synchronizer](#)
- [Automating the Synchronization Process](#)

You should run this utility after applying any Service Pack to the main Aptify system.

### Creating a Sync Repository Objects Record

The set of objects in the e-Business Sync Repository Objects record represents the objects required by a baseline e-Business installation. Depending on the controls you have developed and the types of configurations you have applied to the site, you may find that your site fails to load due to missing objects. In that case, you should:

1. Identify the name of the missing object. The exception recorded to the **Error Log** should identify the name of a missing file.
2. Locate the missing file in the **Aptify Program Files** folder from a computer that connects to your database with the Aptify Windows client.
3. Copy the missing file to the website's *Bin* folder.

4. Launch the site again. **Repeat steps 1 through 3** until you resolve all of the missing file errors and the site loads as expected.
  - Typically it will be a manual, iterative process to identify missing files. In other words, as you resolve one missing file error, you may then encounter the next missing file error. Also, you may not learn of a missing file until you browse to a particular page. So, be sure to test all of your pages prior to go-live.
5. Log in to Aptify as an administrator and browse to the **Object Repository** application.
6. Open a new record in the **Sync Repository Objects** service. If the service does not appear in the application, you may need to add it from the Application Services selection dialog.
7. Clone the e-Business **Sync Repository Objects** record. Before saving, change the name of the new record (for example, by adding your organization's abbreviations as a prefix).
8. After saving the record, click the **Sync Repository Object Files** tab and add the files required by your website to the list of objects. (That is, add all of the files you had to manually drop into the web site's Bin folder in steps 1 to 4 above.)

Anytime you need to run the Object Repository Synchronizer to update your site's Bin folder with the latest object, select the Specify a Sync Repository Objects Record option and choose your organization's e-Business Sync Repository Objects record so all of the objects for your site are updated as expected.

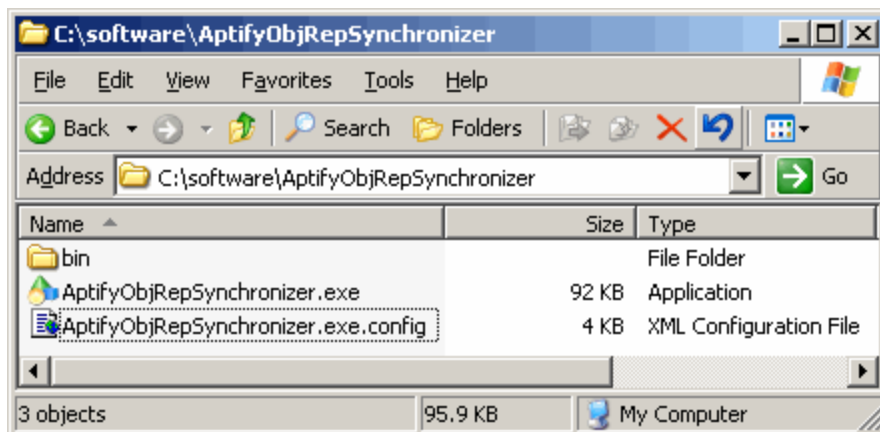
## Running the Object Repository Synchronizer

Follow these steps to run the Object Repository Synchronization Utility:

To prevent any disruption of current website activity, you should run the Object Repository Synchronizer after hours or at a time when the site is not available.

1. Locate the Object Repository Synchronization Utility.
  - You can generally find the latest version of the utility included in the *Utilities* folder of the most recent Aptify release or service pack.
2. Copy the utility's folder to the Web server (if not already present).
  - Be sure to retain the folder structure of the Object Repository Synchronizer Utility, as shown in Figure 7.14 (the *exe* file, a *config* file and the *bin* directory).

Figure 7.14  
Synchronizer  
Folder  
Structure



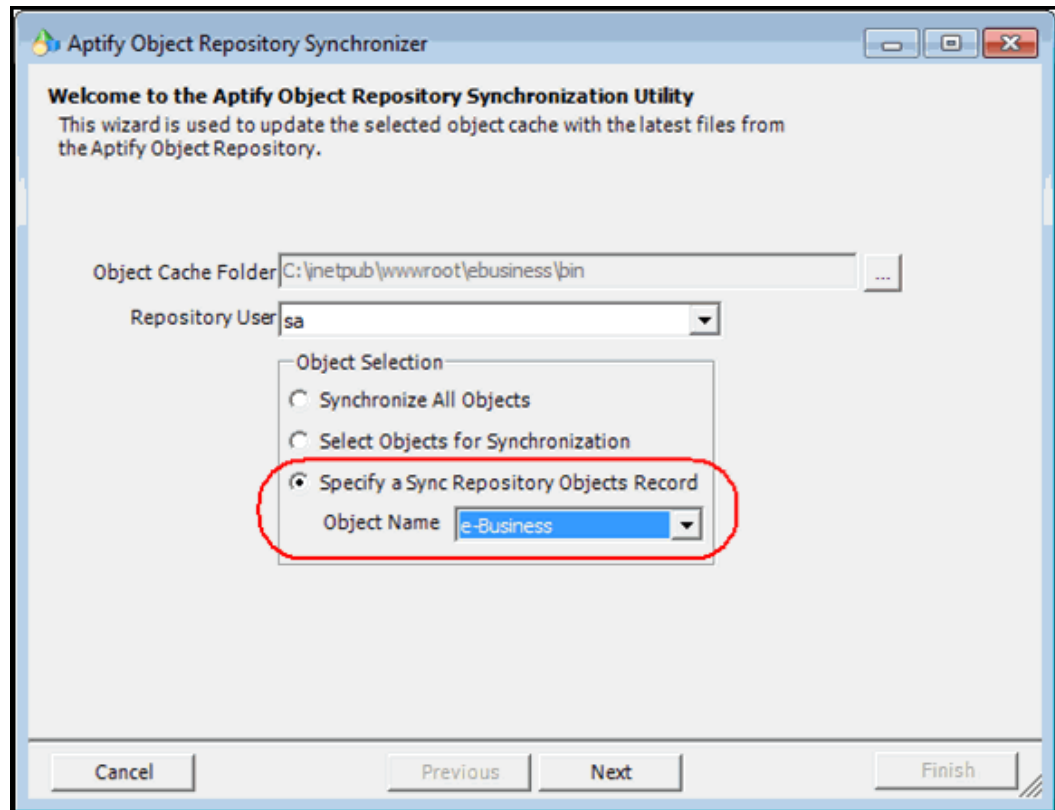
3. Double-click **AptifyObjRepSynchronizer.exe** to launch the utility.
4. Enter the name of the Aptify database server in the Server field.
5. Specify login credentials for a user in Aptify (such as sa or your trusted user account, if suitable).

Figure 7.15  
Login to the  
Database  
Server



6. Use the ellipsis (...) button to the right of the Object Cache Folder field to browse to the e-Business site's *Bin* folder (for example, **C:\inetpub\wwwroot\ebusiness\bin**).
  - Note that the default path is the current folder from which you are running the application, so you need to modify this to point to the appropriate location.

Figure 7.16  
Sync Tool



7. Select a Repository User from the drop-down list (such as sa or the trusted user account that is running the e-Business site).
  - Assuming that all of your users default to the same Object Context, then you can specify any user of Aptify for this step.
8. Select the Specify a Sync Repository Objects Record option and select the e-Business entry to download the e-Business objects from the repository.
  - The set of Aptify Object Repository Objects required by e-Business are specified in the e-Business Sync Repository Objects record.
  - The tool also supports the option to Select Objects for Synchronization. When you choose this option, the tool displays the list of all objects available for download and lets you choose the ones you want to synchronize.
9. Click Next to continue.
10. Review the summary information and click Finish to synchronize all of the objects.
  - Depending on the number of objects, this process may take several minutes.
11. Click OK when prompted that the process is complete (this also closes the tool).

Figure 7.17

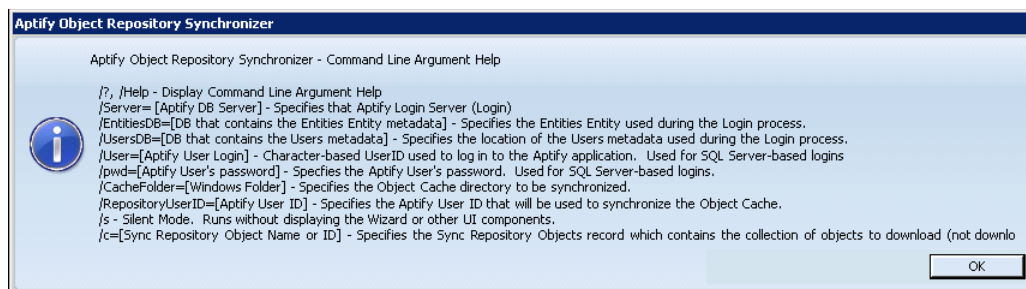


## Automating the Synchronization Process

Also, you can create a batch file and a Windows Scheduled Task that will automatically run the utility on a specified schedule.

When you run *AptifyObjRepSynchronizer.exe*, a dialog opens that walks you through the process for downloading objects. However, the Object Repository Synchronizer also supports a series of command line arguments. Specifying a series of arguments on a command line suppresses the dialog and runs the tool in the background. The command line arguments are as follows (and shown in Figure 7.18):

Figure 7.18  
Synchronizer  
Command Line  
Arguments



- `/?` or `/Help`: Displays the help screen shown in Figure 7.18.
- `/Server=[Aptify Database Server]`: Use this argument to specify the Aptify database server. Note that rather than use this command line argument, you can add the `Aptify.Framework.LoginServices.AptifyLogin.Server` key to the *AptifyObjRepSynchronizer.exe.config* file.
- `/EntitiesDB=[Database used to store Aptify's Entities Entity]`: Typically, this database is APTIFY, which is already set in *AptifyObjRepSynchronizer* by default. Therefore, you do not need to use this command unless you have installed Aptify to a database other than APTIFY.
- `/UsersDB=[Database used to store user metadata]`: Typically, this database is APTIFY, which is already set in *AptifyObjRepSynchronizer* by default. Therefore, you do not need to use this command unless you have installed Aptify to a database other than APTIFY.
- `/User=[Untrusted User Name]`: If connecting as an untrusted user, such as sa, use this argument to specify that user. There is no command line argument to specify a trusted user account. Instead, set the `Aptify.Framework.LoginServices.AptifyLogin.Trusted` key to true in the *AptifyObjRepSynchronizer.exe.config* file to use a trusted login.
- `/pwd=[password]`: If you specified an untrusted user using the `/user` argument, specify the password for that untrusted user. Note that the password will appear in plain text. There is no command line argument to specify a trusted user account. Instead, set the `Aptify.Framework.LoginServices.AptifyLogin.Trusted` key to true in the *AptifyObjRepSynchronizer.exe.config* file to use a trusted login.

- `/CacheFolder=["Aptify Folder Location"]`: The path for the e-Business Bin files, for example, `C:\inetpub\wwwroot\ebusiness\bin`. When using this argument, enclose the path in quotation marks.
- `/RepositoryUserID=[ID of User]`: Use this argument to specify the ID of the user for whom the synchronization utility runs. (This is the equivalent to the Repository User selection you would make in the tool's user interface.)
- `/s`: This argument suppresses the synchronizer's user interface.
- `/c`: This argument specifies the Sync Repository Objects record that contains the collection of objects to download (or not download). With this option, only the objects within the Sync Repository Objects record that are marked as Downloadable will be downloaded.

By using the command line arguments listed above and modifying the *AptifyObjRepSynchronizer.exe.config* file, you can create a batch file and a Windows Scheduled Task that automatically stops any applicable services, runs the synchronization utility, and restarts the services on a pre-determined schedule without requiring user intervention.

When specifying multiple command line arguments, separate each argument with a space.

The procedure below describes how to create a scheduled task on the Web server to automate the execution of the synchronizer using a trusted user account (the user specified in the Scheduled Task).

1. Log in to the Web server using a Windows account that is an administrative user on the computer (i.e., the user is in the computer's Administrators group).
2. Identify the location of the Object Repository Synchronization Utility on the computer. See "Running the Object Repository Synchronizer" on page 198.
3. Open the *AptifyObjRepSynchronizer.exe.config* file with Notepad.
4. Locate the `Aptify.Framework.LoginServices.AptifyLogin.Trusted` key and change the value from false to true.
  - With this setting, the synchronizer will use the trusted user account for the Windows domain user specified in the Scheduled Task. This eliminates the need to use the `/User` and `/pwd` command line arguments.
5. Add the following line above the `Aptify.Framework.LoginServices.AptifyLogin.Trusted` key to connect to your organization's Aptify database server only:  
`<add key="Aptify.Framework.LoginServices.AptifyLogin.Server" value="[Enter Your Database Name]" />`
  - This eliminates the need to use the `/Server` command line argument.

Figure 7.19  
Modify  
Synchronizer  
Config File

```

AptifyObjRepSynchronizer.exe.config - Notepad
File Edit Format View Help
</exceptionManagement>
<AttributeManagement>
  <source mode="on" filename="attributes.xml" assembly="AptifyAttributeManagement"
type="Aptify.Framework.AttributeManagement.XMLAttributesource"/>
</AttributeManagement>
<appSettings>
  <add key="Aptify.Framework.DataServices.Constants.QueryTimeout" value="30"/>
  <add key="Aptify.Framework.LoginServices.AptifyLogin.ValidateUserLicense" value="false"/>
  <add key="Aptify.Framework.LoginServices.AptifyLogin.UsersDatabase" value="Aptify"/>
  <add key="Aptify.Framework.LoginServices.AptifyLogin.EntitiesDatabase" value="Aptify"/>
  <add key="Aptify.Framework.LoginServices.AptifyLogin.Server" value="[Enter Your Database Name]"/>
  <add key="Aptify.Framework.LoginServices.AptifyLogin.Trusted" value="true"/>

```

6. Save and close *AptifyObjRepSynchronizer.exe.config*.
7. Create a batch file that performs these steps:
  - Stop any applicable services using the NET STOP "[service name]" command as required by your network. However, do not stop the Aptify Object Repository Service, since the Synchronizer uses this service.
    - NOTE: You do not need to stop and restart IIS. IIS 6.0 and higher recognizes the updates automatically and cycles any new components into use.
  - Run the synchronization utility for a specified repository user in silent mode with this command:  
**"[file path]\AptifyObjRepSynchronizer.exe" /s /CacheFolder="[Location of Aptify Files]" /RepositoryUserID=[UserID] /c=[Sync Repository Object Name or ID]**
    - For example:  
 "C:\Synchronizer\AptifyObjRepSynchronizer.exe" /s  
 /CacheFolder="C:\inetpub\wwwroot\ebusiness\bin" /RepositoryUserID=24  
 /c=1
    - In general, specify the same user that you would select if you were to run the tool manually. Be sure to include the quotation marks as specified.
    - Note that if you configured *AptifyObjRepSynchronizer.exe.config* to specify a server and a trusted user, then you only need to specify the */s*, */CacheFolder*, and */RepositoryUserID* command line arguments.
  - Start any services that you stopped using the NET START "[service name]" command.
8. Click Start > Control Panel > Scheduled Tasks > Add Scheduled Task to open the Scheduled Task Wizard.
9. Click Next at the Welcome screen to continue.
10. In the *Click the program you want to run* screen, click the Browse button, locate the batch file you created (such as *synchronize.bat*), and double-click it.
11. Select the frequency for the task, and click Next.

Figure 7.20  
Configure Task  
Frequency



12. Complete the task's schedule information, and click Next.

To prevent any disruption of website activity, you should run the Object Repository Synchronizer after hours or at a time when the site is not available.

13. Enter the username and password for the trusted administrative user who will run this task, and click Next.
  - Typically, this is the e-Business user, which is responsible for running the e-Business site.

Figure 7.21  
Configure Task  
User  
Information



14. Click Finish to create the Scheduled Task. The Scheduled Task will execute at the interval you specified and run your batch file.

## Best Practices When Upgrading e-Business to the Latest Version

e-Business is essentially a website. Aptify provides the source code to the logic used to display Aptify functionality in your website. If you have an existing e-Business install, it's likely you've made changes to the original product installation to support the "look and feel" and functionality required to support your business. As with any website, customizations made to the source code make it impossible to retrofit the older code during the upgrade process, so upgrading will typically involve manual porting of changes.

The practical implication of upgrading between major releases and service packs is also a factor. e-Business 5.0 was the first release that encapsulated and distributed the Aptify logic in .NET user controls, versus previous versions of e-Business that were classic .NET websites with the logic embedded directly in web pages.

There are several common upgrade scenarios:

- e-Business 4.x to 5.5:
  - Due to the architectural changes between e-Business 4.x and 5.x summarized above, a 4.x e-Business site must be re-implemented on a new e-Business 5.5 install. The most effective way to do this is to identify all changes made between the base 4.x e-Business and the implemented website. Using a diff tool is recommended to compare directories and list all changes.
  - Once all of the original changes are identified, these changes can be re-implemented on a new e-Business 5.5 install. The code contained in the e-Business 5.x user controls is based on, and in some cases, nearly identical to the code in e-Business 4.x pages, so re-applying those changes should be manageable.
  - Prior to implementation, it is important to evaluate new best practices that may be available in the newest e-Business to reduce risk of difficult upgrades in the future. (See "Best Practices for e-Business Development with User Controls" on page 173 for more information.)

Note that it may be possible under some circumstances to continue to run the e-Business 4.x site with an Aptify 5.5 database. This may be a desirable option if you do not wish to launch an upgraded Aptify 5.5 and e-Business 5.5 simultaneously, opting instead to go live with Aptify 5.5 first and implement the e-Business upgrade down the road. The ability to do this is dependent upon the types of configurations that were done to the Aptify product and to the e-Business functionality. Please contact Aptify Technical Support or the Aptify Consulting organization for more guidance.

- e-Business 5.0 to 5.5:

- As outlined above, e-Business 5.0 uses .NET user controls to encapsulate Aptify business functionality. The major change for 5.0 Service Pack 1 was to abstract all of the hard-coded navigation from the user controls and put them in the `Aptify_UC_Navigation.config` file. This change impacted virtually every user control which made isolating customer implementation changes from Service Pack 1 changes more difficult than normal. Service Pack 3 includes a less drastic set of changes to the user controls, but modifies all of the e-Business assemblies and includes new and updated entity definitions for the Aptify database.
- The first step is to isolate the customer implemented changes made to 5.0 by performing a diff between stock 5.0 and implemented 5.0. Then the e-Business 5.5 changes should be manually installed using the upgrade package (see the *Aptify e-Business 5.5 Installation Guide* for more details). Once a new 5.5 baseline is established, the customer implementation changes identified during the diff should be re-applied to new baseline, using the `Aptify_UC_Navigation.config` file for navigation paths, image locations, and other supported attributes. See “User Control Development” on page 168 for guidance on how to use the `Aptify_UC_Navigation.config` file and other best practices.
- e-Business 5.0 Service Pack to e-Business 5.5:
  - In e-Business 5.5, Aptify modified existing user controls to address product issues and add new functionality. The upgrade approach for these controls is to install the new controls in a different location, and diff the old and the new directories to isolate the changes and port the differences in the direction that makes the most sense.
  - Also, Aptify updated many of the e-Business assemblies (DLL files) in version 5.5. To apply the latest assemblies, you need to update the objects in the Aptify Object Repository and in the e-Business *bin* directory. The 5.5 Database Update installer will update objects in the Aptify Object Repository for you.
  - The upgrade package includes a 5.5 Database Update installer that applies the schema updates made in Service Pack 3 and 5.5 so you do not have to do this manually. This includes adding new entities, updating existing entities, unpacking new data and database objects, and updating relevant objects in the Aptify Object Repository.

## Limitations on File Uploads

Aptify's maximum supported file upload size is limited by ASP.NET. Within the sample site, we recommend a maximum upload size of 2 MB, but you can change this as needed. The upload limitations on photo and other files is managed using the following attributes, which are standard properties for Web sites based on ASP.NET:

- **max Request Length:** This attribute sets the maximum file upload size supported by ASP.NET. The limit can be used to prevent denial of service attacks by preventing users from posting large files to the server
- **maxAllowedContentLength:** This attribute sets the maximum file upload size for the IIS server.

The maximum file size upload is 30 MB. This criteria is defined by Microsoft and is internal to the configuration of IIS 7. For additional information on these attributes please refer to Microsoft on-line documentation.

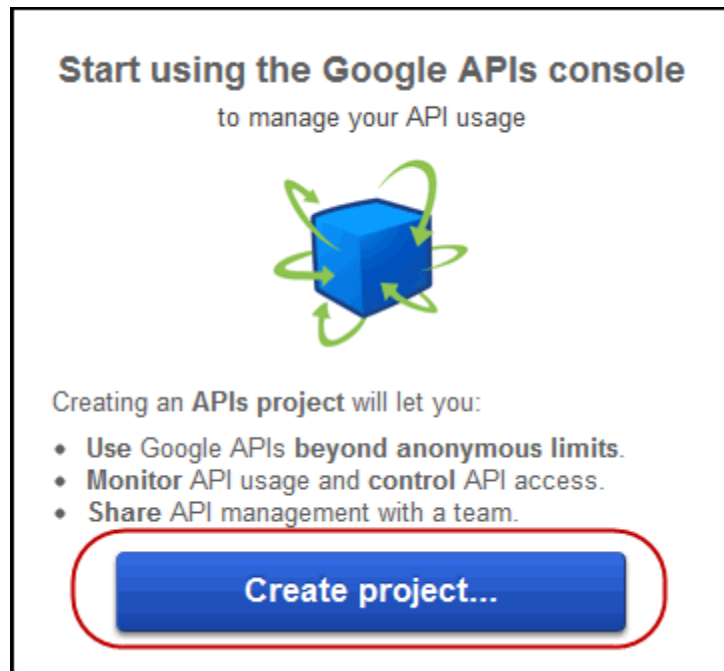
## Configuring Google Maps to Generate Meeting Directions

e-Business includes an optional integration with Google Maps to plot out directions between a Web User's address and a meeting's location. To use this feature, you first need to generate your own Google API key.

The Google API uses an API key to identify your application. API keys are managed through the Google APIs console. To activate the Places API and create your key, follow the steps below.

1. Visit the **APIs console** using the URL below and log in with your Google Account.
  - <https://code.google.com/apis/console>
2. Select **Create Project** from the option shown in the example in Figure 7.22.

Figure 7.22  
Google APIs  
Console  
Create Project

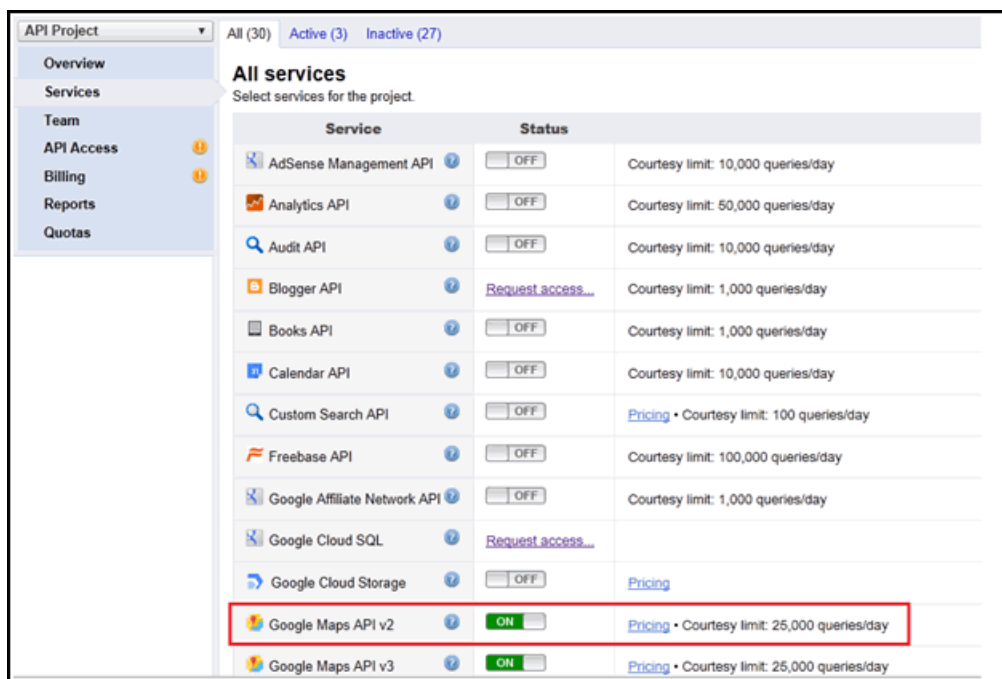


3. If you have created an API project in the past, then a default project named **API Project** is created for you when you first log in to the console. You can use this project or create a new one.
  - To create a new project select the **API Project** button at the top of the window and select **Create**.
4. On the left navigation under the Services Option, select the **Status** switch next to the Google Maps API v2 entry.



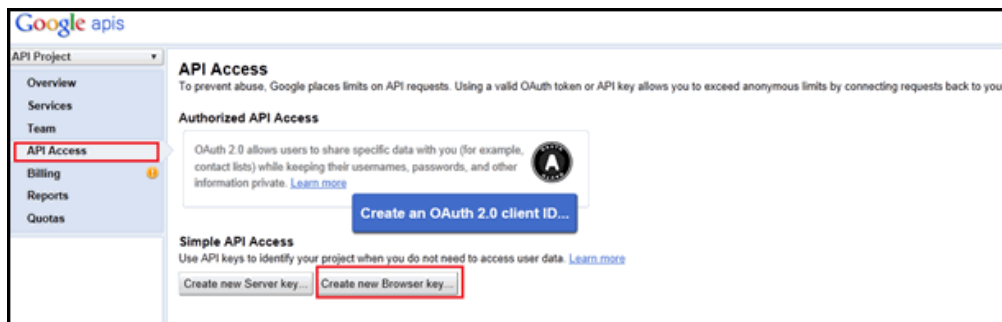
- The Review terms of service option is displayed.
5. Check the option 'I agree to these terms' and click on **Accept** button. The switch slides to On.
  6. Click **API access** from the left navigation. Your key is listed in the **Simple API Access** section.

Figure 7.23  
Google  
Service  
Selection



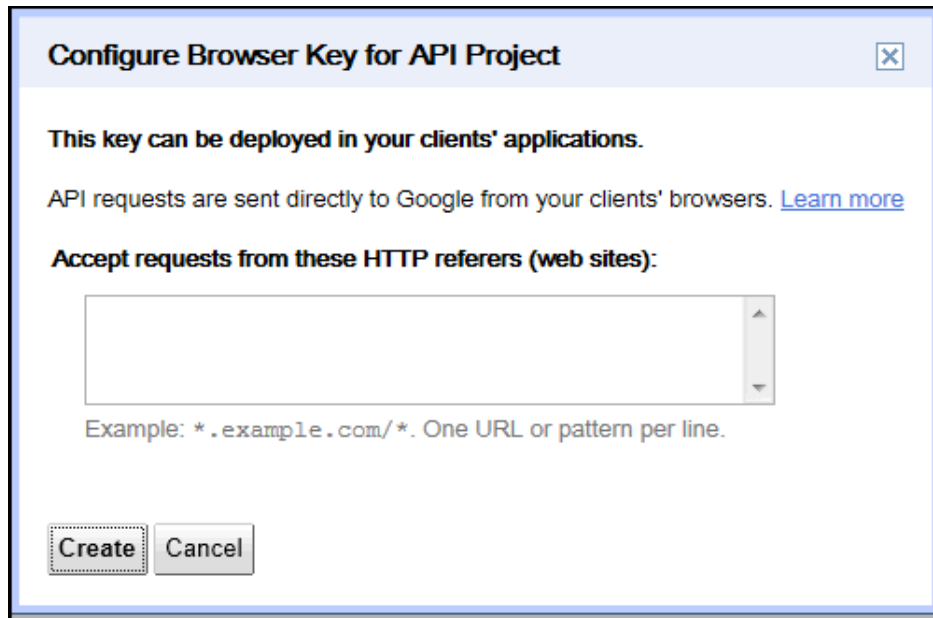
7. Go to API Access and click 'Create new Browser key' button.

Figure 7.24  
Create New  
Browser Key



- The Configure browser Key dialog appears.
- **Do not enter Accept requests if you do not want filter the request.** For more details You can click on "Learn more".

Figure 7.25  
Configure  
Browser Key



8. Click on the **Create** button in the 'Configure Browser key for API project'.
9. Note the Key generated, as shown below in Figure 7.26.

Figure 7.26  
Google  
API Key



10. Enter the API key in the **Aptify\_UC\_Navigation GoogleMapsDirectionsAPI** in **GoogleMapsAPIKey** link as shown below.

- **Aptify\_UC\_Navigation.config Updates:**

```
<UserControl type="GoogleMapsDirectionsAPI"
name="GoogleMapsDirectionsAPI">
```

```
</links>
```

```
<link name="GoogleMapsAPIKey" value="[Enter the Google Map  
API key here]" /> <link name="GoogleMapsAPIURL" value="  
http://www.google.com/jsapi?key={0}" />  
</links>  
</UserControl>
```

# Chapter 8

## e-Business Development Tools

### Introduction

This chapter describes how to open an e-Business website in Visual Studio and describes the server and user controls provided by Aptify for e-Business. It contains the following sections:

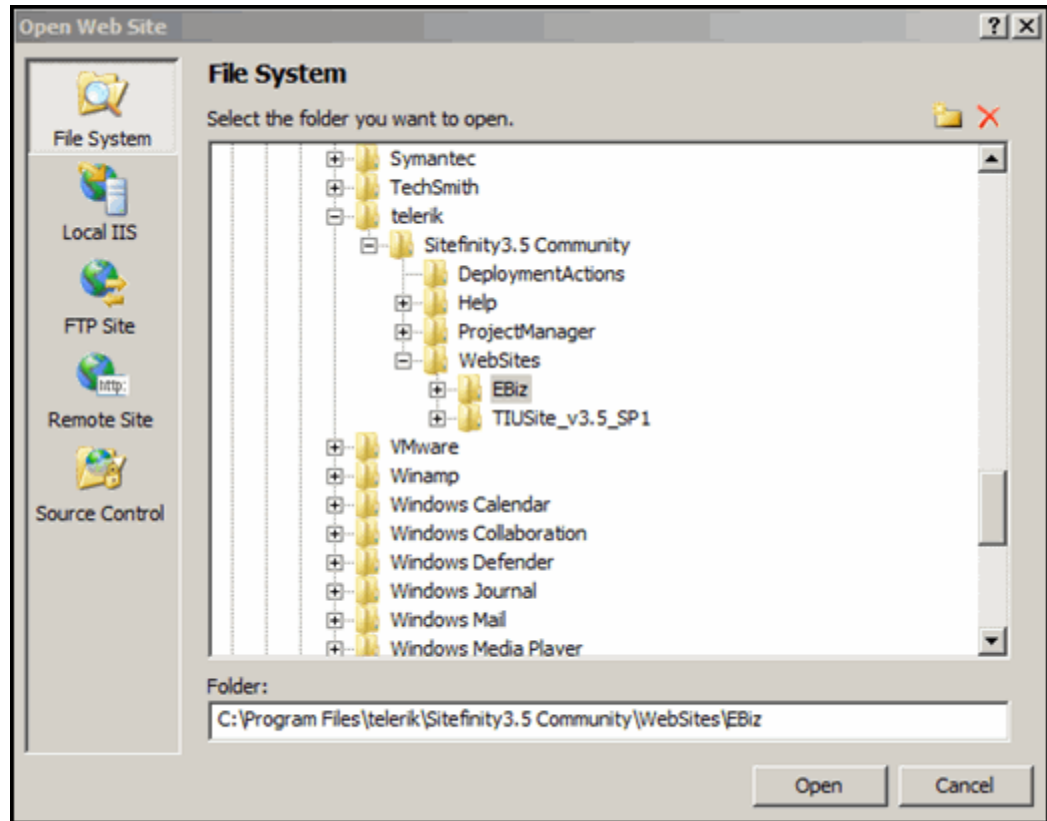
- [Opening the website in Visual Studio](#)
- [Aptify Server Controls](#)
- [Adding Server Controls to the VS Toolbox](#)
- [Aptify User Controls](#)

### Opening the website in Visual Studio

This section describes how to open an e-Business website in Visual Studio so you can edit the site and add new functionality. Follow these steps:

1. Install e-Business on your development environment, if you have not already.
  - See “e-Business Development Requirements” on page 18 for information on developer requirements.
  - See the *Aptify e-Business Installation Guide* for more information.
2. Launch Visual Studio.
3. Click the **File > Open > website....** menu option.
4. Select the **Local IIS** tab and choose the **ebusiness** site. Then, click **Open**.
  - This opens the local server’s e-Business site in Visual Studio 2005. Note that you can also choose to navigate to the file system to identify the site’s file location. For the sample site, this is typically *C:\Program Files\[CMS provider]\ebusiness* or *C:\inetpub\wwwroot*.

Figure 8.1  
Open website  
in VS 2005



5. Use the VS Solution Explorer to navigate the website's contents.

## Aptify Server Controls

Aptify has developed an extensive set of server based controls that are designed to be directly embedded within the Microsoft Visual Studio environment (although they can be used from any .NET development environment other than Visual Studio, as well) and extend the functionality of Microsoft ASP.NET to be aware of the Aptify platform infrastructure. The general idea is that the Aptify controls are “aware” of the Aptify platform and business applications and can therefore eliminate a great deal of coding that an ASP.NET developer would normally perform.

This section describes the following server controls provided by Aptify with e-Business:

- [Base User Control Advanced](#)
- [e-Business HTTP Module](#)
- [e-Business Global](#)
- [Hierarchy Tree](#)
- [Login](#)
- [Page Security](#)
- [Product Category Link String](#)
- [Question Control](#)
- [Question Tree Control](#)
- [Question Tree List Control](#)
- [Shopping Cart](#)
- [user Activity](#)
- [User](#)

This section provides an overview of the e-Business server controls. For more information about a particular control, including its supported methods and properties, see the *Aptify Software Development Kit (SDK)*. Note that this section identifies the namespace for each server control which can be used to locate the control in the SDK.

## Base User Control Advanced

This class cannot be instantiated and must be inherited by all User Controls for use in e-Business 5.0 website. BaseUserControlAdvanced provides key accessors to extend Aptify functionality to the website such as connections to the database objects and the underlying Entity objects. In e-Business 5.0 the RedirectionURL and RedirectionIDParameter properties of the BaseUserControlAdvanced have been made public to developers providing more control in the overall navigation flow based on an organization's requirements.

**Namespace:** *Aptify.Framework.Web.eBusiness.BaseUserControlAdvanced*

**DLL:** *BaseUserControlAdvanced.dll*

## e-Business HTTP Module

This is the base HTTP Module for Aptify e-Business. It provides key accessors to extend Aptify functionality to the website and is used for managing security using the Aptify e-Business Web Modules functionality. Note that this server control is not an item that can be added to the VS toolbox but it is highlighted here due to its importance in Aptify's e-Business implementation.

**Namespace:** *Aptify.Framework.Web.eBusiness.EBusinessHTTPModule*

**DLL:** *EBusinessHttpModule.dll*

## e-Business Global

**Namespace:** *Aptify.Framework.Web.eBusiness.EBusinessGlobal*

**DLL:** *EBusinessGlobal.dll*

## Hierarchy Tree

This control provides a tree-based viewing of a hierarchal dataset, represented by an entity where each record contains a unique ID number and a Parent ID number, which references another record in the entity that should be displayed as its parent. To control which item is used as the beginning (root) of the tree, use the RootID property. Synchronization between the page content and the tree location can be maintained with the EnsureNodeVisible method, which expands the tree as necessary to show a given node.

**Namespace:** *Aptify.Framework.Web.eBusiness.AptifyHierarchyTree*

**DLL:** *EBusinessHierarchyTree.dll*

## Login

This control provides the functionality for allowing site users to login to the e-Business site. The general idea behind the control is to use it on pages where you will be logging a user into and out of the site. This control can be instantiated in code, dynamically, or can be placed on the Web Form, in which case, the properties of the control are automatically updated by the its integration with the ASP.NET framework.

**Namespace:** *Aptify.Framework.Web.eBusiness.AptifyWebUserLogin*

**DLL:** *EBusinessLogin.dll*

## Page Security

This control automatically determines if the currently logged in user has access to the page on which the control is placed. The configuration of this control requires setting the WebModule property. The control determines if the logged in user has access to the specified module or not. The control utilizes a stored procedure (**spCanWebUserAccess-Module**) in the Aptify database to determine if the user has access to the specified module. Note that an e-Business site using HTTPModule-based security does not need to add Page Security control to pages. See “Web Module Security Approaches” on page 44 for more information.

**Namespace:** *Aptify.Framework.Web.eBusiness.PageSecurity*

**DLL:** *PageSecurity.dll*

## Product Category Link String

This control provides functionality for determining the path information to the root product category. It displays a “breadcrumb” trail to the user of the current product category and all other categories in its hierarchy. The user can select any level of the hierarchy to navigate back to a higher level category.

For example, the control could show a string to the user similar to what is shown below:

[All Products](#) / [Books](#) / [Business Books](#) / Financial Management Books

The above string has a hyperlink on each of the “levels” within the hierarchy of products and therefore makes it possible for the user to easily navigate to any place in the hierarchy. The currently selected category may be hyperlinked, or may not, depending on the page in question. For example, if the current page shows information for the specified category, it would make sense not to hyperlink the last category since the user is already on that page. However, if the control were placed on a page that shows product information within the specified category, it would make sense to hyperlink the last category since it would take the user to a different page. To control this behavior, you can set the `HyperlinkLastCategory` property of this control. Several other properties exist for this control and are documented in the *Aptify SDK*.



In the e-Business sample site, this control is used on the ProductCategory.aspx and Product.aspx pages.

**Namespace:** *Aptify.Framework.Web.eBusiness.ProductCategoryLinkString*

**DLL:** *ProductCategoryLinkString.dll*

## Question Control

This server control is used by the Question Tree control to dynamically render questions on a survey page. This control is only used within the context of the e-Business Surveys functionality. See the *Aptify e-Business Survey Management Guide* for more information on surveys.

**Namespace:** *Aptify.Framework.Web.eBusiness.Knowledge.Controls*

**DLL:** *AptifyKnowledgeWebControls.dll*

## Question Tree Control

This server control is used on the QuestionTree.aspx page to display the survey selected by a user from the list of available surveys in the Survey Center. This control is only used by the e-Business Surveys functionality. See the *Aptify e-Business Survey Management Guide* for more information on surveys.

**Namespace:** *Aptify.Framework.Web.eBusiness.Knowledge.Controls*

**DLL:** *AptifyKnowledgeWebControls.dll*

## Question Tree List Control

This server control is used on the Surveys module's Default.aspx page to display the list of available surveys in the Survey Center. This control is only used by the e-Business Surveys functionality. See the *Aptify e-Business Survey Management Guide* for more information on surveys.

**Namespace:** *Aptify.Framework.Web.eBusiness.Knowledge.Controls*

**DLL:** *AptifyKnowledgeWebControls.dll*

## Shopping Cart

The Aptify Shopping Cart control represents one of the most important controls in the e-Commerce part of the e-Business Suite. The Shopping Cart control provides all of the functionality that binds the users interactions with the site, such as selecting products and modifying quantities, with the Order Entry system. The shopping cart control is used in the Sample Site extensively for both editing and committing data to the Order Entry system.

The Aptify framework and specifically, the Generic Entity architecture, is fully leveraged by the Shopping Cart control, so all business logic that your organization may have implemented in Process Pipelines or Entity objects will be automatically used by the Shopping Cart control.

The control has an extensive list of properties and methods that are documented in the *Aptify SDK*.

**Namespace:** *Aptify.Framework.Web.eBusiness.AptifyShoppingCart*

**DLL:** *EBusinessShoppingCart.dll*

## User

Provides common Aptify Persons record information for the logged in user. It also automatically saves and loads user-level information that is needed by Aptify e-Business applications.

This control is used on pages where users-level information needs to be retrieved or stored. It contains functionality for storing and retrieving specific values. To store values that should be shared among all users, utilize the e-Business HTTP Module object, instead of the User object.

Note that this control also manages the synchronization between the users entity and the Persons entity, which maintains a slight overlap of functional information in order to speed performance of the login process for basic user data.

**Namespace:** *Aptify.Framework.Web.eBusiness.User*

**DLL:** *AptifyEBusinessUser.dll*

## user Activity

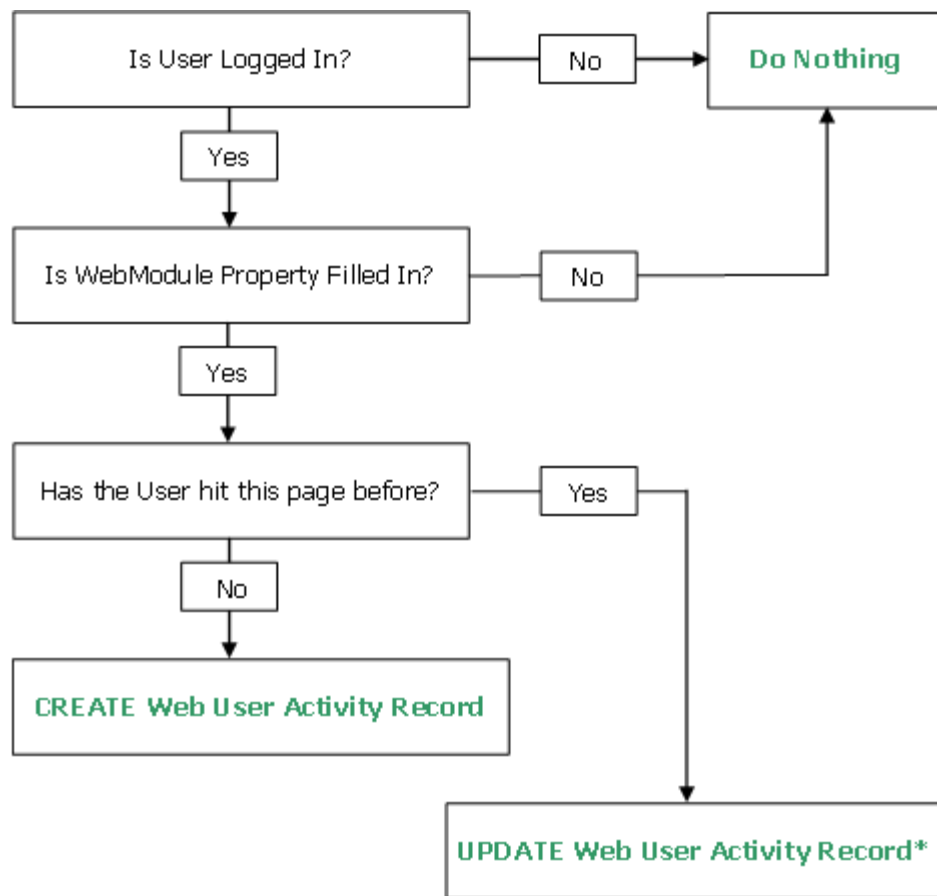
This control automatically logs user page hits for the pages on which this control is placed. The e-Business site stores this data in Aptify's user Activity entity.

user Activity tracking can occur at the module level using HTTP Module security (see "Web Module Security Approaches" on page 44 for details). If using HTTP Module security, a developer does not need to add a user Activity control to a particular page unless the *Log User Activity* box is unchecked at the page's Web Modules record (and you want to track activity for this particular page).

An organization can use the user Activity entity to profile user hits on specific pages, web modules, and by user. This can be particularly valuable information for driving specific marketing processes as well as analyzing usability and effectiveness of the site design.

This control encapsulates the functionality to log the user hit to the database and automatically records the user hit in the user Activity entity. Figure 8.2 represents the process this control uses to log the user hit to the user Activity entity.

Figure 8.2  
user Activity  
Process  
Diagram



\* Indicates updating the NumHits and DateLastHit fields in the existing record

Note that this control utilizes a stored procedure (**spLogWebUserActivity**) in the Aptify database to log the user activity. It is not acceptable practice for a web page to call this stored procedure directly, this control should be used to access the stored procedure to ensure consistency in the underlying data model.

**Namespace:** *Aptify.Framework.Web.eBusiness.WebUserActivity*

**DLL:** *WebUserActivity.dll*

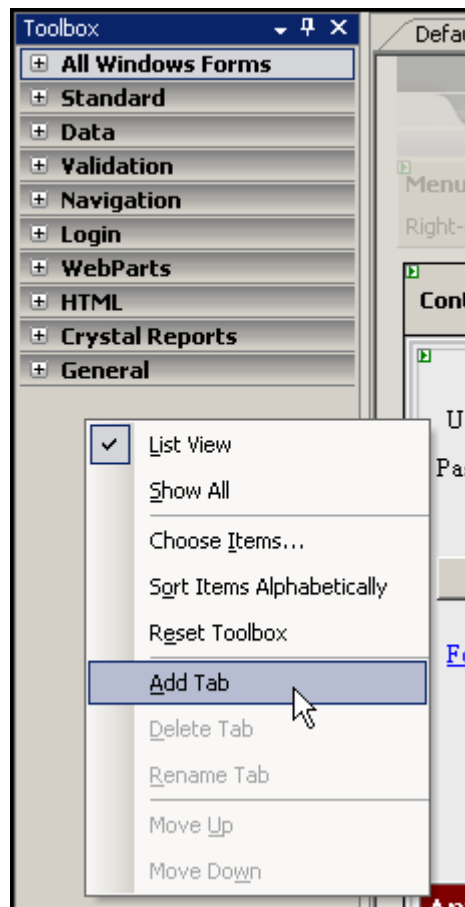
## Adding Server Controls to the VS Toolbox

When developing new e-Business functionality, add these controls to the Visual Studio toolbox so you can easily drop a server control on a new page as needed. For example, when adding a new page to the e-Business site, you should add the Page Security control by dragging the control from the VS toolbox to link the new page to a Web Module (see “Configuring e-Business through Metadata” on page 36 for information on Web Modules).

Follow these steps to add the controls to the toolbox:

1. Right-click the Visual Studio Toolbox and select **Add Tab** from the menu.
  - The toolbox is usually located on the left side of the screen. However, it may be located in an alternate location or not visible. If it is not visible, select **View > Toolbox** in the Visual Studio menu.

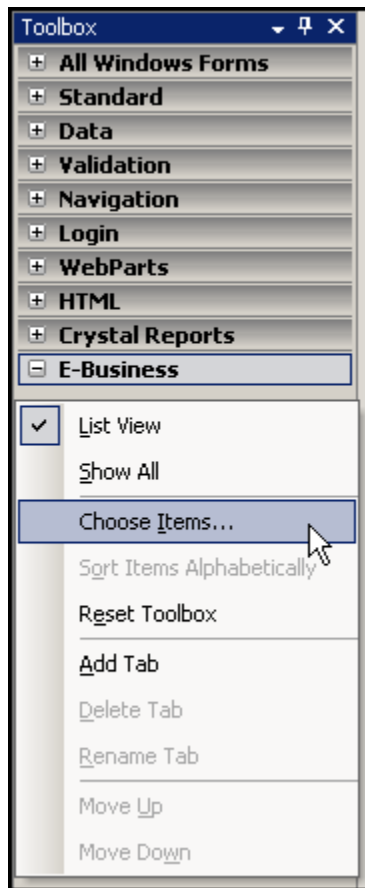
Figure 8.3  
Add Toolbox  
Tab



2. Enter e-Business for the name of the tab.
  - The new tab will be located near the bottom of the toolbox and will have a caption that can be edited.

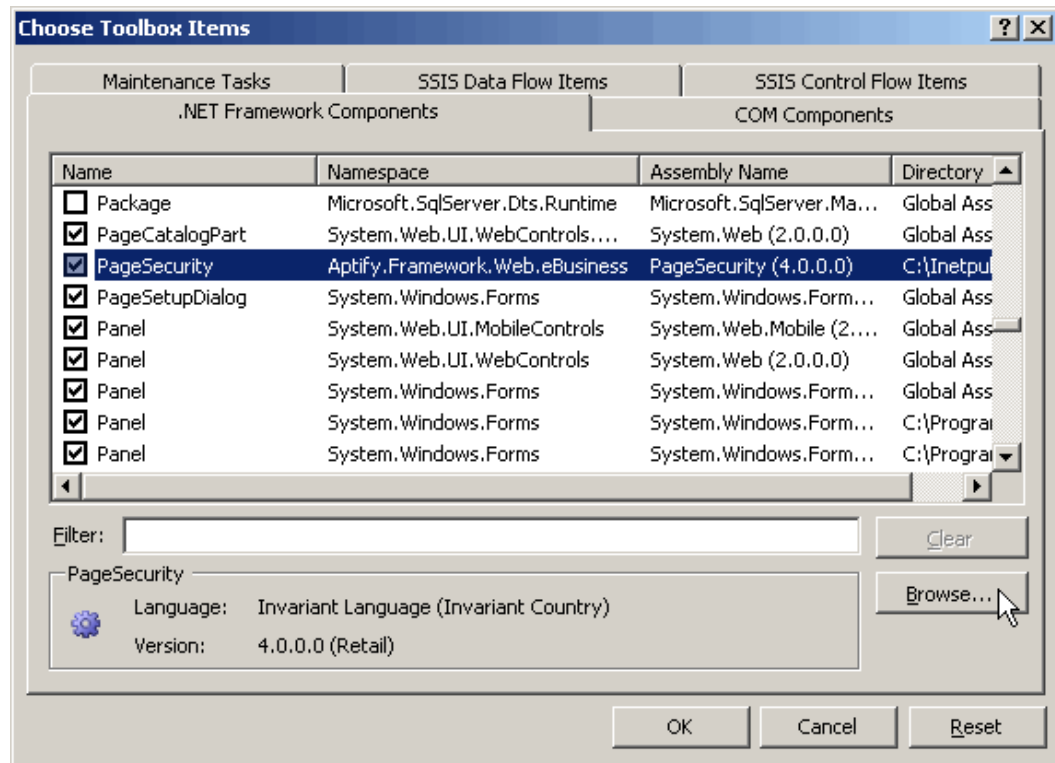
3. Click the new e-Business tab to open it.
4. Right click in the e-Business tab on the Toolbox and select **Choose Items...**

Figure 8.4  
Add Items to  
e-Business  
Tab



5. Within the Choose Toolbox Items dialog, click the **Browse** button. This button is located towards the bottom on the right.
6. From the Open dialog, browse to the following file and select it: **C:\inetpub\www-root\ebusiness\bin\PageSecurity.dll**.
  - This is the Page Security Server Control.
  - This path assumes that the site is installed in the default path. If not, browse the appropriate location for your computer.

Figure 8.5  
Add Page  
Security  
Control

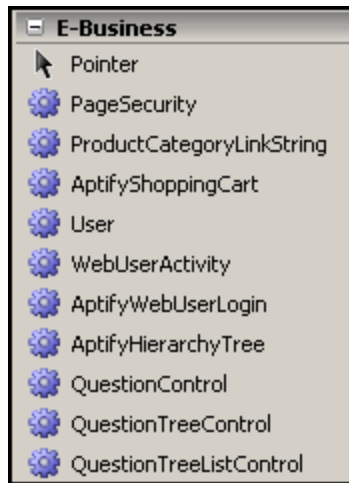


7. Press **Open**.
8. Add the other server controls as needed:

Server Control	Default Location (your location may vary)
Aptify Shopping Cart	C:\inetpub\wwwroot\ebusiness\bin\EBusinessShoppingCart.dll
e-Business Hierarchy Tree	C:\inetpub\wwwroot\ebusiness\bin\EBusinessHierarchyTree.dll
Product Category Link String	C:\inetpub\wwwroot\ebusiness\bin\ProductCategoryLink-String.dll
Question, Question Tree, Question Tree List Controls	C:\inetpub\wwwroot\ebusiness\bin\AptifyKnowledgeWebControls.dll
User	C:\inetpub\wwwroot\ebusiness\bin\AptifyEBusinessUser.dll
user Activity	C:\inetpub\wwwroot\ebusiness\bin\WebUserActivity.dll
user Login	C:\inetpub\wwwroot\ebusiness\bin\EBusinessLogin.dll

9. Press **OK** to close the Choose Toolbox Items dialog.
  - You should now see seven new items in the Toolbox’s e-Business tab.

Figure 8.6  
e-Business  
Server  
Controls in VS  
Toolbox



# Aptify User Controls

User controls can create consistency in a Web's site appearance and provide developers with the ability to more effectively modularize the site. The e-Business sample site includes a set of User Controls that are located in the *User Controls*\[Control Category] subdirectory of the sample site. These controls provide standard functionality which can be easily modified to alter the look and feel of the sample site, the following are the control categories.

- [Aptify Abstract Management](#)
- [Aptify Chapters](#)
- [Aptify Committees](#)
- [Aptify Customer Service](#)
- [Aptify Directories](#)
- [Aptify Education](#)
- [Aptify Forums](#)
- [Aptify Fundraising](#)
- [Aptify General](#)
- [Aptify Marketplace](#)
- [Aptify Meetings](#)
- [Aptify Product Catalog](#)
- [Aptify Surveys](#)
- [Aptify Utilities](#)
- [Aptify Web Articles](#)
- [Aptify Web Services](#)

The sample site includes all of the code for the standard user controls. For more information about a particular user control, refer to its ASCX file and its related ASCX.VB (code behind) file for details.

For more information about how to modify existing user controls, see "User Control Development" on page 168 for details.



## Aptify Abstract Management

The Abstract Management controls are used to manage abstract submissions and the review process on the e-Business site.

- [Abstract Center](#)
- [Review Abstracts](#)
- [Review Single Abstract](#)
- [Submit Abstract](#)

The available controls are:

### Abstract Center

**Location:** */UserControls/Aptify\_Abstract\_Management/AbstractCenter.ascx*

This control displays links for Submitting and Viewing abstracts. It is used on the Default.aspx page of the Abstract Management section.

### Review Abstracts

**Location:** */UserControls/Aptify\_Abstract\_Management/ReviewAbstracts.ascx*

This control displays a list abstracts previously submitted. It is used on the ViewAbstracts.aspx page.

### Review Single Abstract

**Location:** */UserControls/Aptify\_Abstract\_Management/ReviewSingleAbstract.ascx*

This control displays a single selected abstract record. It is used on the ReviewAbstracts.aspx page.

### Submit Abstract

**Location:** */UserControls/Aptify\_Abstract\_Management/SubmitAbstract.ascx*

This control provides input fields for adding an abstract. It is used on the Abstracts.aspx page.

## Aptify Chapters

The Aptify Chapters controls are used to manage chapter information on the e-Business site.

The available controls are:

- [Add Members](#)
- [Chapter](#)
- [Chapter Edit](#)
- [Chapter Management Control](#)
- [Chapter Meeting](#)
- [Chapter Meetings](#)
- [Chapter Member](#)
- [Chapter Officers](#)
- [Chapter Proximity Search](#)
- [Chapter Report Viewer](#)
- [Chapter Search](#)
- [My Chapters](#)
- [Reports](#)

### Add Members

**Location:** */UserControls/Aptify\_Chapters/AddMembers.ascx*

This control provides input fields to add a member to a specific chapter record. It is used on the AddMembers.aspx page.

### Chapter

**Location:** */UserControls/Aptify\_Chapters/Chapter.ascx*

This control displays information such as location, associated members, available reports, etc. for a selected chapter. It is used on the Chapter.aspx page.

### Chapter Edit

**Location:** */UserControls/Aptify\_Chapters/ChapterEdit.ascx*

This control provides input fields to change name and address information for a specific chapter. It is used on the ChapterEdit.aspx page.

### Chapter Management Control

**Location:** */UserControls/Aptify\_Chapters/ChapterManagementControl.ascx*

This control displays a link for viewing a list of all chapters for which the user is a member of and a link for the chapter search page. It is used on the Default.aspx of the Chapters section.

### Chapter Meeting

**Location:** */UserControls/Aptify\_Chapters/ChapterMeeting.ascx*

This control provides input fields for adding a meeting product for the selected chapter. It is used on the ChapterMeeting.aspx page.

### Chapter Meetings

**Location:** */UserControls/Aptify\_Chapters/ChapterMeetings.ascx*

This control displays a list of all meeting associated with the selected chapter and also provides a link to add a new meeting product. It is used on the ChapterMeetings.aspx page.

### Chapter Member

**Location:** */UserControls/Aptify\_Chapters/ChapterMember.ascx*

This control displays a specific chapter member record to the user and allows the user to modify the record. It is used on the ChapterMember.aspx page.

### Chapter Officers

**Location:** */UserControls/Aptify\_Chapters/ChapterOfficers.ascx*

This control displays a list of all chapter officer records for the selected chapter. It is used on the ChapterOfficers.aspx page.

### Chapter Proximity Search

**Location:** */UserControls/Aptify\_Chapters/ChapterProximitySearch.ascx*

This control displays a list of all chapters within a requested radius of a requested zip code. It is used on the ChapterProximitySearch.aspx page.

### Chapter Report Viewer

**Location:** */UserControls/Aptify\_Chapters/ChapterReport Viewer.ascx*

This control displays a selected report for the selected chapter. It is used on the ChapterReportViewer.aspx page.

### Chapter Search

**Location:** */UserControls/Aptify\_Chapters/ChapterSearch.ascx*

This control displays a list of all chapters matching the requested name and type. It is used on the ChapterSearch.aspx page.

## My Chapters

**Location:** */UserControls/Aptify\_Chapters/MyChapters.ascx*

This control displays a list of all chapters for which the user is a member of. It is used on the MyChapters.aspx page.

## Reports

**Location:** */UserControls/Aptify\_Chapters/Reports.ascx*

This control displays a list of all report categories and the reports that belong to each category for the selected chapter. It is used on the Reports.aspx page.

## Aptify Committees

The Aptify Committees controls are used to manage committee information on the e-Business site. The available controls are:

- [Committee Listing](#)
- [Committee Term](#)
- [My Committees](#)
- [Nominate](#)
- [Open Positions](#)

## Committee Listing

**Location:** */UserControls/Aptify\_Committees/CommitteeListing.ascx*

This control displays a list of all active committees. It is used on the CommitteeListing.aspx page.

## Committee Term

**Location:** */UserControls/Aptify\_Committees/CommitteeTerm.ascx*

This control displays General information, Member listing, Discussion Forum posts, and a Document list associated with the selected committee. It is used on the CommitteeTerm.aspx page.

## My Committees

**Location:** */UserControls/Aptify\_Committees/MyCommittees.ascx*

This control displays a list of all committees for which the user belongs; based on either current, past or future membership. It is used on the MyCommittees.aspx page.

## Nominate

**Location:** */UserControls/Aptify\_Committees/Nominate.ascx*

This control is currently a holder page for nominations. It is used on the Nominate.aspx page.

## Open Positions

**Location:** */UserControls/Aptify\_Committees/OpenPositions.ascx*

This control is currently a holder page for open committee positions. It is used on the OpenPositions.aspx page.

## Aptify Customer Service

The Aptify Customer Service controls are used to manage customer and order information on the e-Business site. The available controls are:

- [Combine Orders](#)
- [Download Control](#)
- [Forgot UID](#)
- [Make Payment](#)
- [Open Cart](#)
- [Order Confirmation](#)
- [Order History](#)
- [Profile](#)
- [Renewals](#)
- [Renew Membership](#)
- [Standard Profile](#)
- [Synch Profile](#)
- [Topic Code Control](#)
- [Topic Codes](#)
- [Track Shipments](#)

## Combine Orders

**Location:** */UserControls/Aptify\_Customer\_Service/CombineOrders.ascx*

This control is currently a holder control for combining orders. It is reserved for future use.

## Download Control

**Location:** */UserControls/Aptify\_Customer\_Service/DownloadControl.ascx*

This control displays a grid of available downloads available for a particular Web User. It is used on the My Downloads page in the sample sites.

## Forgot UID

**Location:** */UserControls/Aptify\_Customer\_Service/ForgotUID.ascx*

This control allows the user to change their password based on correctly answering the security questions set when the user was created. It is used on the ForgotUID.aspx page.

## Make Payment

**Location:** */UserControls/Aptify\_Customer\_Service/MakePayment.ascx*

This control displays a list of orders with a balance for the user and allows the user to start the payment process. It is used on the MakePayment.aspx page.

## Open Cart

**Location:** */UserControls/Aptify\_Customer\_Service/OpenCart.ascx*

This control displays a list of shopping carts previously saved and allows the user to open a cart and either continue shopping or go to check-out. It is used on the OpenCart.aspx page.

## Order Confirmation

**Location:** */UserControls/Aptify\_Customer\_Service/OrderConfirmation.ascx*

This control displays an order confirmation at the end of the check-out process indicating a successful check-out with order and shipping details, or a failed check-out with a proper reason. It is used on the OrderConfirmation.aspx page.

## Order History

**Location:** */UserControls/Aptify\_Customer\_Service/OrderHistory.ascx*

This control displays a list of all orders associated with the user and allows the user to view the order confirmation for each order when selected. It is used on the OrderHistory.aspx page.

## Profile

**Location:** */UserControls/Aptify\_Customer\_Service/Profile.ascx*

This control displays the user's profile record, such as name, address, etc., and allows the user to modify the record. It is used on the New User and Profile pages in both sample sites.

## Renewals

**Location:** */UserControls/Aptify\_Customer\_Service/Renewals.ascx*

This control displays a list of subscriptions/memberships for the user and allows for renewal of each subscription/membership. It is used on the Renewals.aspx page.

## Renew Membership

**Location:** */UserControls/Aptify\_Customer\_Service/RenewMemberShip.ascx*

This control appears on the ICE starter site's Home page and provides a link to a Renew Subscriptions/Membership page.

## Standard Profile

**Location:** */UserControls/Aptify\_Customer\_Service/StandardProfile.ascx*

An alternate implementation of a profile control. This control is not used in the sample sites.

## Synch Profile

**Location:** */UserControls/Aptify\_Customer\_Service/SynchProfile.ascx*

This control is responsible for handling the synchronization between e-Business and a social media site for a particular Web User. Note that a second version of this control appears in Aptify\_General, but that control is specific to Sitefinity 4.

## Topic Code Control

**Location:** */UserControls/Aptify\_Customer\_Service/TopicCodeControl.ascx*

This control is an alternative implementation of the Topic Codes control (see below). This control was introduced in e-Business 5.5 and leverages Telerik RAD controls to render a topic code hierarchy tree.

## Topic Codes

**Location:** */UserControls/Aptify\_Customer\_Service/TopicCodes.ascx*

This control displays a hierarchical list of topics from which a user can select areas of interests. It leverages the e-Business Hierarchy Tree control and a third-party Infragistics component.

## Track Shipments

**Location:** */UserControls/Aptify\_Customer\_Service/TrackShipments.ascx*

This control is currently a holder page for tracking order shipments. It is used on the TrackShipments.aspx page.

## Aptify Directories

The Aptify Directories controls are used to manage directory listing on the e-Business site.

The available controls are:

- [Browse](#)
- [Browse By](#)
- [Company Directory Grid](#)
- [Company Listing](#)
- [Directories Center](#)
- [Person Directory Grid](#)
- [Person Listing](#)
- [Search](#)

### Browse

**Location:** */UserControls/Aptify\_Directories/Browse.ascx*

This control is a navigation portal in searching criteria selections for a Directory listings based on either name, state, company-type, and so on.. It is used on the Browse.aspx page.

### Browse By

**Location:** */UserControls/Aptify\_Directories/BrowseBy.ascx*

This control allows for input parameters in searching for a Directory listing based on the search criteria selected from the Browse.aspx page. It is used on the BrowseBy.aspx page.

### Company Directory Grid

**Location:** */Directories/Controls/CompanyDirectoryGrid.ascx*

This control displays a datagrid of companies for the Companies Directory functionality in the sample site on the BrowseBy.aspx page.

### Company Listing

**Location:** */UserControls/Aptify\_Directories/CompanyListing.ascx*

This control displays the selected company's contact information from the corporate member directory search result. It is used on the CompanyListing.aspx page.



## Directories Center

**Location:** */UserControls/Aptify\_Directories/DirectoriesCenter.ascx*

This control displays links for criteria in searching the Directory . It is used on the Default.aspx page of the Directories section.

## Person Directory Grid

**Location:** */UserControls/Aptify\_Directories/PersonDirectoryGrid.ascx*

This control displays a datagrid of people for the Persons Directory functionality in the sample site on the BrowseBy.aspx page.

## Person Listing

**Location:** */UserControls/Aptify\_Directories/PersonListing.ascx*

This control displays the selected person's contact information from the individual member directory search result. It is used on the PersonListing.aspx page.

## Search

**Location:** */UserControls/Aptify\_Directories/Search.ascx*

This control allows for a free form search of the individual member directory based on a member's name. It is used on the Search.aspx page.

## Aptify Education

The Aptify Education controls are used to manage educational related items such as class registrations and viewing class schedules on the e-Business site.

Note that the following controls are only applicable for organization that use the Education Management add-on application.

The available controls are:

- [CEU Submission](#)
- [Class Registration](#)
- [Class Schedule Control](#)
- [Course Catalog](#)
- [Curriculum](#)
- [Education Center](#)
- [Instructor Authorized Courses](#)
- [Instructor Center](#)
- [Instructor Classes](#)
- [Instructor Students](#)
- [InstructorValidator](#)
- [My Certifications](#)
- [My Courses](#)
- [View Certification](#)
- [View Class](#)
- [View Course](#)

### CEU Submission

**Location:** */UserControls/Aptify\_Education/CEUSubmission.ascx*

This control allows a user to submit CEU credits for courses completed. It is used on the CEUSubmission.aspx page.

## Class Registration

**Location:** */UserControls/Aptify\_Education/ClassRegistration.ascx*

This control registers the user for the selected class and adds the registration purchase to the shopping cart for payment. It is used on the ClassRegistration.aspx page.

## Class Schedule Control

**Location:** */UserControls/Aptify\_Education/ClassScheduleControl.ascx*

This control displays a grid for viewing and filtering Class information based on one or more criteria. It is used on the ClassSchedule.aspx page.

## Course Catalog

**Location:** */UserControls/Aptify\_Education/CourseCatalog.ascx*

This control displays a list of all course categories and their associated courses and allows a filtered view of courses based on a selected course category. It is used on the Course-Catalog.aspx page.

## Curriculum

**Location:** */UserControls/Aptify\_Education/Curriculum.ascx*

This control displays a list of available certification types and their associated course requirements. The control also allows the user to view their status against the requirements. It is used on the Curricula.aspx page.

## Education Center

**Location:** */UserControls/Aptify\_Education/EducationCenter.ascx*

This control displays links for areas of functionality for the Education section. It is used on the Default.aspx page of the Education Management section.

## Instructor Authorized Courses

**Location:** */UserControls/Aptify\_Education/InstructorAuthorizedCourses.ascx*

This control displays a list of courses for which the user is an authorized instructor. It is used on the ClassSchedule.aspx page.

## Instructor Center

**Location:** */UserControls/Aptify\_Education/InstructorCenter.ascx*

This control displays links for instructor specific pages. It is used on the InstructorCenter.aspx page.

## Instructor Classes

**Location:** */UserControls/Aptify\_Education/InstructorClasses.ascx*

This control displays a list of classes for which the user is an instructor and is scheduled for teaching. It is used on the InstructorClasses.aspx page.

## Instructor Students

**Location:** */UserControls/Aptify\_Education/InstructorStudents.ascx*

This control displays a list of students registered for all or selected class(s) for which the user is an instructor and is scheduled to teach. It is used on the InstructorStudents.aspx page.

## InstructorValidator

**Location:** */UserControls/Aptify\_Education/InstructorValidator.ascx*

This control validates if the current user is an instructor or not by determining if the current user's linked Persons record is listed as an Instructor for one or more Courses or Classes records. It is used on the Education Default.aspx, InstructorAuthorizedCourses.aspx, InstructorCenter.aspx, InstructorClasses.aspx, InstructorStudents.aspx, and ViewClass.aspx pages.

## My Certifications

**Location:** */UserControls/Aptify\_Education/MyCertifications.ascx*

This control displays a list of certification courses associated with the user. It is used on the MyCertifications.aspx page.

## My Courses

**Location:** */UserControls/Aptify\_Education/MyCourses.ascx*

This control displays a list of all courses for which the user has registered in the past, currently or in the future. It is used on the MyCourses.aspx page.

## View Certification

**Location:** */UserControls/Aptify\_Education/ViewCertification.ascx*

This control displays the details for the user's selected certification record. It is used on the ViewCertification.aspx page.

## View Class

**Location:** */UserControls/Aptify\_Education/ViewClass.ascx*

This control displays detailed information for the user's selected class record. It is used on the ViewClass.aspx page.

## View Course

**Location:** */UserControls/Aptify\_Education/ViewCourse.ascx*

This control displays detailed information for a selected course. It is used on the ViewCourse.aspx page.

## Aptify Forums

The Aptify Forums controls are used to manage Discussion Forums on the e-Business site. The available controls are:

- [Add Forum](#)
- [Create Message](#)
- [Display Message](#)
- [Forum](#)
- [Forum Message Grid](#)
- [Forums](#)
- [Forums Home](#)
- [Forum Subscription](#)
- [Forum Title](#)
- [Message](#)
- [Search](#)
- [Single Forum](#)
- [Whats New](#)

## Add Forum

**Location:** */UserControls/Aptify\_Forums/AddForum.ascx*

This control displays an input form for starting a new top-level forum subject. It is used on the AddForum.aspx page.

## Create Message

**Location:** */UserControls/Aptify\_Forums/CreateMessage.ascx*

This control enables the functionality to post new messages to a Discussion Forum, which automatically creates a corresponding record in Aptify's Discussion Forum Messages entity. It is used on the Forum.aspx page.

## Display Message

**Location:** */UserControls/Aptify\_Forums/DisplayMessage.ascx*

This control displays a selected forum post message's content. It is used on the DisplayMessage.aspx page.

## Forum

**Location:** */UserControls/Aptify\_Customer\_Service/Forum.ascx*

This control displays information from a particular forum based on an ID passed in the URL string. It is a container that holds other Forum-related controls.

## Forum Message Grid

**Location:** */UserControls/Aptify\_Forums/ForumMessageGrid.ascx*

This control displays a grid of Discussion Forum Messages for a particular forum. It is used on the Forum.aspx page.

## Forums

**Location:** */UserControls/Aptify\_Forums/Forums.ascx*

This control displays the set of top-level forums from Aptify's Discussion Forums entity. It is used on the Discussion Forum's Default.aspx page.

## Forums Home

**Location:** */UserControls/Aptify\_Customer\_Service/ForumsHome.ascx*

This control corresponds to the home screen for the Discussion Forums application.

## Forum Subscription

**Location:** */UserControls/Aptify\_Forums/ForumSubscription.ascx*

This control displays a grid of all Discussion Forums to which the user can subscribe. It is used on the Subscriptions.aspx page.

## Forum Title

**Location:** */UserControls/Aptify\_Customer\_Service/ForumTitle.ascx*

This control is the title area for the Forum display. It is referenced by the Forum control.

## Message

**Location:** */Forums/Controls/Message.ascx*

This control displays a particular forum post that is stored in Aptify's Discussion Forum Messages entity. It is used on the DisplayMessage.aspx page. Note that this control also uses the Record Attachments control to support the ability to add and view attachments to discussion forum posts.

## Search

**Location:** */UserControls/Aptify\_Forums/Search.ascx*

This control allows the user to search and display all message posts for a particular forum or within all forums based on certain criteria. It is used on the Search.aspx page.

## Single Forum

**Location:** */UserControls/Aptify\_Forums/SingleForum.ascx*

This control is intended for use on pages outside of the main Discussion Forums module so that a forum can easily be linked to other areas of the site, such as the Meeting and Education Centers. It is used on the Committee module's CommitteeTerm.aspx, Meeting module's Meeting.aspx, and Education module's ViewClass.aspx pages.

## Whats New

**Location:** */UserControls/Aptify\_Forums/WhatsNew.ascx*

This control displays a list of all recent message posts based on the selected timeframe criteria. It is used on the WhatsNew.aspx page.

## Aptify Fundraising

The Aptify Forums controls are used to manage the fundraising sample functionality that generates an order to record a donation on the Home page section of the Aptify e-Business Sample Site.

Note that this sample functionality does not provide out-of-the-box integration with Aptify's Fundraising Management application.

The available controls are:

### Contribute

**Location:** */UserControls/Aptify\_Fundraising/Contribute.ascx*

This control appears on home page for the ICE starter site. It provides a link to another page that hosts the Fundraising control (see below).

### Fundraising

**Location:** */UserControls/Aptify\_Fundraising/Fundraising.ascx*

This control allows the user to select and donate to a particular fund. It is used on the Fundraising.aspx page.

## Aptify General

The Aptify General controls are used to manage the basic functionality of the website including navigation, CMS content, login functionality and error handling. The available controls in this category include:

- [Aptify Detailed Nav List](#)
- [Aptify NavBar](#)
- [CMS Contents](#)
- [Credit Card](#)
- [Current Discussion](#)
- [Date Picker](#)
- [Errors](#)
- [Follow Us](#)
- [Footer](#)
- [Generic Login](#)
- [Header](#)
- [Home Current Discussion](#)
- [Login](#)
- [Login and Event](#)
- [LoginSF4](#)
- [Name Address Block](#)
- [NavBar](#)
- [Prod Category Bar](#)
- [Record Attachments](#)
- [RSS Feed](#)
- [Security Error](#)
- [Sitefinity4xSSO](#)
- [Social Network Connection Options](#)
- [Social Network Connection Options SF4](#)
- [Social Network Integration Control](#)
- [Social Network Integration Control SF4](#)
- [Social Network Terms and Conditions](#)
- [Status Header](#)



- [Submission Complete](#)
- [Synch Profile](#)
- [Topic Code Viewer](#)
- [Track Click](#)
- [Ubml\\_mar](#)

## Aptify Detailed Nav List

**Location:** */UserControls/Aptify\_General/AptifyDetailedNavList.ascx*

This control displays a generated set of links to pages below a particular top level page. It is a Sitefinity specific control. It is used on landing pages such as the Committees main page.

## Aptify NavBar

**Location:** */UserControls/Aptify\_General/AptifyNavBar.ascx*

This control displays a list of quick links (peer level pages) in a list format based on the location in the site hierarchy the user is currently in. This is a Sitefinity specific control but it is not used in the ICE starter site.

## CMS Contents

**Location:** */UserControls/Aptify\_General/CMSContents.ascx*

This user control is included for backwards compatibility purposes. It is not used in the e-Business 5.5 sample site.

## Credit Card

**Location:** */UserControls/Aptify\_General/CreditCard.ascx*

This user control displays an entry area for credit card information used during payment transactions. The control displays the expiration date as a set of three drop-downs, including selections for month, day, and year, where year is auto-populated with values ranging from the current year to fifteen years in the future. The default setting for the control is one year from the current date.

This control supports the following properties:

Property	Date Type	Description
<b>CCExpireDate</b>	<b>String</b>	The expiration date.
<b>CCNumber</b>	<b>String</b>	The credit card number
<b>CCSecurityNumber</b>	<b>String</b>	Credit Card Security Number (CVV). Note that this number is passed to the applicable Merchant Account but is not stored in Aptify.

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<b>Property</b>	<b>Date Type</b>	<b>Description</b>
<b>PaymentTypeID</b>	<b>Long</b>	The PaymentType corresponding to the various credit card types (MasterCard, Visa, etc.)
<b>ShowPaymentTypeSelection</b>	<b>Boolean</b>	Show Payment Type selected.

## Current Discussion

**Location:** */UserControls/Aptify\_General/CurrentDiscussion.ascx*

This user control is reserved for future use.

## Date Picker

**Location:** */UserControls/Aptify\_General/DatePicker.ascx*

This user control lets users select a date from a calendar window rather than enter it manually. It generally links to a date field in a particular Aptify entity. It is used on the *CEUSubmission.aspx* page.

## Errors

**Location:** */UserControls/Aptify\_General/Errors.ascx*

This user control displays a formatted list of all session errors which have occurred in the applications life cycle. It is used on the *Errors.aspx* page.

**Note Concerning Search Results and the Security Error User Control:** Aptify recommends that you exclude from your CMS search results any pages you create using *Errors.ascx*. Refer to your CMS's documentation for information on configuring search options.

## Follow Us

**Location:** */UserControls/Aptify\_General/FollowUs.ascx*

This user control appears on the Home page of the ICE starter site. From the *Aptify\_UC\_Navigation.config* file, you can specify links to social media sites, such as Facebook, Twitter, and LinkedIn.

## Footer

**Location:** */UserControls/Aptify\_General/Footer.ascx*

This is the user control for the footer of the ICE starter site.

## Generic Login

**Location:** */UserControls/Aptify\_General/GenericLogin.ascx*

This user control applies to the ICE starter site and directs a user to login when he/she tries to access protected content without being logged into the site.

## Header

**Location:** */UserControls/Aptify\_General/Header.ascx*

This is a header user control for the sample sites.

## Home Current Discussion

**Location:** */UserControls/Aptify\_General/HomeCurrentDiscussion.ascx*

This user control appears on the Home page for the ICE starter site and displays a set of recent discussion forum posts.

## Login

**Location:** */UserControls/Aptify\_General/Login.ascx*

This user control provides a standard login pane that can be inserted on any page to provide the user with the ability to log in. This template control uses the Login server control to provide login/logout functionality.

This control supports two events:

- **UserLoggedIn:** This event fires on the component containing the Login user control when a user successfully logs into the system. To capture events of a User Control in a Web Form, you must declare a server side variable `WithEvents` in the class module of the form. Use this event to update any information on the screen that may be inappropriate for the new state.
- **UserLoggedOut:** This event fires on the component containing the Login user control when the user uses the Logout button to log out of the system. Use this event to update any information on the screen that may be inappropriate for the new state.

## Login and Event

**Location:** */UserControls/Aptify\_General/LoginAndEvent.ascx*

This user control appears on the Home page of the Sitefinity-based ICE starter site. It is a control that displays the login control plus a list of upcoming events.

## LoginSF4

**Location:** */UserControls/Aptify\_General/LoginSF4.ascx*

This user control is designed for use with Sitefinity 4.4 in place of the standard Login control described above. It provides all of the functions of the standard login control as well code that specifically support single sign on between e-Business and Sitefinity 4.4.

## Name Address Block

**Location:** */UserControls/Aptify\_General/NameAddressBlock.ascx*

This user control Provides functionality to display addresses in a block format. You can bind the properties of this control to database fields.

This control supports the following properties:

Property	Date Type	Description
<b>Name</b>	<b>String</b>	A person or company name to display at top of block.
<b>AddressLine1</b>	<b>String</b>	The first line of address information to display.
<b>AddressLine2</b>	<b>String</b>	The second line of address information to display.
<b>AddressLine3</b>	<b>String</b>	The third line of address information to display.
<b>City</b>	<b>String</b>	The city to display.
<b>State</b>	<b>String</b>	The state to display.
<b>ZipCode</b>	<b>String</b>	The postal code to display.
<b>Country</b>	<b>String</b>	The country to display.

## NavBar

**Location:** */UserControls/Aptify\_General/Navbar.ascx*

This user control provides a mechanism for controlling the e-Business menuing functionality. The displayed menu items are based on data stored in the Web Menu entity (see “Configuring the Web Menu” on page 54).

Note that this control is built using third party functionality from ComponentArt, so you need a license to the ComponentArt.Web.UI tool to modify this control. See “Software Requirements” on page 14.

## Prod Category Bar

**Location:** */UserControls/Aptify\_General/ProdCategoryBar.ascx*

This user control leverages the ComponentArt menu control to display a list of Product Categories and sub-categories in a menu structure in the Product Catalog.

## Record Attachments

**Location:** */UserControls/Aptify\_General/RecordAttachments.ascx*

This control provides a user interface to display all files attached to a record in Aptify (that is, the items that appear on a record's Attachments tab). This control also allows users to add, edit, and delete attachment files to a record. This control is used extensively on the e-Business sample site including in the Discussion Forum's Message.ascx control (for attaching files to forum messages), the Committee Term Document Library (in CommitteeTerm.aspx), and Education-related attachments (in the Education module's ViewClass.aspx and CEUSubmission.aspx files).

## RSS Feed

**Location:** */UserControls/Aptify\_General/RSSFeed.ascx*

This user control notifies the Web browser of an existing RSS broadcast for the selected Aptify RSS Channels record. This control can be dropped on any page or other user control. When adding this control to another page or control, you must specify the following properties (the RSS Channels record defines all of the other RSS Feed properties):

Property	Date Type	Description
<b>ChannelID</b>	<b>Long</b>	This identifies the ID of the RSS Channels record in Aptify to which this feed applies. If this property is not set the RSSFeed user control will be disabled. The RSS Channels record metadata defines all of the RSS Feed properties.
<b>RSSTitle</b>	<b>String</b>	The RSS Broadcast title is required for the link tag that will notify the user's browser of the existing RSS Feed.

In the e-Business sample site, this control is included in the Web Articles control. See "Creating RSS Channels" on page 73 for more information on using RSS Feeds with e-Business.

## Security Error

**Location:** */UserControls/Aptify\_General/SecurityError.ascx*

This control displays a security error message related to incorrect page access. It is used on the SecurityError.aspx page.

**Note Concerning Search Results and the Security Error User Control:** Aptify recommends that you exclude from your CMS search results any pages you create using SecurityError.ascx. Refer to your CMS's documentation for information on configuring search options.

## Sitefinity4xSSO

**Location:** */UserControls/Aptify\_General/Sitefinity4xSSO.ascx*

This user control supports single sign on between e-Business and Sitefinity 4. It only applies to Sitefinity 4 sites.

## Social Network Connection Options

**Location:** */UserControls/Aptify\_General/SocialNetworkConnectionOptions.ascx*

This user control provides a standard login pane that can be inserted on any page to provide the user with the ability to log in.

## Social Network Connection Options SF4

**Location:** */UserControls/Aptify\_General/SocialNetworkConnectionOptionsSF4.ascx*

This user control provides a standard login pane that can be inserted on any page to provide the user with the ability to log in. This version of the control is specific to Sitefinity 4.

## Social Network Integration Control

**Location:** */UserControls/Aptify\_Customer\_Service/SocialNetworkingIntegrationControl.ascx*

This control is responsible for interacting with a social network and redirecting a user back to the appropriate page after logging into a social network. For example, when integrating with LinkedIn, a page contains this control is specified as the OAuth Redirect URL. See "Obtaining an API Key for a Social Network Application" on page 135 for more information.

## Social Network Integration Control SF4

**Location:** */UserControls/Aptify\_Customer\_Service/SocialNetworkingIntegrationControlSF4.ascx*

This control is responsible for interacting with a social network and redirecting a user back to the appropriate page after logging into a social network. For example, when integrating with LinkedIn, a page contains this control is specified as the OAuth Redirect URL. See “Obtaining an API Key for a Social Network Application” on page 135 for more information. This version of the control is specific to Sitefinity 4.

## Social Network Terms and Conditions

**Location:** */UserControls/Aptify\_General/SocialNetworkTermsNConditions.ascx*

This user control provides an area for an organization to post its Social Network integration terms and conditions to Web Users.

## Status Header

**Location:** */UserControls/Aptify\_General/StatusHeader.ascx*

This user control corresponds to the login and cart status information that appears across the top of the sample sites.

## Submission Complete

**Location:** */UserControls/Aptify\_General/SubmissionComplete.ascx*

This control displays a temporary page that should be used to display a timed message to the user then will automatically redirect to a new page.

## Synch Profile

**Location:** */UserControls/Aptify\_General/SynchProfile.ascx*

This control is responsible for handling the synchronization between e-Business and a social media site for a particular Web User. Note that this control is specific to Sitefinity 4. There is a second version of this control for non-Sitefinity sites available in the Aptify\_Customer\_Service folder.

## Topic Code Viewer

**Location:** */UserControls/Aptify\_General/TopicCodeViewer.ascx*

This user control displays topic codes and allows a user to view and edit Topic Code links for a particular record in Aptify. This control displays the set of active Topic Codes associated with a particular entity. For each displayed topic code, the control indicates whether or not the current record is linked to it.

Although Topic Codes appear in several areas of the e-Business sample site (including a user’s Topics of Interest selections in TopicCodes.aspx), this control is only currently used in conjunction with the MarketPlace Listings pages, EditingListing.aspx and NewListing.aspx.

Note that this control is built using third party functionality from Infragistics, so you need a license to the Infragistics.WebUI.UltraWebNavigator tool to modify this control. See “Software Requirements” on page 14.



## Track Click

**Location:** */UserControls/Aptify\_General/TrackClick.ascx*

This control receives and tracks requests generated through links within marketing emails. It is used on the TrackClick.aspx page.

## Ubml\_mar

**Location:** */UserControls/Aptify\_General/ubml\_mar.ascx*

This control receives and completes requests to unsubscribe to marketing emails. It is used on the uBML\_MAR.aspx page.

## Aptify Marketplace

The Aptify Marketplace controls are used to manage ad postings on the e-Business site. The available controls are:

- [Default](#)
- [Edit Listing](#)
- [Listing Display](#)
- [Listing Edit](#)
- [New Listing](#)
- [Request Info](#)
- [Request Info Complete](#)
- [Search](#)
- [View Listing](#)

### Default

**Location:** */UserControls/Aptify\_Marketplace/Default.ascx*

This control displays a list of all companies comprising a MarketPlace based on the hosting company's associations. It is used on the Default.aspx page.

### Edit Listing

**Location:** */UserControls/Aptify\_General/EditListing.ascx*

This control allows a user to edit a marketplace listing on the e-Business site, modifying information in a MarketPlace Listings record in Aptify as necessary. It is used on the EditListing.aspx page.

### Listing Display

**Location:** */UserControls/Aptify\_Marketplace/ListingDisplay.ascx*

This control is responsible for displaying a marketplace listing on the e-Business site, using information retrieved from a MarketPlace Listings record in Aptify. It is used on the ViewListing.aspx page.

### Listing Edit

**Location:** */UserControls/Aptify\_Marketplace/ListingEdit.ascx*

This control allows a user to create or edit a marketplace listing on the e-Business site, modifying information in a MarketPlace Listings record in Aptify as necessary. It is used on the EditListing.aspx and NewListing.aspx pages.

## New Listing

**Location:** */UserControls/Aptify\_Marketplace/NewListing.ascx*

This control allows a user to create a marketplace listing on the e-Business site, modifying information in a MarketPlace Listings record in Aptify as necessary. It is used on the NewListing.aspx page.

## Request Info

**Location:** */UserControls/Aptify\_Marketplace/RequestInfo.ascx*

This control allows a user to submit an information request for a selected marketplace listing. It is used on the RequestInfo.aspx page.

## Request Info Complete

**Location:** */UserControls/Aptify\_Marketplace/RequestInfoComplete.ascx*

This control displays either a success or failure message for the request info sent. It is used on the RequestInfoCompleted.aspx page.

## Search

**Location:** */UserControls/Aptify\_Marketplace/Search.ascx*

This control allows a user to search the entire marketplace listing based on provided criteria. It is used on the Search.aspx page.

## View Listing

**Location:** */UserControls/Aptify\_Marketplace/ViewListing.ascx*

This control is responsible for displaying a marketplace listing on the e-Business site, using information retrieved from a MarketPlace Listings record in Aptify. It is used on the ViewListing.aspx page.

## Aptify Meetings

The Aptify Meeting controls are used to manage meeting related functions such as meeting registrations and viewing available meetings on the e-Business site. The available controls are:

- [Calendar](#)
- [Events Home](#)
- [Google Maps Directions API](#)
- [Meeting](#)
- [Meeting Action Control](#)
- [Meeting Directions](#)
- [Meeting Events](#)
- [Meeting Registration](#)
- [Meetings Home](#)
- [Speaker Validator](#)
- [Upcoming Events](#)

### Calendar

Location: */UserControls/Aptify\_Meetings/Calendar.ascx*

- This control displays meetings in a calendar view based on a user specified month and year

### Events Home

Location: */UserControls/Aptify\_Meetings/EventsHome.ascx*

This control corresponds to the Events landing page on the Sitefinity-based ICE starter site.

### Google Maps Directions API

Location: */UserControls/Aptify\_Meetings/GoogleMapsDirectionsAPI.ascx*

This control is responsible for integrating with Google Maps to show Meeting Directions.

### Meeting

Location: */UserControls/Aptify\_Meetings/Meeting.ascx*

This control displays a grid for viewing and filtering Meeting information based on one or more criteria. It is used on the Meeting.aspx page.

## Meeting Action Control

**Location:** */UserControls/Aptify\_Meetings/MeetingActionControl.ascx*

This control binds and displays filtering criteria for specific Meeting records. It is used on the Meeting.aspx page.

## Meeting Directions

**Location:** */UserControls/Aptify\_Meetings/MeetingDirections.ascx*

This control displays directions between a web user's address and a meeting location. It leverages the Google Maps Directions API control.

## Meeting Events

**Location:** */UserControls/Aptify\_Meetings/MeetingEvents.ascx*

This control displays information about a single meeting. It is used to display Meeting details in the Sitefinity-based ICE starter site.

## Meeting Registration

**Location:** */UserControls/Aptify\_Meetings/MeetingRegistration.ascx*

This control registers the user for the selected Meeting and adds the registration purchase to the shopping cart for payment. It is used on the MeetingRegistration.aspx page.

## Meetings Home

**Location:** */UserControls/Aptify\_Meetings/MeetingsHome.ascx*

This control displays a list of all available Meeting records for all or selected categories based on all, current, past or future timeframe. It is used on the Default.aspx page for the Meetings section.

## Speaker Validator

**Location:** */UserControls/Aptify\_Meetings/SpeakerValidator.ascx*

This control validates if the current user is a meeting speaker by determining if the current user's linked Persons record is listed as a speaker for any meetings in the Aptify system. Note that this control is not currently used on any pages in the sample site.

## Upcoming Events

**Location:** */UserControls/Aptify\_Meetings/UpcomingEvents.ascx*

This control displays a list of upcoming events. It is used on the Home page of the Sitefinity-based ICE starter site.

## Aptify Product Catalog

The Aptify Product controls are used to manage products and product related functions such shopping carts, featured products and order summary on the e-Business site. The available controls are:

- [Billing Control](#)
- [Cart Grid](#)
- [Cart Grid 2](#)
- [Change Address](#)
- [Check-Out Control](#)
- [Dynamic Products Grid Small](#)
- [Edit Address](#)
- [Expo Registration](#)
- [Featured Products](#)
- [Find Product](#)
- [Housing Registration](#)
- [Items In Cart](#)
- [Order Summary](#)
- [Prod Categories](#)
- [Prod Listing Grid](#)
- [Product](#)
- [Product Category](#)
- [Product Grouping Contents Grid](#)
- [Products Sold Together Grid](#)
- [Product Topic Codes Grid](#)
- [Related Products Grid](#)
- [Save Cart](#)
- [Shipping Control](#)
- [View Cart](#)

### Billing Control

**Location:** */UserControls/Aptify\_Product\_Catalog/BillingControl.ascx*

This control displays the items in a user's shopping cart and allows the user to confirm or change the billing address and to provide credit card information to complete the order. It is used on the BillingPage.aspx page.

### **Cart Grid**

**Location:** */UserControls/Aptify\_Product\_Catalog/CartGrid.ascx*

This control displays the items in a user's shopping cart. It is used on the CheckOut.aspx and ViewCart.aspx pages.

### **Cart Grid 2**

**Location:** */UserControls/Aptify\_Product\_Catalog/CartGrid2.ascx*

This control displays the items in a user's shopping cart. It is used on the BillingPage.aspx page.

### **Change Address**

**Location:** */UserControls/Aptify\_Product\_Catalog/ChangeAddress.ascx*

This control allows a user to change an address in the check out process.

### **Check-Out Control**

**Location:** */UserControls/Aptify\_Product\_Catalog/CheckoutControl.ascx*

This control displays the items in a user's shopping cart and allows the user to confirm or change the shipping address. It is used on the CheckOut.aspx page.

### **Dynamic Products Grid Small**

**Location:** */UserControls/Aptify\_Product\_Catalog/DynamicProductsGridSmall.ascx*

This control renders a set of products with images for features such as Featured Products and Related Products.

### **Edit Address**

**Location:** */UserControls/Aptify\_Product\_Catalog/EditAddress.ascx*

This control allows a user to create a new or modify an existing address record. It is used on the EditAddress.aspx page.

### **Expo Registration**

**Location:** */UserControls/Aptify\_Product\_Catalog/ExpoRegistration.ascx*

This control allows a user to submit booth information and requirements when purchasing an Expo product. It is used on the ExpoRegistration.aspx page.

## Featured Products

**Location:** */UserControls/Aptify\_Product\_Catalog/FeaturedProducts.ascx*

This control displays products which have been set as Featured Products or products which match areas of interests based on the user Topic Of Interests. It is used on the Featured-Products.aspx page.

## Find Product

**Location:** */UserControls/Aptify\_Product\_Catalog/FindProduct.ascx*

This control allows a user to search for a product based on name, description or category. It is used on the FindProduct.aspx page.

## Housing Registration

**Location:** */UserControls/Aptify\_Product\_Catalog/HousingRegistration.ascx*

This control is reserved for future use.

## Items In Cart

**Location:** */UserControls/Aptify\_Product\_Catalog/ItemsInCart.ascx*

This control displays the basic cart information (number of items in cart and order sub-total) of a user's shopping cart in the upper right corner of the site. It is used on the e-Business Site's Default Master page. The following User Control Settings can be configured for this control (see the "Overview of the User Control Web Config File" on page 168 for more details about modifying user control settings):

- **RedirectViewCart:** This setting defines the page to open when a user clicks the quantity link to open the cart. By default, the value is the ViewCart.aspx page.
- **CartItemImage:** This setting defines the location image displayed in the upper right corner of the site.

## Order Summary

**Location:** */UserControls/Aptify\_Product\_Catalog/OrderSummary.ascx*

This control calculates the total amount due, including any taxes or shipping costs, for products in a shopping cart. It is used on the Checkout.aspx and BillingPage.aspx pages.

## Prod Categories

**Location:** */UserControls/Aptify\_Product\_Catalog/ProdCategories.ascx*

This control displays the set of web-enabled, top-level product categories from Aptify's Product Categories entity. This control is used on the Product Catalog's Default.aspx page.



## Prod Listing Grid

**Location:** */UserControls/Aptify\_Product\_Catalog/ProdListingGrid.ascx*

This control displays a grid of web-enabled products linked to a selected product category. It is used on the ProductCategory.aspx page.

## Product

**Location:** */UserControls/Aptify\_Product\_Catalog/Product.ascx*

This control displays information for a selected product. It is used on the Product.aspx page.

## Product Category

**Location:** */UserControls/Aptify\_Product\_Catalog/ProdListingGrid.ascx*

This control displays a grid of web-enabled products linked to a selected product category. It is used on the ProductCategory.aspx page.

## Product Grouping Contents Grid

**Location:** */UserControls/Aptify\_Product\_Catalog/ProductGroupingContentsGrid.ascx*

This control displays a grid of the sub-products contained in a product kit or product grouping. It is used on the Product.aspx page

## Products Sold Together Grid

**Location:** */UserControls/Aptify\_Product\_Catalog/ProductsSoldTogetherGrid.ascx*

This control displays a grid of web-enabled products linked to a selected product at purchase. It is used on the Product.aspx page.

## Product Topic Codes Grid

**Location:** */UserControls/Aptify\_Product\_Catalog/ProductTopicCodesGrid.ascx*

This control displays a grid of the Topic Codes linked to a particular product. It is used on the Product.aspx page.

## Related Products Grid

**Location:** */UserControls/Aptify\_Product\_Catalog/RelatedProductsGrid.ascx*

This control displays a grid of the products related to the current product (via the ProductRelations sub-type entity). It is used on the Product.aspx page.

## Save Cart

**Location:** */UserControls/Aptify\_Product\_Catalog/SaveCart.ascx*

This control allows the user to save the current shopping cart and continue at a later time. It is used on the SaveCart.aspx page.

## Shipping Control

**Location:** */UserControls/Aptify\_Product\_Catalog/ShippingControl.ascx*

This control displays the shipping address to be used during check-out. It is used on the CheckOut.aspx page.

## View Cart

**Location:** */UserControls/Aptify\_Product\_Catalog/ViewCart.ascx*

This control displays a grid of the products currently in the shopping cart. It is used on the ViewCart.aspx page.

## Aptify Surveys

The Aptify Surveys controls are used to manage the surveys and questions that are available through the e-Business Site. The available control in this category are:

### Question Tree

**Location:** */UserControls/Aptify\_Surveys/QuestionTree.ascx*

This control displays a set of questions pertaining to a particular Survey Category from the Aptify Surveys Entity. It is used on the QuestionTree.aspx page.

### Surveys

**Location:** */UserControls/Aptify\_Surveys/Surveys.ascx*

This control displays a set of available Survey Categories. It is used on the Default.aspx page for the Surveys section.

## Aptify Utilities

### Refresh Aptify Cache

**Location:** */UserControls/Aptify\_Utilities/RefreshAptifyCache.ascx*

This control can be used to refresh the e-Business server's cache. See "Refreshing the e-Business Cache" on page 192 for more information.

## Aptify Web Articles

The Aptify Web Articles controls are used to manage web article functionality including displaying a list of articles based on topics of interest. The available controls in this category are:

### Web Article Control

**Location:** */UserControls/Aptify\_Web\_Articles/WebArticleControl.ascx*

This control displays details for a selected Web Article. It is used on the WebArticle.aspx page.

### Web Articles

**Location:** */UserControls/Aptify\_Web\_Articles/WebArticles.ascx*

This control displays a personalized list of Web Articles based on the topics of interest for the user. It is used on the Home.aspx page.

## Aptify Web Services

### Web Services Default

**Location:** */UserControls/Aptify\_Web\_Services/WebServicesDefault.ascx*

This control displays a list of example web services in the sample site. It is used on the Default.aspx page for the Web Services section.

# Chapter 9

## Leveraging the Aptify User Control Generator Wizard

### Introduction

In addition to creating your own custom User Controls for integration with the e-Business 5.5 website, the Aptify 5.5 Application allows seamless integration of any one of the many entities (services) your organization uses and would like deployed as part of the e-Business 5.5 website. Using the *Aptify Entity ASP.NET User Control Generator Wizard*, Aptify will generate the User Control, with all required back-end programming, ready for deployment within your CMS for the specified Entity.

**Note:** This chapter demonstrates this functionality with an example deployment of the **AddressTypes Entity** to an e-Business 5.0 website and CMS integration with Sitefinity 3.7, which will allow users to view and add records in the same manner as when using the Aptify 5.x Application. Note that the User Control Generator behavior is the same for e-Business 5.5 and other Content Management Systems (such as Sitefinity 4), but the specific steps will vary depending on the CMS you are using and its version.

This chapter includes the following sections:

- [Exporting an Entity as a User Control](#)
- [Adding a New Page to e-Business](#)
- [Uploading and Adding the User Controls](#)
- [Confirming the Functionality Integration](#)
- [Modifying the User Control](#)

**Note:** Aptify e-Business provides a framework for integrating with any third-party Content Management Systems which supports User Control imports. However, the examples in this chapter refer to integration with Sitefinity 3.7. Refer to the instructional guides for your specific CMS for information on how to configure your e-Business site with your CMS.

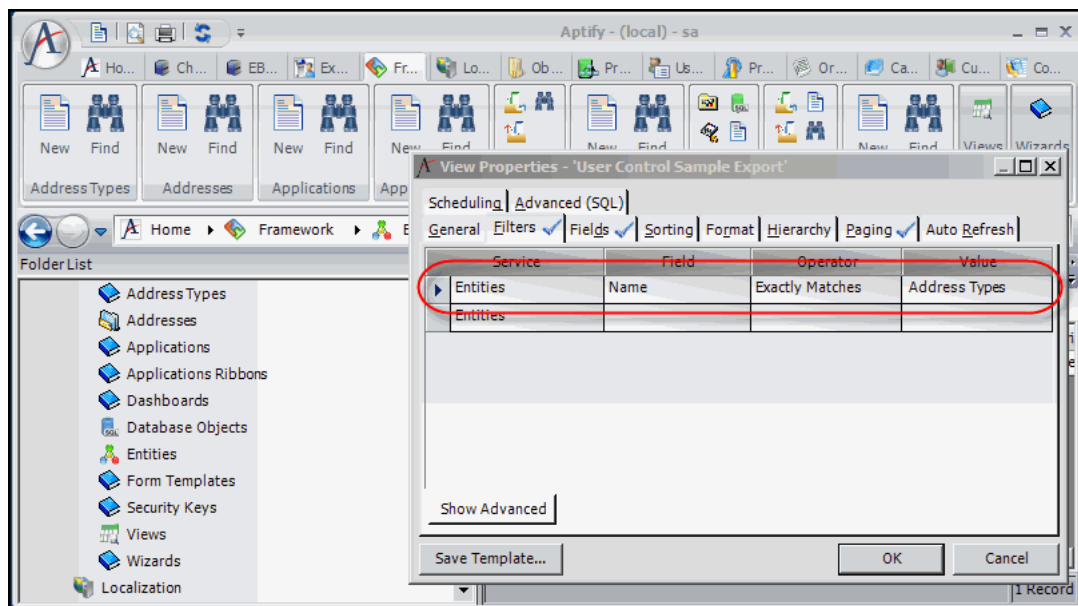
## Exporting an Entity as a User Control

Using the *Aptify Entity ASP.NET User Control Generator Wizard*, Aptify will generate the User Control, with all required back-end programming, ready for deployment within your CMS for the specified Entity.

Follow the steps below to export an Aptify entity as a user control for user with your e-Business site:

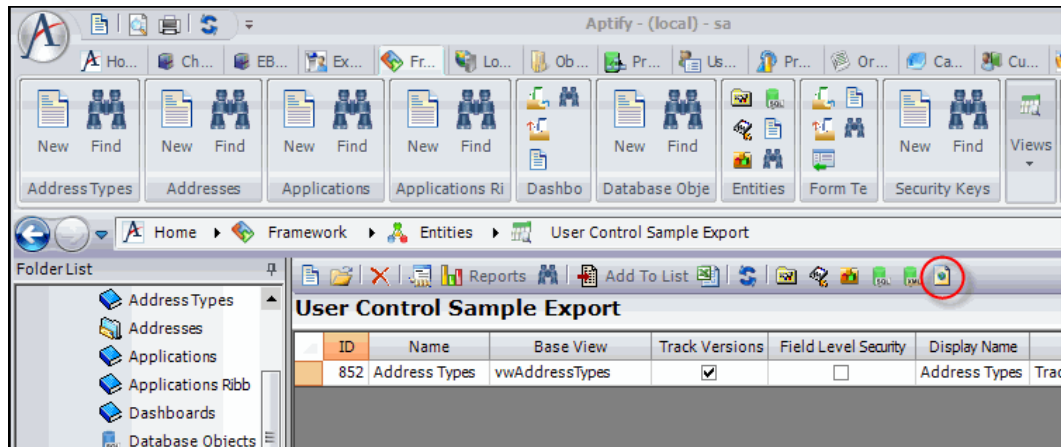
1. The first step of the Generator Wizard process is to decide which entity your organization would like deployed as part of e-Business.
  - In our example, we will export the **AddressTypes Entity**.
2. Create a view for the entity or entities to be exported within the Entities service in the Aptify system.

Figure 9.1  
Create a View  
of Entities to  
be Exported



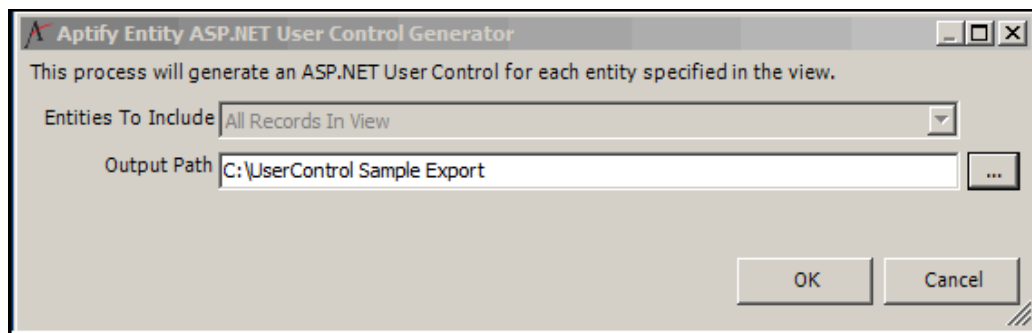
3. Select the **Generate User Control Wizard** button .

Figure 9.2  
Generate User Control Wizard Button



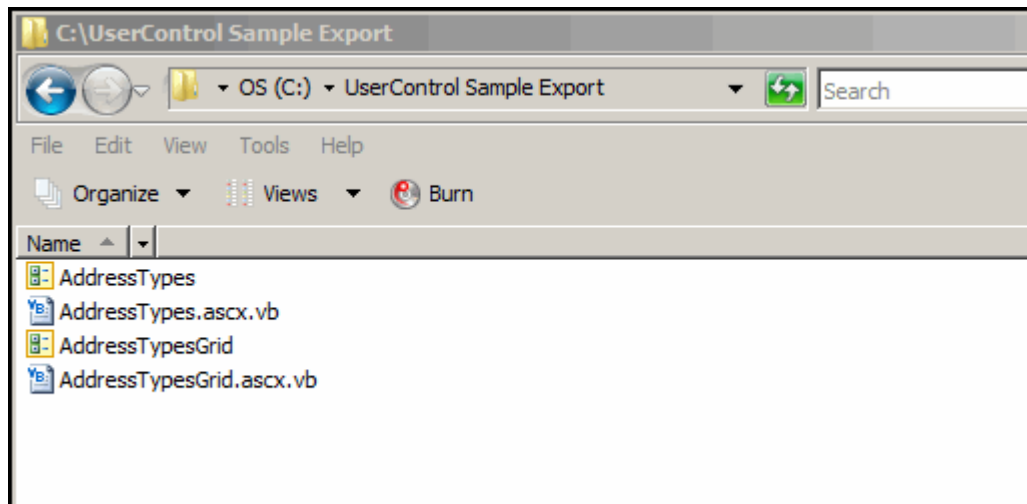
4. Enter the required information for export.
  - **Entities to Include:** This option is pre-selected as *All Records in View*.
  - **Output Path:** The folder location where you want to save the exported user controls.

Figure 9.3  
Enter Output Path for Export



5. Open the folder specified in the **Output Path** to view the User Controls created.

Figure 9.4  
Folder Specified in the Output Path



## Adding a New Page to e-Business

This section illustrates the page setup for the deployment of the exported Entity, for a more detailed explanation on adding new pages, see “Adding a New Page or Site Area” on page 166.

The instructions below are specific to Sitefinity 3.7, please refer to your CMS provider’s instructions for adding new pages to your e-Business site.

1. Open the Sitefinity Project Manager.
2. Select the **Edit** option for the e-Business sample site.
  - Enter the appropriate Username and Password and select **Login**.
3. Select **Pages** from the site management’s navigation bar and select **Create a page**.
4. Provide required information as shown in Figure 9.5.
  - The first page will be used to display a listing of all existing entries for the **AddressTypes** Entity.

Figure 9.5  
Sitefinity - First  
Page to Dis-  
play List of  
Existing  
Entries

The screenshot shows the Sitefinity administration interface for creating a new page. The navigation bar at the top includes 'Dashboard', 'Pages' (circled in red), 'Modules', 'Files', 'Administration', and 'Live Site'. Below the navigation bar, there are 'Site Map' and 'Templates' options. A 'Create a page' button is circled in red. The 'New Page' configuration form is displayed, with the following fields and options:

- Page name \* (?)**: AddressTypesForm.aspx (Note: Cannot contain spaces or special characters. Example: AboutUs)
- Menu label (?)**: AddressTypesForm (Example: About Us)
- Show in navigation (?)**:  Yes,  No
- Page type (?)**:  Normal Page (displays its own content),  Page group (redirects to its first sub-page),  External page (outside Sitefinity)
- Head Content**:
  - Title (?)**: AddressTypesForm
  - Description (?)**: (empty)
  - Keywords (?)**: (empty)(Note: Separate keywords by commas. Example: music, guitar, song. These keywords will be added to the keywords from the template.)
- More options** (security, performance, URLs, head tags)
- Create this page** button

5. Select **Create this page**.



6. Select **Create a page**.
7. Provide required information as shown in Figure 9.6.
  - The second page will be used to display the selected **AddressTypes** record for review/edit or to display a blank form to add a New record.

Figure 9.6  
Sitefinity - Second Page to Review/Edit or Create Records

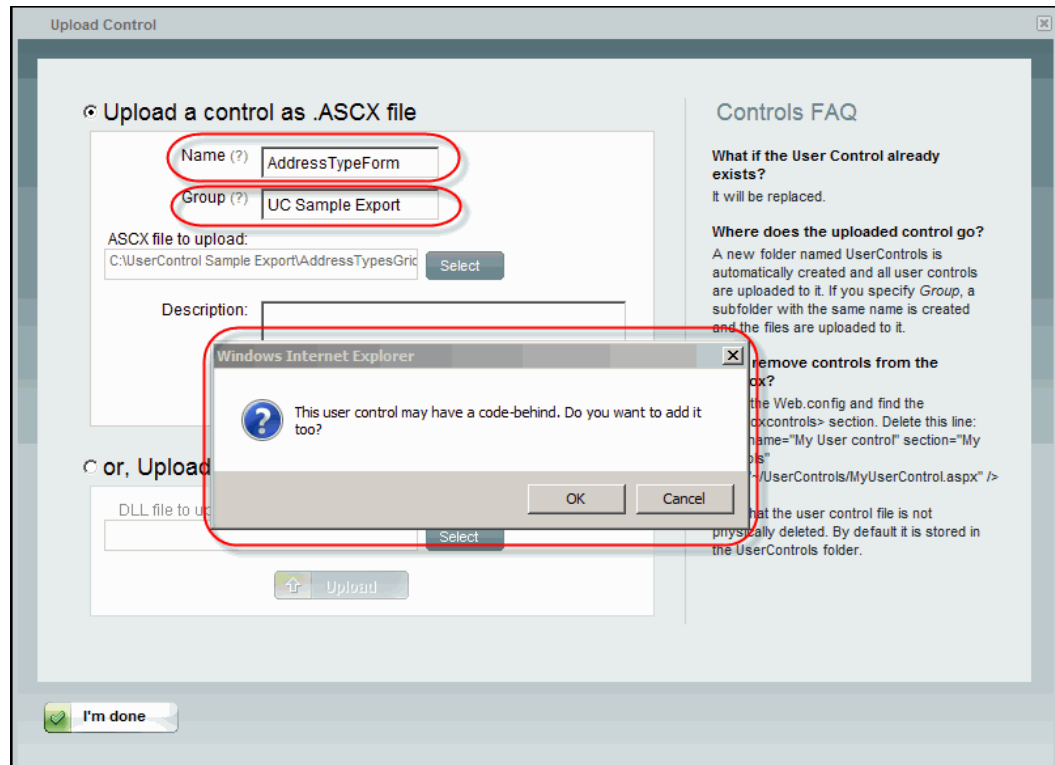
The screenshot shows the 'Create a page' wizard in Sitefinity. The left sidebar contains a 'Site Map' with various pages listed, including 'AddressTypesForm' which is highlighted. Below the site map is a 'Select a page above and:' section with options: 'Set home page', 'Duplicate page', 'Move page up', 'Move page down', and 'Delete'. The main content area is titled 'AddressTypesForm > New Page' and contains the following fields:

- Page name \* (?)**: AddressType.aspx (Note: Cannot contain spaces or special characters. Example: AboutUs)
- Menu label (?)**: AddressType (Example: About Us)
- Show in navigation (?)**:  Yes,  No
- Page type (?)**:  Normal Page (displays its own content),  Page group (redirects to its first sub-page),  External page (outside Sitefinity)
- Head Content**:
  - Title (?)**: AddressType
  - Description (?)**: (Empty text area)
  - Keywords (?)**: (Empty text area)

At the bottom, there is a 'More options' section (security, performance, URLs, head tags) and a 'Create this page' button.

8. Provide a display **Name** and the associated **Group** for the user control.
  - For our example, the first user control's display Name is **AddressTypeForm** and is in the **UC Sample Export Group**.
9. When prompted say **OK** to add the code-behind associated with the User Control.

Figure 9.7  
Uploading a  
User Control  
with Sitefinity



10. Select **Upload** to load the first control and repeat the steps above for the second User Control.
  - For our example, the second user control's display Name is **AddressTypeReview** and is in the **UC Sample Export Group**.

Figure 9.8  
Uploading a  
User Control  
with Sitefinity

**Upload Control**

**Upload a control as .ASCX file**

Name (?)

Group (?)

ASCX file to upload:

Description:

**or, Upload a control as .DLL file**

DLL file to upload:

**Controls FAQ**

**What if the User Control already exists?**  
It will be replaced.

**Where does the uploaded control go?**  
A new folder named UserControls is automatically created and all user controls are uploaded to it. If you specify *Group*, a subfolder with the same name is created and the files are uploaded to it.

**Can I remove controls from the toolbox?**  
Open the Web.config and find the <toolboxcontrols> section. Delete this line:  
<add name="My User control" section="My Controls" URL="~/UserControls/MyUserControl.aspx" />

Note that the user control file is not physically deleted. By default it is stored in the UserControls folder.

11. Select **I'm done** to finish the process and close the form.

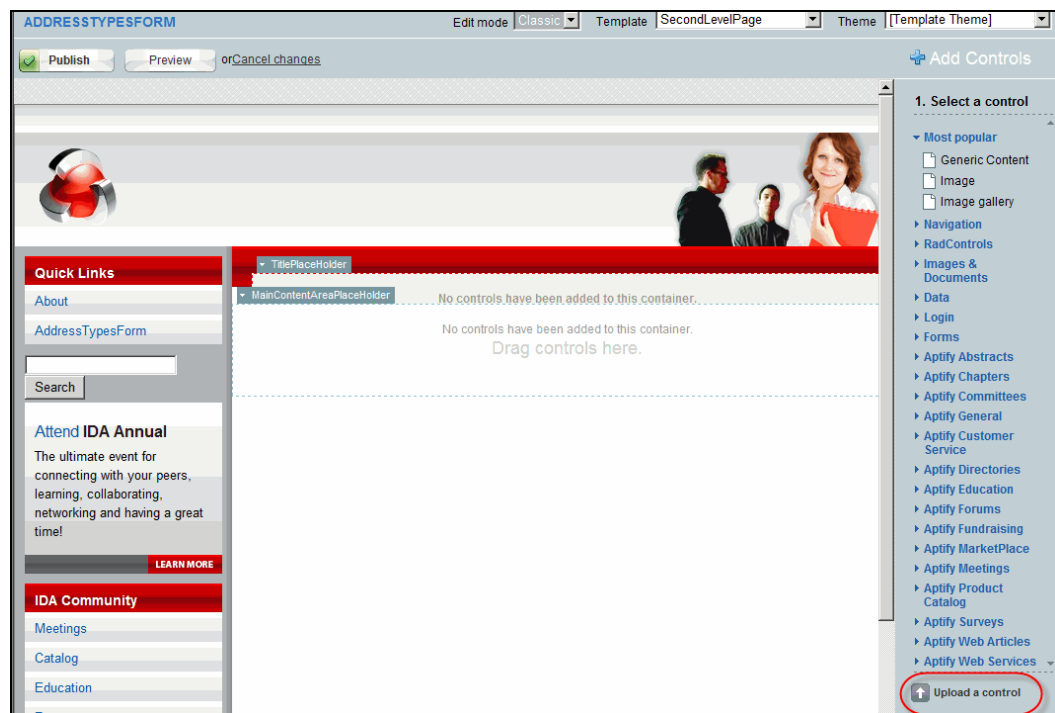
## Uploading and Adding the User Controls

This section illustrates uploading and adding the exported User Controls. For a more detailed explanation on uploading User Controls, please see “User Control Development” on page 168.

**Note:** The instructions below are specific to Sitefinity 3.7, please refer to your CMS provider’s instructions for adding new user controls to your e-Business site.

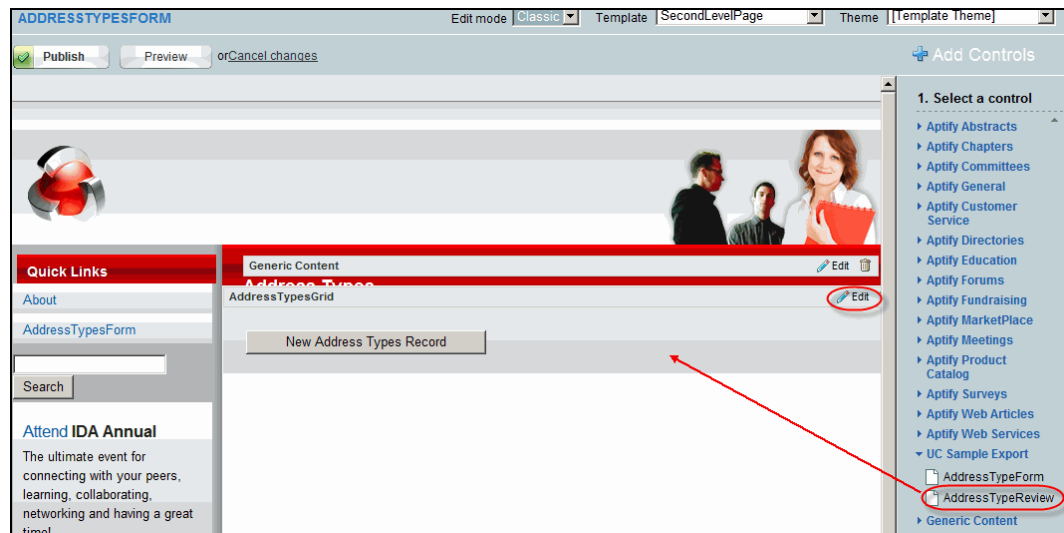
1. Open the Sitefinity Project Manager.
2. Select the **Edit** option for the e-Business sample site.
  - Enter the appropriate Username and Password and select **Login**.
1. Select **Pages** from the site management’s navigation bar and select the **AddressTypes-Form** page.
2. Select **Edit this page**.
3. Select **Upload a control** from the right-hand side of the page.

Figure 9.9  
Uploading a  
Control with  
Sitefinity



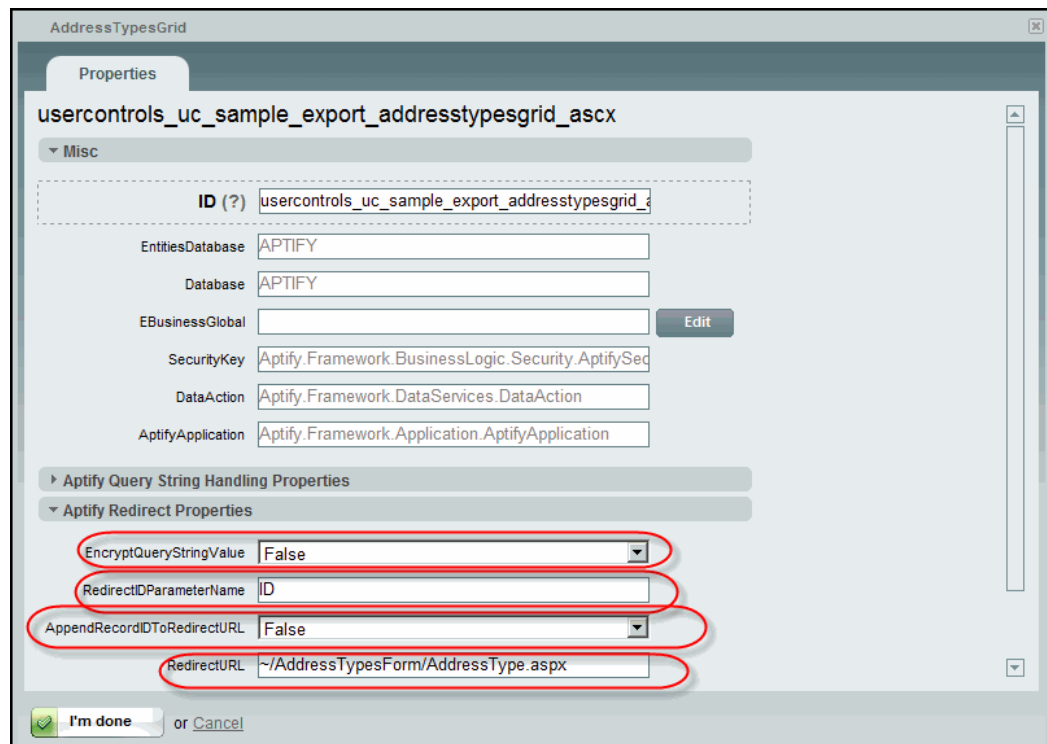
4. Select the **AddressTypeReview** control (the second user control in our example) and add it to the **MainContentPlaceHolder** section and press **Edit** to set the properties of the User Control.

Figure 9.10  
Add the User  
Control to the  
Content section  
with Site-  
finity



5. Select the **Aptify Redirect Properties** section and provide the following information as shown in Figure 9.9

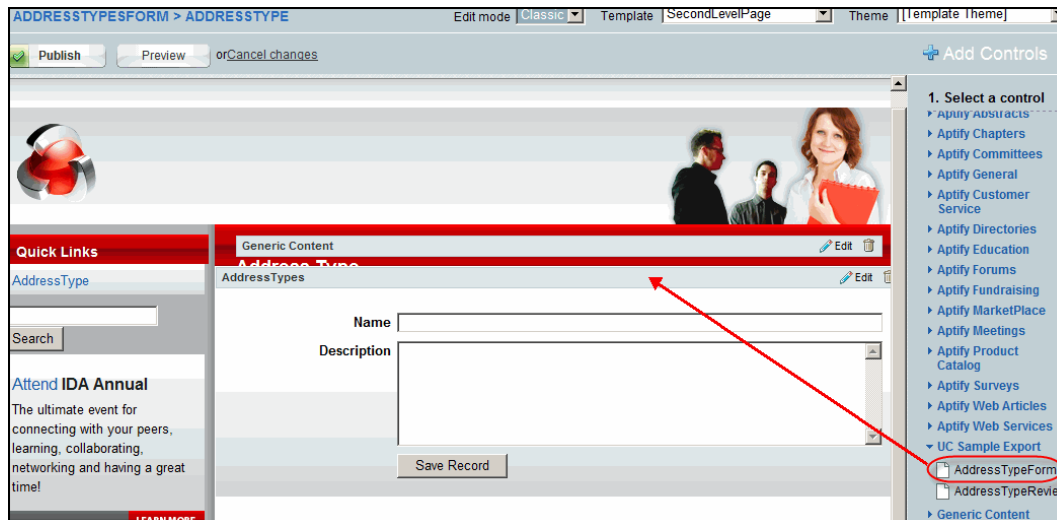
Figure 9.11  
Provide Redi-  
rect Informa-  
tion



6. Select **I'm done**.
7. Select **Publish** to save the page.
8. Open the Content Management Systems's **Pages** section and select the **AddressType** page.

9. Select **Edit this page**.
10. Select the **AddressTypeForm** control and add it to the **MainContentPlaceHolder** section.

Figure 9.12  
Adding A Control to a Page with Sitefinity



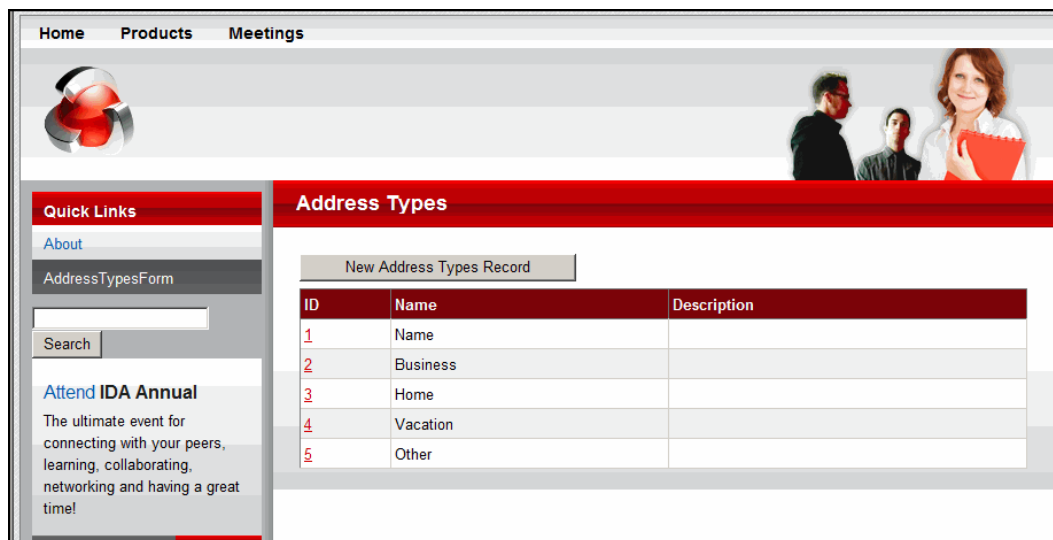
11. Select **Edit** to set the properties of the User Control.
12. Select the **Aptify Redirect Properties** section and provide the following information:
  - **EncryptQueryStringValue:** False
  - **RedirectIDParameterName:** ID
  - **AppendRecordIDToRedirectURL:** False
  - **RedirectURL:** ~/AddressTypesForm.aspx
13. Select **I'm done**.
14. Select **Publish** to save the page.

## Confirming the Functionality Integration

Follow the steps below to confirm that the new user control controls are integrated properly:

1. Navigate to the **AddressTypesForm.aspx** page of your e-Business site.
  - A listing of all AddressTypes is displayed. The user can either select an existing AddressType to edit or select the *New Address Types Record* button to create a new record.

Figure 9.13  
AddressTypes-  
Form.aspx  
Page

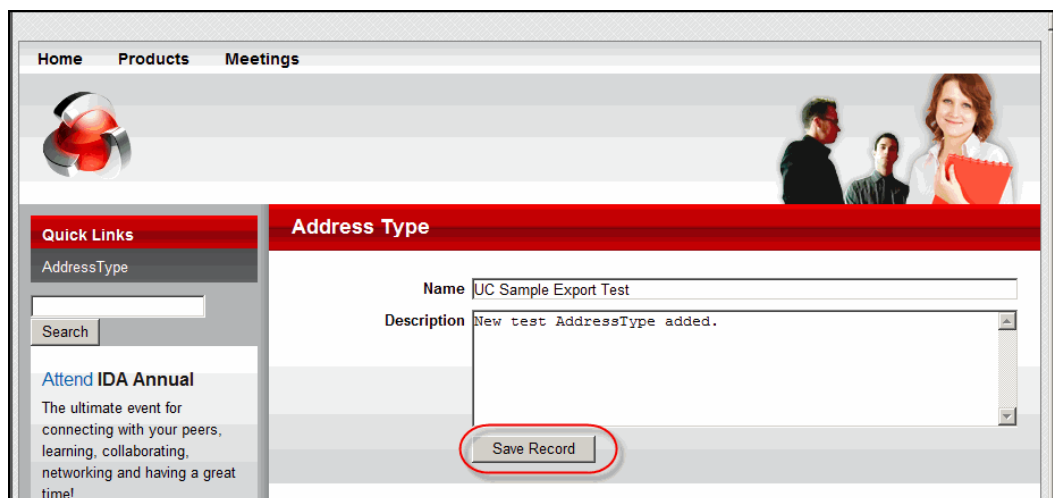


The screenshot shows the AddressTypesForm.aspx page. The page has a navigation menu with 'Home', 'Products', and 'Meetings'. Below the navigation is a header image of three people. The main content area is titled 'Address Types' and contains a 'New Address Types Record' button. Below the button is a table with the following data:

ID	Name	Description
1	Name	
2	Business	
3	Home	
4	Vacation	
5	Other	

2. Select the **New Address Types Record** button.
3. To test the addition of a new AddressType, enter sample data and press the **Save Record** button.

Figure 9.14  
New Address  
Type  
Verification



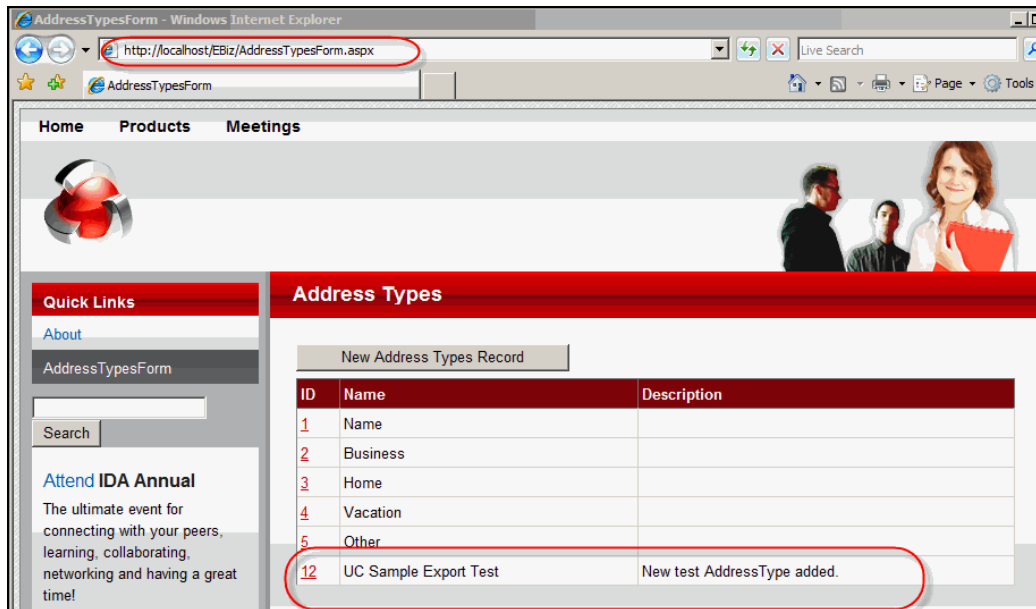
The screenshot shows the Address Type form. The page has a navigation menu with 'Home', 'Products', and 'Meetings'. Below the navigation is a header image of three people. The main content area is titled 'Address Type' and contains a form with the following data:

Name: UC Sample Export Test  
Description: New test AddressType added.

The 'Save Record' button is highlighted with a red circle.

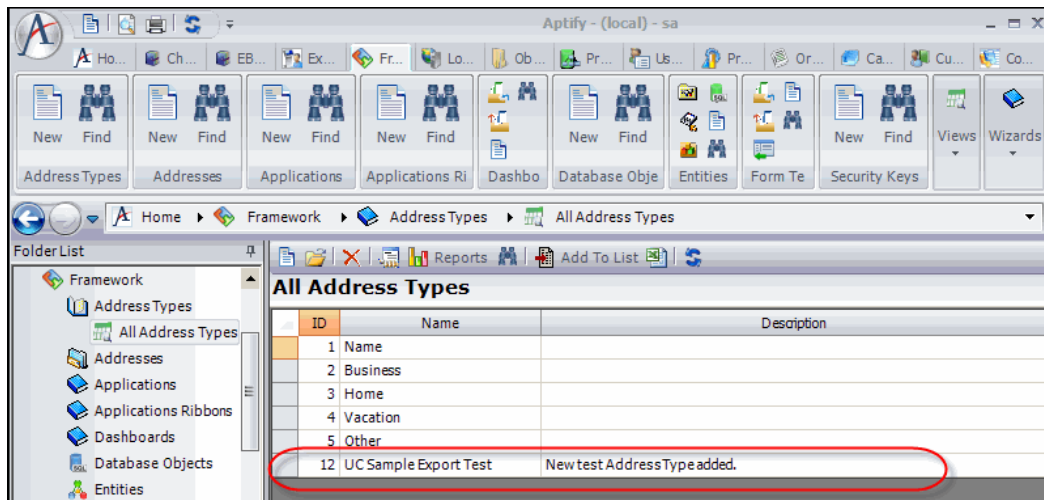
- Verify that the page gets re-directed to the AddressTypesForm.aspx page where all records are displayed including the newly added record.

Figure 9.15  
Verify Page is Re-directed and Displays the New Address Type



- Open Aptify 5.0 to verify that the newly added record has been added through e-Business.

Figure 9.16  
Verify New Address Type is Added to Aptify



- Perform a similar test to verify selecting an existing record and modifying the information through e-Business will results in the changes taken affect in Aptify 5.0.



## Modifying the User Control

The exported entity as a User Control can be opened and modified in Visual Studio, or any other editor, in the same manner as any custom User Control created by your organization or any other User Control provided in the sample website. A common modification is to validate the data being provided when attempting to save. An example would be to modify the code in the Save() method of the AddressTypes.ascx.vb class to reject all AddressTypes which contain the word "Test".

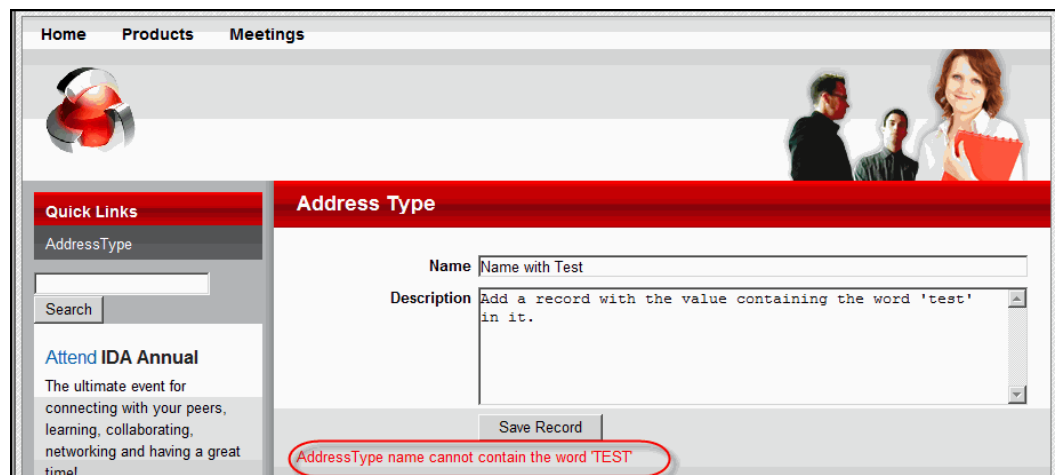
```
If oGE.GetValue("Name").ToString().ToLower().Contains("test") Then
    lbl.Visible = True
    lbl.Text = "AddressType name cannot contain the word 'TEST'."
    bRedirect = False
```

Figure 9.17  
Adding Validation  
to the User  
Control

```
36 End Sub
37 Protected Overridable Sub SaveRecord(ByVal sender As System.Object, ByVal e As System.EventArgs) Han
38 Dim oGE As AptifyGenericEntityBase
39 Dim bRedirect As Boolean = False
40
41 Try
42     If Me.ControlRecordID > 0 Then
43         oGE = AptifyApplication.GetEntityObject("Address Types", Me.ControlRecordID)
44     Else
45         oGE = AptifyApplication.GetEntityObject("Address Types", -1)
46     End If
47
48     Me.TransferDataToGE(oGE)
49
50     If oGE.GetValue("Name").ToString().ToLower().Contains("test") Then
51         lblError.Visible = True
52         lblError.Text = "AddressType name cannot contain the word 'TEST'."
53         bRedirect = False
54     Else If oGE.Save(False) Then
55         bRedirect = True
56     End If
```

Adding the above condition has the following affect on the page's functionality:

Figure 9.18  
User Control  
with Name Val-  
idation



The record saves properly when the word 'Test' is removed from the 'Name' field. Other aspects of the control can also be modified to meet your organization's functional and aesthetic requirements.