# Microsoft SharePoint 2010 Search for Application Developers

| | |
|---|---|
| **Code:** | 10805 |
| **Length:** | 3 days |
| **URL:** | View Online |

This course covers the Search features of the Microsoft SharePoint Server 2010 product for Application Developers. The course provides instruction on developing search solutions with SharePoint Server 2010.

## Skills Gained

After completing this course, students will be able to:

- Explain the SharePoint search architecture and identify search components.

- Crawl and configure SharePoint sites and file shares.

- Create and configure a search site with out of the box search web parts.

- Create and configure federated locations and federated web parts.

- Implement SharePoint search scopes and managed metadata.

- Configure and customize SharePoint linguistic features.

- Create a search web part using the Federated Object Model.

- Create a Query Web Services client to submit a query and retrieve results.

- Create an External Content Type using SharePoint Designer.

- Create a .NET Assembly Connector using Visual Studio 2010.

## Who Can Benefit

This course is intended for application developers and advanced system administrators working in the Enterprise Search area to extend SharePoint Server 2010.

## Prerequisites

Before attending this course, students must have:

- At least two years of experience as a developer for Microsoft Office SharePoint Server 2007 and/or SharePoint Server 2010.

- Understanding of Microsoft Windows Server 2008 and supporting technologies, such as Internet Information Services.

- Experience deploying and configuring Windows Server 2008 and Microsoft SQL Server Technologies.

- Familiarity with creating projects in Microsoft Visual Studio 2010.

- Familiarity with Microsoft .NET programming in Visual Studio 2010.

- Familiarity with Microsoft Windows PowerShell 2.0.

# Course Details

## Outline

Module 1: Processing Data Sources

This module describes the logical and physical components of the crawl architecture and the query architecture for the search system in Microsoft SharePoint Server 2010. The new components enable more redundancy within the server farm and each of the crawl components and query components can be scaled out separately based on the needs of the organization.Microsoft has chosen PowerShell as the scripting language for its Enterprise software. The SharePoint Management Shell in SharePoint Server 2010 provides an extensive set of Windows PowerShell cmdlets that make development, deployment, and administration of SharePoint 2010 easier and more efficient.Understanding how to crawl content is important because, before end-users can use the enterprise search functionality in Microsoft SharePoint Server 2010, you will crawl or federate the content that you want to make available for users to search.
Lessons

- Lesson 1: Search Architecture

- Lesson 2: SharePoint Management Shell

- Lesson 3: Crawling Content

Lab : Crawling Content

After completing this module, you will be able to

- Identify search components and explain the SharePoint Search architecture.

- Effectively work with the SharePoint 2010 PowerShell Management shell.

- Configure and crawl content sources.

Module 2: Configuring Search Sites

This module describes the enhanced Keyword Syntax of Microsoft SharePoint Server 2010 for search. This enhanced syntax now supports both Wildcards and Boolean Operators, all of which help a user find what they are looking for in a more direct and efficient manner.In the second lesson of this module, you are introduced to the components that make up a search site. Understanding how to configure and modify this site is important for you, the SharePoint administrator, since your users will use this site to search across crawled and federated data.The final lesion of this module continues and in-depth look at the specialized web parts for a search site, in particular the Search Core, Search Statistics, Web Analytics, and Best Bets web parts. Additionally a close look at Filter Categories used to filter the contents of a web part. All of these pieces and processes are designed to enhance the search site user's experience.
Lessons

- Lesson 1: Keyword Syntax

- Lesson 2: Introducing the Search Site

- Lesson 3: Search Web Parts

Lab : Configuring a Basic Search Site

After completing this module, you should be able to:

- Construct queries using the SharePoint 2010 Keyword Syntax.

- Layout a search site and work with the search web parts.

- Customize search web parts.

Module 3: Configuring Federation

This module describes how to use and configure Federated search. With Federated search you can display search results for content that is not crawled by your search server. The query can be performed over the local content index, or it can be forwarded to an external content

repository where it is processed by that repository's search engine. The repository's search engine then returns the results to the search server. The search server formats and renders the results from the external repository within the same search results page as the results from the search server's own content index. The use of Federation allows the search administrator to introduce content from selected sites to enhance the user experience.

Lessons

- Lesson 1: Federated Search Basics

- Lesson 2: Creating New Federated Locations

- Lesson 3: Adding Metadata to a Federated Location

- Lesson 4: Security Options

Lab : Configuring Federated Web Parts

After completing this module, you will be able to:

- Understand how Federated Search works in Microsoft SharePoint Server 2010, and how to enable it on your site.

- Create a Federated source using RSS/Atom feeds and how to modify the Results template to display this new source.

- Create additional meta-data to the Federated results display.

- Configure federated search security and site restrictions as well as the configuration of federated search authentication.

Module 4: Scopes and Managed Metadata

This module will cover two common search site extensions Microsoft SharePoint Server 2010 Search Scopes and Managed Metadata.A search scope defines a subset of information in the search index. Users can select a search scope to restrict search results to the subset of information. Typically, search scopes encompass specific topics or content sources that are important and common to users in the organization. For example, you can create a search scope for all items related to a specific project or for all items related to a specific group in the organization, such as finance or marketing. You can also create a search scope that encompasses several other scopes.Managed metadata is a hierarchical collection of centrally managed terms that you can define, and then use as attributes for items in Microsoft SharePoint Server 2010 (for example, Search Scopes).

Lessons

- Lesson 1: SharePoint Search Scopes

- Lesson 2: Managed Metadata

Lab : Scopes and Managed Metadata

After completing this module, you will be able to:

- Implement and configure SharePoint search scopes.

- Implement and configure Managed Metadata using the Taxonomy API.

Module 5: SharePoint Linguistics

The linguistics features of Microsoft SharePoint Server 2010 can greatly improve the effectiveness of your search application, by increasing the recall of documents matching the query, the precision of the documents returned by the query and the relevancy of the documents returned by the query. This module examines how to configure the various linguistics features that are available in SharePoint Server 2010.

Lessons

- Lesson 1: Noise Words, Thesaurus, and Custom Dictionaries

- Lesson 2: Query Suggestions, Nicknames, and Stemming

Lab : SharePoint Linguistics

After completing this module, you should be able to:

- Describe and configure noise words, thesaurus, and a custom word breaker dictionary.

- Describe and configure query suggestions, nicknames, and stemming.

Module 6: Federated Object Model

This module examines the Federated and Query Object Models. All web parts are now built on the Federated Object Model. A federated search is the simultaneous querying of multiple online databases (locations) for the purpose of generating a single search results page for end users.When you add a federated location to Microsoft SharePoint Server 2010, end users can search for and retrieve content that has not been crawled by your server. Federated locations allow queries to be sent to remote search engines and feeds, after which SharePoint Server 2010 formats and renders the results to your end users as part of your crawled content.In the lab you will create a search web part associated with a Federated Location.

Lessons

- Lesson 1: Overview

- Lesson 2: Scenario Walk Through

Lab : Federated Search

After completing this module, you will be able to:

- Explain the difference between the Federated Object Model and the Query Object Model and identify things to consider when

  using the Federated Object Model.

- Create a web part that uses the Federated Object Model and that mixes results from different locations.

Module 7: Creating Custom Search Applications

The Query Web service exposes the SharePoint Enterprise Search capabilities in Microsoft SharePoint Server 2010 to client applications. This enables you to access search results from client and Web applications outside of the context of a SharePoint site. The topics in this module can help you get started using the Query Web service.

Lessons

- Lesson 1: Query Setup

- Lesson 2: Query Submission

Lab : Create a Search Client

After completing this module, you will be able to:

- Explain how the Query Web Service works and create a Query Web Services client with a seach.asmx service reference.

- Select and implement a security model for your Query Web Services client, including how to:

- Structure a query packet.

- Implement the Query XML schema

- Submit a search using QueryService.QueryEx.

- Identify and process different types of query results.

Module 8: Extending Connectors

In some scenarios, you may need to customize the standard connectors provided with Microsoft SharePoint Server 2010 to handle more complex data types and crawling behavior. This module introduces several key features to accomplish these tasks.

Lessons

- Lesson 1: Creating External Content Types

- Lesson 2: Configuring Associations

- Lesson 3: Configuring Incremental Crawls

- Lesson 4: Exporting and Importing

Lab : Creating an External Content Type

After completing this module, you should be able to:

- Create External Content Types with customized data members and operations.

- Configure Associations between ECTs.

- Set up incremental crawls to improve crawl performance.

- Export and import ECTs to handle manual edits to the data model.

Module 9: Creating Custom Connectors
When the level of desired customization of connectors exceeds what can be accomplished with external content types and Microsoft SharePoint Designer 2010, it is time to consider creating through code an entirely new connector. This module introduces several key tools to accomplish this task.
Lessons

- Lesson 1: Key Concepts

- Lesson 2: Creating a .NET Assembly Connector

Lab : .NET Connectors

After completing this module, you will be able to:

- Describe connector authoring methods available within Business Connectivity Services.

- Create, deploy, and test a Microsoft .NET Assembly Connector.

# Schedule (as of 3 )

**Date** **Location**