



Course 50478B:

SharePoint 2010 Advanced Foundation Development

Course Length:

5 Days

Overview

This 5-day Instructor led, group-paced, classroom-delivery learning model with structured hands-on activities. This course focuses on SharePoint Foundation 2010 fundamental building blocks such as features, application pages, site pages, Web Parts, custom list types, site columns, content types, custom workflows and site definitions. Other advanced topics include extending the Ribbon and writing custom Service Applications.

Target Student

This course is intended for anyone looking to develop SharePoint customizations at a core level. This includes event handlers, features, site definitions, web parts, timer jobs and workflows!

Objectives

After completing this course, students will be able to:

Learn to extend many of the core features that SharePoint Foundation provides. These include event handlers, site definitions, features, solutions and web parts!

Prerequisites

Before attending this course, students must have:

Attendees should have professional development experience with Visual Studio 2010, the .NET 3.0 Framework and ASP.NET 2.0. Attendees should also be familiar with Microsoft Office products such as Word, Excel and InfoPath.

Course Outline

Module 1: Overview

A simple introduction module.

Lab : Foundation Site Definitions

Create one of each SharePoint Foundation site

After completing this module, students will be able to:

Understand your course, classroom, classmates, facility and instructor.

Module 2: Collaboration Experience

In this module we take a look at the new features introduced in SharePoint 2010 from a collaboration and UI perspective.

Lessons

New SharePoint Features

Lab : User interface

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Understand UI Improvements

Use the Create Page

Explore the Ribbon

After completing this module, students will be able to:

Describe the new UI features of SharePoint 2010

Understand how the Ribbon works

Module 3: Object Model

In this model we explore the SharePoint Server programming model. We will explore several basic SharePoint assemblies and classes.

Lessons

Debugging SharePoint

Server Object Model

Lab : Object Model

Create applications using the Server Object Model

Create in-context ASP.NET Web Application

Create out of context Windows Application

Lab : Debugging SharePoint

Learn to Debug SharePoint via Log Files

Learn to Debug Via Visual Studio

Log to the SharePoint log File

Lab : Developer Dashboard

Enable Developer Dashboard

Lab : SharePoint Web Development

Adding Application Pages (Bin and Gac deployment) [_layouts]

Adding Site Pages [content database]

After completing this module, students will be able to:

How to create applications using the Server Object Model

Understand the basic SharePoint assemblies

Be able to search and find SharePoint classes and methods

Be able to debug code with custom ULS Logging

Understand how to test web page performance with Developer Dashboard

Module 4: Client Object Model

In this module we will explore the various Client Object Models. This includes the Client (.NET), ECMAScript and Silverlight Object Models.

Lessons

Silverlight Object Model

Client Object Model

ECMA Object Model

Lab : Client Object Model

Explore Client Object Model

Utilize Client Object Model (.NET)

Lab : ECMA Script

JavaScript Object Model

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Lab : Silverlight

Utilize Silverlight Object Model

After completing this module, students will be able to:

Describe and use the Client Object Model

Describe and use the JavaScript Object Model

Describe and use the Silverlight Object Model

Module 5: SharePoint Permissions

In this module we take a look at SharePoint permissions. We will explore the default groups, how SharePoint gets usernames and groups from an authentication system, as well as what type of permissions we can assign to those users and groups. We will explore setting up custom permission levels and how permissions are inherited. We will follow that up with SharePoint Security Trimming!

Lessons

SharePoint Security

Lab : SharePoint Permissions

Add Users Programmatically

Add Groups Programmatically

Create Permissions Levels programmatically

Set inheritance programmatically

Lab : Security Trimmed Interface

Use the SharePoint SPSecurityTrimmedControl to hide content and controls

Lab : SPSecurity

Write code to elevate privileges

After completing this module, students will be able to:

Describe where usernames and domain groups come from

What a permission level is

How to assign permissions to a user or group

What it means to say permissions are cumulative

Why SharePoint has no deny

How to use the SPSecurityTrimmed control

How to programmatically set permission on SharePoint objects

Module 6: Authentication with Custom and Claims

In this module we will explore how to setup Forms based authentication, how claims based authentication works and how to use the Secure Store Service in our own applications.

Lessons

Secure Store Service

Custom Authentication

Claims Based Authentication

Lab : Custom Authentication

Change the default Authentication Method of SharePoint to use a custom

MembershipProvider

Lab : Claims Based Auth

Programming with Claims

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Creating custom claims provider

Lab : Secure Store Programming

Learn how to Configure Secure Store

Program web parts to use Secure Store

After completing this module, students will be able to:

Setup Forms based authentication in SharePoint 2010

How to create a Claims based authentication system

Program Secure Store applications

Module 7: Features and Solutions

In this module we explore Features and Solutions.

Lessons

Features

Lab : Creating Features

Learn to create a Feature.xml file

Learn to create an Elements.xml file

Install features with STSADM and PowerShell

Create a custom action feature

Lab : Feature Dependencies

Implement Feature Dependencies

Lab : Feature Sequences

Implement Feature Sequences

Lab : Features with Visual Studio

Various Feature Types (List, Module, Content Type)

Implement Feature Event Receivers

Implement Feature Stapling

Lab : Solutions

Advanced Solution concepts

Lab : Custom Deployment Steps

Create a Custom Deployment Step

After completing this module, students will be able to:

What can be deployed as features

How to create several types of features

How to package your features into Solutions

Advanced Solution packaging techniques

Module 8: Sandboxed Solutions

In this module we are going to take a look at SandBaxed Solutions, Solution validators and Full Trust Proxies.

Lessons

Sandboxed Solutions

Lab : Sandboxed Solutions

Explore Sandboxed Solutions

Create and Test Sandboxed Solutions

Explore Limitations of Sandbox Solutions

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Configure Sandbox Points

Lab : Solution Validators

Create and Deploy a Solution Validator

Lab : Full Trust Proxy

Create and Deploy a Full Trust Proxy

After completing this module, students will be able to:

How to create a SandBoxed Solution

What the limitations are of SandBoxed Solutions

What Resource Measures are and how to modify them

How to create Solution Validators

How to create Full Trust Proxies

Module 9: Web Services

In this module we explore the web services that come out of the box with SharePoint.

Lessons

Web Services

Lab : Foundation Web Services 2007

Learn to find SharePoint Web Service

Add reference to SharePoint Web Service

Program to several of the Web Service Interfaces

After completing this module, students will be able to:

Find and describe the various SharePoint Web Services

Be able to consume SharePoint Web Services in custom applications

Module 10: LINQ and REST

In this module we are going to take a look at the new REST and LINQ features of SharePoint 2010.

Lessons

REST

LINQ

Lab : REST

Utilize REST Services

REST Service Reference

REST List Service Calls (PUT, GET)

REST Excel Service

Lab : LINQ

LINQ Introduction

Utilize LINQ For SharePoint

Use SPMetal.exe

After completing this module, students will be able to:

How to use REST Services

How to generate and use LINQ

Module 11: Web Parts

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In this module we explore Web Parts. We will take a look at basic web parts and then transition to more complex topics like Tool Parts and Web Part Connections.

Lessons

Web Parts

Lab : Manual Web Part

Learn how to create a basic web part

Learn how to deploy a web part manually in the development environment

Lab : Visual Studio Web Part

Use Visual Studio to Create Web Parts

Learn how to create web parts that interface with SharePoint Object Model, Databases, and Web Services

Implementing Web Part Tool Parts

Lab : Web Parts Connections

Create ASP.NET Web Part connections

Lab : Asynchronous Web Parts

Synchronous Vs. Asynchronous Web Parts

After completing this module, students will be able to:

Describe how web parts work

Create web parts with connections

Create web parts with Tool Parts

Design and develop asynchronous web parts

Module 12: Custom Site Definitions

In this module we explore Site Definitions and Collaborative Markup Language (CAML).

Lessons

Site Definitions

Lab : Custom Site Definitions

Create a new Site Definition (Manually)

Create a new Site Definition (Visual Studio)

After completing this module, students will be able to:

Know CAML when you see it!

Understand what a site definition is and how to modify it

How to create custom site definitions manually and with Visual Studio

How to add branding via site definitions

Module 13: Content Types

In this module we explore content types, content type lineage and content type hubs.

Lessons

Content Types

Lab : Content Types

Explore Content Types

Create A New Content Type

Document Information Panels

Default Workflows

Adding Content Types To Lists (Document Library)

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Lab : Content Types Lineage

Content Type Inheritance/Lineage

Lab : Content Type Hub

Configure Content Type Hub

Configure Content Type Publishing

After completing this module, students will be able to:

Understand and describe content types and their properties

Be able to create content types

Understand Content Type Lineage

Understand how to setup Content Type Hubs

Module 14: Custom Field Types

In this module we explore how to create your own column types for your lists. SharePoint calls these Custom Field Types.

Lessons

Field Types

Lab : Custom Field Types

Create A Custom Field Type (Regular Expression)

Create A Custom Field Type (User Control)

After completing this module, students will be able to:

Understand and describe Custom Field Types

Be able to create custom field types with and without a UI

Module 15: Events and TimerJobs

In this module we will explore SharePoint Events and how to create and assign them to lists and sites. We will also explore how to create custom Timer Jobs to implement your own monitoring applications.

Lessons

SharePoint Timer Jobs

SharePoint Events

Lab : SharePoint Events

Create an Event Handler feature

Programmatically assign an Event Handler

Lab : Custom Timer Job

Create a custom Timer Job

Lab : SharePoint Events Encrypt

Create an Event Handler feature that encrypts documents

After completing this module, students will be able to:

Understand and describe SharePoint Events

Understand and describe SharePoint Timer Jobs

Be able to create and deploy SharePoint Events

Be able to create and deploy SharePoint Timer Jobs

Module 16: Service Applications

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In this module we are going to take a look at Service Applications that come out of the box with SharePoint and how to build your own service applications.

Lessons

Service Applications

Lab : Custom Service Applications

Create and Deploy a Custom Service Application

After completing this module, students will be able to:

Describe Service Applications

Understand how the Service Application architecture works

Create and install custom Service Applications

Module 17: Workflows With SharePoint Designer

In this module we are going to take a look at implementing workflows with SharePoint Design-er 2010.

Lessons

Workflows

Lab : Custom Activities

Create a custom workflow activity for SharePoint Designer

Lab : Custom Conditions

Create a custom condition for SharePoint Designer

After completing this module, students will be able to:

Describe SharePoint Designer workflows

Understand what a looping workflow is

Understand common workflow patterns

Build custom actions for SharePoint Designer

Build custom conditions for SharePoint Designer

Implement logging in your workflows

Module 18: Workflows With Visual Studio

In this module we will explore how to use Windows Workflow Foundation to create highly customized and reusable workflows.

Lessons

Visual Studio Workflows

Lab : Custom Visual Studio Workflow

Create a custom workflow using Visual Studio

After completing this module, students will be able to:

How to create custom workflows with Visual Studio

Module 19: Business Connectivity Services

In this module we are going to take a look at the new Business Connectivity Services.

Lessons

Business Connectivity Services

Lab : BCS

Explore External Content Types

Create a new External Content Type

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Create an External List

Lab : BCS Connectors

Create a custom BCS .NET Connector

After completing this module, students will be able to:

Understand how BCS works

How to build new BCS applications

How to Upgrade your older BDC applications

How to create BCS Connectors

Module 20: Extending the User Interface

In this module we are going to take a look at extending the new Ribbon and how to work with the new Dialog platform.

Lessons

Extending the Ribbon

Dialogs

Lab : Extending the Ribbon

Extend the SharePoint Ribbon

Lab : Creating Dialogs

Utilize the UI Dialog Platform

After completing this module, students will be able to:

Understand how to extend the SharePoint UI

Customize and extend the Ribbon

Create custom Dialogs