

MOC 20488 B Developing Microsoft SharePoint Server 2013 Core Solutions

Course Summary

Description

In this course, students learn core skills that are common to almost all SharePoint development activities. These include working with the server-side and client-side object models, developing and deploying features, solutions, and apps, managing identity and permissions, querying and updating list data, managing taxonomy, using workflow to manage business processes, and customizing the user interface.

Objectives

At the end of this course, students will be able to:

- Design and manage features and solutions.
- Develop code for custom server-side components.
- Manage and customize authentication and authorization.
- Create custom sites and lists and manage the site lifecycle.
- Explain the capabilities and design choices for SharePoint apps.
- Use the client-side object model and the REST API.
- Develop provider-hosted and auto-hosted SharePoint apps.
- Distribute and deploy SharePoint apps.
- Create custom workflows to automate business processes.
- Use fields and content types to manage taxonomy.
- Customize the appearance and behavior of user interface elements.
- Customize navigation and site branding.

Topics

- SharePoint as a Developer Platform
- Working with SharePoint Objects
- Working with Lists and Libraries
- Designing and Managing Features and Solutions
- Working with Server-Side Code
- Managing Identity and Permissions
- Managing Custom Components and Site Lifecycles
- Introducing Apps for SharePoint
- Client-Side SharePoint Development
- Developing Remote Hosted SharePoint Apps
- Publishing and Distributing Apps
- Automating Business Processes
- Managing Taxonomy
- Customizing User Interface Elements
- Working with Branding and Navigation

Audience

The course is intended for professional developers who develop solutions for SharePoint products and technologies in a team-based, medium-sized to large development environment. While some familiarity with SharePoint solution development is required, candidates are not expected to have prior experience with the new features in SharePoint Server 2013.

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Course Summary (cont'd)

The ideal candidate is a technical lead with at least four years of SharePoint and web development experience. The candidate is responsible for designing custom code for projects that are deployed to or interact with SharePoint environments. This includes:

- Selecting an appropriate approach and building customizations in SharePoint.
- Creating and implementing a strategy for solution packaging, deployment, and upgrading.
- Identifying SharePoint data and content structures for customizations.
- Performing diagnostics and debugging.
- Planning and designing applications for scalability and performance.
- Identifying and mitigating performance issues of customizations.
- Understanding authentication and authorization.
- Experience with Windows PowerShell.
- Broad familiarity with SharePoint capabilities.
- Familiarity with Online Services such as Azure and SharePoint Online.

Prerequisites

Before attending this course, students must have::

- A working knowledge of using Visual Studio 2010 or Visual Studio 2012 to develop solutions.
- A basic working knowledge of SharePoint solution development, either in SharePoint 2013 or in earlier versions of SharePoint.
- A working knowledge of Visual C# and the .NET Framework 4.5.
- A basic understanding of ASP.NET and server-side web development technologies, including request/response and the page lifecycle.
- A basic understanding of AJAX and asynchronous programming techniques.
- A basic working knowledge of client-side web technologies including HTML, CSS, and JavaScript.
- Familiarity with approaches to authentication and authorization, including claims-based authentication.

Duration

Five days

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Course Outline

I. SharePoint as a Developer Platform

This module examines different approaches that can be used to develop applications with SharePoint Server 2013 the scenarios in which each approach might be appropriate.

- A. Introducing the SharePoint Developer Landscape
- B. Choosing Approaches to SharePoint Development
- C. Understanding SharePoint 2013 Deployment and Execution Models

Lab : Comparing Web Parts and App Parts

- Creating and Deploying a SharePoint Web Part
- Creating and Deploying a SharePoint App Part

II. Working with SharePoint Objects

This module introduces the server-side SharePoint object model and how the core classes relate to sites and collections. The server-side SharePoint object model provides a core set of classes that represent different items in the logical architecture of a SharePoint deployment. Students also learn how manage permissions for server-side code.

- A. Understanding the SharePoint Object Hierarchy
- B. Working with Sites and Webs
- C. Working with Execution Contexts

Lab : Working with Sites and Webs

- Working with Sites and Webs in Managed Code
- Working with Sites and Webs in Windows PowerShell.

Lab : Working with Execution Contexts

- Running Code with Elevated Privileges
- Adapting Content for Different User Permissions

III. Working with Lists and Libraries

This module explains how to interact with lists and libraries. Students learn about how to work with lists and libraries programmatically using the server-side SharePoint object model and how to use query classes and LINQ to SharePoint to query and retrieve data from SharePoint lists. Student also learn how to efficiently work with lists that contain large numbers of items.

- A. Using List and Library Objects
- B. Querying and Retrieving List Data

- C. Working with Large Lists

Lab : Querying and Retrieving List Data

- Querying List Items
- Updating List Items

Lab : Working with Large Lists

- Using the ContentIterator Class

IV. Designing and Managing Features and Solutions

This module examines creating and deploying custom Developing a SharePoint solutions and features. The students also learn how and when to use sandbox solutions.

- A. Working with Features
- B. Deploying Solutions
- C. Working with Sandboxed Solutions

Lab : Working with Farm Solutions

- Create a Farm Solution
- Create a Feature
- Upgrade a Solution

Lab : Working with Sandboxed Solutions

- Create a Solution Validator

V. Working with Server-Side Code

This module describes how to develop and deploy Web Parts and event receivers in a solution.

- A. Developing Web Parts
- B. Using Event Receivers
- C. Using Timer Jobs
- D. Storing Configuration Data

Lab : Working with Server-Side Code

- Developing an Event Receiver
- Updating a Web Part
- Creating a Timer Job

VI. Managing Identity and Permissions

This module describes how manage permissions through code and customize authentication using custom claims providers.

- A. Understanding Identity Management in SharePoint 2013
- B. Managing Permissions in SharePoint 2013
- C. Configuring Forms-Based Authentication
- D. Customizing the Authentication Experience

Lab : Managing Permissions Programmatically in SharePoint 2013

- Managing List Permissions Programmatically

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Course Outline (cont'd)

Lab : Creating and Deploying a Custom Claims Provider

- Creating a Custom Claims Provider
- Supporting Search and Resolve in a Claims Provider
- Deploying and Testing a Claims Provider

VII. Managing Custom Components and Site Lifecycles

This module discusses planning and organizing sites and lists. The students also learn how to create custom component definitions and templates.

- Component Overview
- Defining Custom Lists
- Defining Custom Sites
- Managing SharePoint Sites

Lab : Managing Custom Components and Site Lifecycles

- Creating a Site Definition
- Creating a List Definition
- Developing an Event Receiver

VIII. Introducing Apps for SharePoint

This module introduces the SharePoint App, a new way to customize SharePoint functionality with SharePoint Server 2013.

- Overview of Apps for SharePoint
- Developing Apps for SharePoint

Lab : Creating a Site Suggestions App

- Creating a New SharePoint App
- Using the Client-Side Object Model

IX. Client-Side SharePoint Development

This module describes how to use JavaScript Client Object Model (CSOM), managed code CSOM and the REST API to build SharePoint Apps.

- Using the Client-Side Object Model for JavaScript
- Using the REST API with JavaScript

Lab : Using the REST API with JavaScript

- Creating List Relationships
- Add Vote Recording
- Display Votes for Each Suggestion

X. Developing Remote Hosted SharePoint Apps

This module examines the difference between provider hosted Apps and Remote Hosted Apps. The students will also create and deploy a Provider Hosted App.

- Overview of Remote Hosted Apps
- Configuring Remote Hosted Apps
- Developing Remote Hosted Apps

Lab : Configuring a Provider Hosted SharePoint App

- Configuring An Server to Server Trust Relationship
- Creating a Provider Hosted App

Lab : Developing a Provider Hosted SharePoint App

- Working with SharePoint Data
- Using the Chrome Control

XI. Publishing and Distributing Apps

This module introduces the App Catalog so users to locate, purchase, and install apps easily. The students learn how to package and publish Apps to the App Catalog.

- Understanding the App Management Architecture
- Understanding App Packages
- Publishing Apps
- Installing, Updating, and Uninstalling Apps

Lab : Publishing an App to a Corporate Catalog

- Creating an App Catalog
- Creating an App Package
- Publishing an App Package

Lab : Installing, Updating, and Uninstalling Apps

- Installing an App
- Upgrading an App
- Removing an App

XII. Automating Business Processes

This module explains how to create workflows and workflow actions using Visio 2013, SharePoint Designer 2013 and Visual Studio 2012.

- Understanding Workflow in SharePoint 2013
- Building Workflows by using Visio 2013 and SharePoint Designer 2013
- Developing Workflows in Visual Studio 2012

Lab : Building Workflows in Visio 2013 and SharePoint Designer 2013

- Creating Workflows by Using Visio
- Editing Workflows by Using SharePoint Designer

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Course Outline (cont'd)

Lab : Creating Workflow Actions in Visual Studio 2012

- Creating Custom Workflow Actions
- Using a Custom Workflow in SharePoint Designer

XIII. Managing Taxonomy

This module explains the importance of a good taxonomy in SharePoint and working with the components of the taxonomy. The students also see how to tie event receivers to the taxonomy.

- A. Managing Taxonomy in SharePoint 2013
- B. Working with Content Types
- C. Working with Advanced Features of Content Types

Lab : Working with Content Types

- Create a System to Capture Vacation Requests

Lab : Working with Advanced Features of Content Types

- Creating an Event Receiver Assembly
- Registering an Event Receiver with a Site Content Type

XIV. Customizing User Interface Elements

This module explains different ways of customizing the SharePoint user interface, such as adding buttons to the ribbon or modifying the appearance of list views.

- A. Working with Custom Actions
- B. Using Client-Side User Interface Components
- C. Customizing the SharePoint List User Interface

Lab : Using the Edit Control Block to Launch an App

- Configuring an App to Display Customer Orders
- Use a Custom Action to Launch an App

Lab : Using jQuery to Customize the SharePoint List User Interface

- Creating a Custom List View

XV. Working with Branding and Navigation

This module explains the changes in SharePoint Server 2013 to branding, designing, publishing and navigating sites. The students also learn how to create devise independent sites standard web technologies, such as HTML, CSS, and JavaScript.

- A. Creating and Applying Themes
- B. Branding and Designing Publishing Sites
- C. Tailoring Content to Platforms and Devices
- D. Configuring and Customizing Navigation

Lab : Branding and Designing Publishing Sites

- Creating SharePoint Master Pages
- Building Master Page Functionality
- Publishing and Applying Design Assets

Lab : Configuring Farm-Wide Navigation

- Creating a Custom Site Map Provider