

# Developing Microsoft SharePoint Server 2016 Core Solutions

## Developing Microsoft SharePoint Server Course Overview

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Learn how to Developing Microsoft SharePoint Server 2016 Solutions, SharePoint-hosted add-ins using JavaScript, jQuery and the AngularJS framework with Developing Microsoft SharePoint Server 2016 Solutions training. The candidates would get the chance to meet the industry expert trainers, who will make them understand how to develop provider-hosted SharePoint add-ins using server-side C# and the ASP.NET MVC framework. Moreover, Developing Microsoft SharePoint Server 2016 Solutions course has been designed by Microsoft to insight the candidates on Visual Studio to reinforce the concepts and techniques so that they would be able to deploy SharePoint 2016 apps, use the client-side object model and the REST API, manage the site lifecycle, manage features and solutions of SharePoint 2016, etc.

**After completing Developing Microsoft SharePoint Server 2016 Training the candidates would be able to:**

- Understand how to develop as well as manage features and solutions for SharePoint 2016
- Develop custom sites and lists and manage the site lifecycle
- Develop code for the custom server-side components as well as provider-hosted and auto-hosted SharePoint apps
- How to design choices for SharePoint apps
- Understand how to use the fields and content types to manage taxonomy
- How to use the client-side object model and the REST API
- Develop an ability to implement the Visual Studio to reinforce the concepts and techniques

## Prerequisite

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The candidates should have working experience of C#, MVC , HTML 5 etc.

## Target Audience

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The Developing Microsoft SharePoint Server 2016 Solutions training is suitable for the candidates such as: professional developers and technical leaders of solutions, who all are using SharePoint products as well as technologies in a team-based, medium-to-large deployment environment.

## Developing Microsoft SharePoint Server Course Content

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### Module 1: Getting Started with SharePoint Server 2016

This module examines different approaches that can be used to develop applications with SharePoint Server 2016 the scenarios in which each approach might be appropriate. You will also be introduced to a set of tools that are often used during SharePoint development.

Lessons:

- Introducing the SharePoint Developer Landscape
- Choosing Approaches to SharePoint Development
- Understanding SharePoint 2016 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

After completing this module, students will be able to:

- Describe the opportunities for developers in SharePoint Server 2016.
- Choose appropriate execution models for custom SharePoint components.
- Choose appropriate deployment models for custom SharePoint components.

### Module 2: 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.

#### Lessons

- Understanding the SharePoint Object Hierarchy
- Working with Sites and Webs
- 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

After completing this module, students will be able to:

- Explain the purpose of key classes in the server-side SharePoint object model.
- Programmatically interact with SharePoint site collections and sites.
- Adapt solutions for users with different levels of permissions.

### **Module 3: 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.

#### Lessons

- Using List and Library Objects
- Querying and Retrieving List Data
- Working with Large Lists
- Defining Custom Lists
- Working with Content Types

#### Lab: Querying and Retrieving List Data

- Querying List Items Updating List Items

#### Lab : Working with Large Lists

- Using the ContentIterator Class

#### Lab: Working with Content Types

- Create a System to Capture Vacation Requests

After completing this module, students will be able to:

- Interact with lists and libraries programmatically.
- Query and retrieve list data.
- Perform operations efficiently on large lists.
- Create and configure content types declaratively and programmatically

### **Module 4: 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.

#### Lessons

- Understanding Features and Solutions
- Configuring Features and Solutions
- Working with Sandboxed Solutions

#### Lab: Working with Features and Solutions

- Configuring SharePoint Features
- Creating Feature Receiver Classes
- Creating Features with Dependencies

After completing this module, students will be able to:

- Explain the purpose and key functionality of Features and solutions.
- Configure and manage Features and solutions.
- Create and manage sandboxed solutions.

### **Module 5: Working with Server-Side Code**

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

#### Lessons

- Developing Web Parts
- Using Event Receivers
- Using Timer Jobs
- Storing Configuration Data

#### Lab: Working with Server-Side Code

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

After completing this module, students will be able to:

- Describe the process for developing a web part.
- Use event receivers to handle SharePoint events.
- Use timer jobs to perform out of process, and scheduled operations.
- Store and manipulate configuration data for custom components.

### **Module 6: 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 Addin's.

#### Lessons

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

#### Lab: Using the Client-Side Object Model for Managed Code

- Add Site Column
- Add the Mileage Claim Content Type
- Add the Claims List

#### Lab: Using the REST API with JavaScript

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

After completing this module, students will be able to:

- Use the client-side object model for managed code to interact with a SharePoint deployment.

- Use the client-side object model for JavaScript to interact with a SharePoint deployment.
- Use the REST API with JavaScript or C# to interact with a SharePoint deployment.

## **Module 7: JavaScript Injection and Remote Provisioning**

The module begins by explaining the central concept of JavaScript injection where scripts containing custom JavaScript code are uploaded to SharePoint Online and executed using the permissions of the current user. Students will learn to get started with JavaScript injection using the Script Editor Web Part. Next, students will learn how to extend a SharePoint site by adding new pages and custom JavaScript code which makes use of the JavaScript Object Model (JSOM) and the SharePoint REST API. The module then explains how to use remote provisioning to effectively deploy a custom solution which uses JavaScript injection. Along the way, the module discusses loading JavaScript library dependencies as well as how to execute custom JavaScript code with user custom actions such as ribbon buttons, ECB menu items and ScriptLinks as well as how to use client-side rendering techniques and JSLink to create customized views for SharePoint lists.

### Lessons

- Enabling Scripting in SharePoint 2016
- Understanding JavaScript Injection
- JSOM Programming
- Remote Provisioning using CSOM
- Designing MDS-enabled Pages
- JSLink and Client-side Rendering

## **Module 8: Managing Identity and Permissions**

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

### Lessons

- Understanding Identity Management in SharePoint 2016
- Managing Permissions in SharePoint 2016
- Configuring Forms-Based Authentication
- Customizing the Authentication Experience

### Lab: Managing Permissions Programmatically in SharePoint 2016

- Managing List Permissions Programmatically

### 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

After completing this module, students will be able to:

- Describe how authentication and identity management work in SharePoint 2016.
- Verify and manage permissions programmatically in SharePoint 2016.
- Create and configure custom membership providers and role managers for forms-based authentication.
- Create claims providers and customize the sign-in experience.

## **Module 9: Introducing Add-in's for SharePoint**

This module introduces the SharePoint Add-in's, a new way to customize SharePoint functionality with SharePoint Server 2016.

### Lessons

- Overview of Add-in's for SharePoint Developing Add-in's for SharePoint

Lab: Creating a Site Suggestions Add-in's

- Creating a New SharePoint Add-in's Using the Client-Side Object Model

After completing this module, students will be able to:

- Describe SharePoint Add-in's and compare them to SharePoint farm solutions and sandboxed solutions.
- Describe how to develop Add-in's for SharePoint 2016 that work on-premises and in the cloud.

### **Module 10: Developing Remote Hosted SharePoint Add-in's**

This module examines the difference between provider hosted Add-in's and Remote Hosted Add-in's. The students will also create and deploy a Provider Hosted Add-in's.

Lessons

- Overview of Remote Hosted Add-in's
- Configuring Remote Hosted Add-in's
- Developing Remote Hosted Add-in's

Lab: Configuring a Provider Hosted SharePoint Add-in's

- Configuring a Server to Server Trust Relationship
- Creating a Provider Hosted Add-in's

Lab: Developing a Provider Hosted SharePoint Add-in's

- Working with SharePoint Data Using the Chrome Control

After completing this module, students will be able to:

- Describe how remote-hosted Add-in's work and how to configure the permissions and cross domain calls that they may require.
- Configure Add-in's for hosting on Windows Azure or remote servers.
- Develop Add-in's for hosting on Windows Azure or remote servers.

### **Module 11: Publishing and Distributing Add-in's**

This module introduces the App Catalog so users to locate, purchase, and install Add-in's easily. The students learn how to package and publish Addin's to the App Catalog.

Lessons

- Understanding the App Management Architecture
- Understanding App Packages
- Publishing Add-in's Installing, Updating, and Uninstalling Add-in's

Lab: Publishing an Add-in's to a Corporate Catalog

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

Lab: Installing, Updating, and Uninstalling Add-in's

- Installing an Add-in's
- Upgrading an Add-in's
- Removing an Add-in's

After completing this module, students will be able to:

- Explain how SharePoint manages Add-in's publishing and distribution.
- Describe the contents of an app package.
- Publish Add-in's to a corporate catalog or the Office Marketplace.
- Install, update, and uninstall Add-in's.

## **Module 12: 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.

### Lessons

- Working with Custom Actions
- Using Client-Side User Interface Components
- Customizing the SharePoint List User Interface

### Lab: Using the Edit Control Block to Launch an Add-in's

- Configuring an Add-in's to Display Customer Orders
- Use a Custom Action to Launch an Add-in's

### Lab: Using jQuery to Customize the SharePoint List User Interface

- Creating a Custom List View

After completing this module, students will be able to:

- Use custom actions to modify the SharePoint user interface.
- Use JavaScript to work with client-side SharePoint user interface components.
- Describe how to modify the appearance and behavior of list views and forms.