Synergy Technology Training Series

SharePoint Development

Course Outline

The purpose of this 5-day course is to give students a comprehensive understanding of development technologies and approaches in SharePoint Server. This course is oriented towards experienced .NET developers who have experience with C#, XML, and web development. The course walks student through best practices for building SharePoint enhancements and introduces them to the tools and templates available from Microsoft and third party sources to help build solutions.

Skills Gained
After completing the course students will be able to:
- Understand SharePoint as a development platform
- Build SharePoint web parts, including AJAX and Silverlight
- Package and deploy SharePoint solutions
- Write code against SharePoint's client and server object models
- Understand all forms of SharePoint data access
- Create and register Event Handler assemblies
- Create custom SharePoint workflows with Visual Studio
- Developing against BCS
- Create business intelligence solutions

Target Audience
The class is designed for experienced developers who need to understand how to extend and enhance SharePoint installations and change the default behavior of SharePoint sites, lists, and web parts.

Prerequisites
Students attending this class should have experience building ASP.NET web applications using Visual Studio and be familiar with XML, JavaScript and data access concepts. Experience with viewing and collaborating in a SharePoint site is recommended but not required.

1. **Overview of SharePoint Development**

This chapter introduces the concepts of development on the SharePoint Server platform. We discuss the various types of solutions and code modules that developers can use to enhance the out-of-the-box functionality of SharePoint.

2. **Office SharePoint Server Architecture**

This chapter provides a developer-oriented review of the underlying components that make up SharePoint Server.

3. **Developing Web Parts**

This chapter covers the basics of custom web part development including how to use the Visual Studio project templates for SharePoint. Fundamental web parts features such as personalization, data access, event handling, and visual web parts will be covered.

4. **Packaging and Deploying Solutions using Visual Studio**

In this section we discuss how to use Solution files (WSP) to automate the deployment of your code custom SharePoint code. The packaging and deployment tools in Visual Studio will be covered to give developers a solid understanding of how to build and deploy both simple and advanced packing needs. We also cover how to debug from Visual Studio and introduce the developer dashboard to assist in troubleshooting problems.

5. **Programming with the SharePoint Server Object Model**

This chapter introduces the server object model and the various references and namespaces available. The chapter will cover essential capabilities such as programming with site collections, webs, lists, and items.

6. **Working with Data Access Methods**

This chapter will cover all the various forms of data access in SharePoint Server. Data access using CAML queries is covered first, and we then focus on using Linq to access SharePoint data. Remote access technologies such as REST and web services are then introduced. The chapter will close by discussing large list throttling and study how this may affect custom code solutions.

7. **Programming with the SharePoint Client Object Model**

This chapter will introduce the three client object models in SharePoint. The chapter will first introduce the concepts, and then cover the .NET, the Silverlight and the ECMAScript (JavaScript) client object models. We'll conclude by comparing data access using client object models and other forms to give the developer a solid understanding of all options.

8. **Building Interactive and Connectable Web Parts**

This chapter focus is on enhancing your web parts using some of the latest technologies. We start by discussing how to incorporate AJAX technologies into your web part. We'll then introduce how to build Silverlight applications and how to use then in SharePoint using the built-in Silverlight web part. We'll

also look at how to develop connectable web parts, allowing you to connect to custom or out-of-the-box web parts.

9. Creating Features

This chapter explains how to use SharePoint Features to enable new functionality in a SharePoint site. The chapter will cover the different types of features, discuss the scope and understand the lifecycle of features. We'll then look at how Visual Studio simplifies the management of our feature files.

10. Creating Event Handlers

This chapter will introduce how to use event handlers (event receivers) to override or enhance SharePoint's default behavior when changes occur. Both before and after events will be covered on key objects including web sites, lists, items, and features and others. We'll also understand how to deploy and enable event handlers on your various objects.

11. Programming SharePoint Security

This chapter will introduce the various authentication types and how to customize these for your specific needs. We'll also look at how to programmatically adjust site collection security by breaking inheritance, changing permissions, and adding/removing users and groups. The chapter will close by introducing the new SSO.

12. Sandbox Solutions

This chapter explores the new concept of Sandboxed Solutions and how they can be used to protect and isolate code while giving administrators greater control over applications.

13. Developing SharePoint Workflows

This chapter explores the capabilities of custom workflows in SharePoint Server and explains how to create a custom workflow. A basic overview of using Visio and SharePoint Designer will be covered first. The chapter then covers creating custom workflow in Visual Studio to include custom forms. You'll understand how to import workflow into Visual Studio from SharePoint Designer.

14. Developing with Business Connectivity Services

This chapter focuses on techniques for creating, deploying, and modifying objects in Business Connectivity Services (BCS). We will learn how to use SharePoint Designer to create and publish External Content Types and explore how BCS definitions are managed and maintained.

15. Developing Business Intelligence

This chapter explores the various business intelligence features of SharePoint including Performance Point Services, Visio Services, and Excel Calculation Services.