



To register or for more information call our office **(208) 898-9036** or email [register@leapfoxlearning.com](mailto:register@leapfoxlearning.com)

**Microsoft®**

## MS-SP601 Advanced SharePoint Development Using Workflows

### Duration:

Traditional Instructor Led Learning -5.00 Day(s)

### Software Assurance Vouchers Not Eligible

### Introduction

This intense five-day course explores design and development techniques used when building business solutions with Windows SharePoint Services 3.0 (WSS) combined with the Windows Workflow Foundation(WF). The very first lecture and lab exercise gets you started designing Workflows to automate business processes. The course then dives into actually creating workflows and the WF hosting options, especially for SharePoint. The course then moves into the SharePoint workflow object model, covers sequential and state-machine workflows, and techniques to debug them. You get hands on experience writing and testing InfoPath forms and custom activities for both Visual Studio and SharePoint Designer. Along the way, you will also learn how to work with Office 2007 documents using workflow.



### Audience

- Professional Developers
- System Architects

### Prerequisites

- Development experience with Visual Studio 2005, the .NET framework, and ASP.NET
- Attended SP401 or SP501 or have equivalent experience in Windows SharePoint Services development
- Some development experience in the Windows Workflow Foundation platform within Visual Studio
- Experience working with XML files in Visual Studio 2005 (optional)

### Microsoft Certification Exam

- There are currently no Microsoft Certified Professional exams associated with this course

### Course Outline

#### Module 1: Understanding the Business Problem and Architecting the SharePoint Workflow Solution

Lesson 1: Introduction and Business Processes overview.

Lesson 2: Introduce the business problem the students are tasked to solve.

Lab 1: Business Problem Discussion

### **Module 2: Workflow Synopsis: A 10,000 Foot View**

This module explains the Windows Workflow Foundation (WF) with a high-level overview of how the pieces fit together. It also demonstrates how to create and use a WF instance. The topic of WF hosting options will also be covered.

Lesson 1: Introducing Microsoft Windows Workflow Foundation (WF).

Lesson 2: Windows Workflow: a Primer.

Lesson 3: Create and use Workflow Instances.

Lesson 4: Understand Workflow Hosting Options.

Lesson 5: Identify Runtime Services and their Features.

Lab 1: Creating a Simple Workflow

### **Module 3: Development using the SharePoint Workflow Object Model**

This module explains how to work with the SharePoint workflow object model. It also covers the WF event model and exception handling in a WF application.

Lesson 1: The SharePoint Workflow Object Model

Lesson 2: Creating, Launching and Manipulating WF Instances from the API

Lesson 3: Understanding the WF Event Model

Lesson 4: Exception Handling

Lesson 5: Best Practices

Lab 1: Using the WF object model

### **Module 4: Using Visual Studio 2008 (and SharePoint Designer 2007) to Develop a Sequential SharePoint Workflow**

This module explains how to develop sequential SharePoint workflows. We will first show a workflow developed in SharePoint Designer 2007 (no-code workflow) and their proper usage. We will then develop a workflow in Visual Studio 2008. In addition to the SharePoint specific Workflow activities, all of the non-SharePoint workflow activities are also discussed. The lessons cover how workflows communicate with SharePoint lists and other Visual Studio 2008 projects such as an XML Web Service.

Lesson 1: Demonstrate the features of a SharePoint WF Designer project

Lesson 2: A Complete guide to the SharePoint WF VS2008 Toolbox Activities

Lesson 3: Workflow interaction with SharePoint Lists and Content Types

Lesson 4: Interacting with other VS2008 projects

Lesson 5: Best Practices

Lab 1: Creating a SharePoint sequential workflow

### **Module 5: Using Visual Studio 2008 to Develop a State Machine SharePoint Workflow**

This module explains how to create a state machine SharePoint workflow in Visual Studio 2008 to model business processes that contain human interaction. It will also discuss the differences between a state machine and sequential SharePoint workflow.

Lesson 1: State Machine Process Methodology Overview – Modeling Human Workflow

Lesson 2: Similarities And Differences Between State Machine And Sequential Workflows

Lesson 3: Refactor a Sequential Workflow to a State Machine Workflow

Lesson 4: Best Practices

Lab 1: Creating a State Machine SharePoint Workflow

## **Module 6: InfoPath Primer**

This module explains how to create an InfoPath form. It covers the basics of InfoPath including its controls, data sources, and how to publish a form, especially to SharePoint. The module also covers the programming in InfoPath and the underlying XML Schema definitions.

- Lesson 1: What is InfoPath?
- Lesson 2: Create a simple InfoPath Form
- Lesson 3: InfoPath Templates, Controls and Layouts
- Lesson 4: Data Sources: The Underlying Schema Definitions
- Lesson 5: Saving and Publishing an InfoPath Form
- Lesson 6: Utilize InfoPath Forms in MOSS Forms Services
- Lesson 7: Best Practices

Lab 1: Creating and Using an InfoPath Form

## **Module 7: Associating SharePoint Workflows with ASP.Net or InfoPath forms**

This module explains how to use ASP.Net .ASPX web pages and InfoPath forms to provide additional information to a SharePoint workflow. We will create and demonstrate the proper usage of Association, Initiation, Modification, and Task forms. How to use Document Information Panels with InfoPath is also discussed.

- Lesson 1: Overview of Input Forms and Passing Data
- Lesson 2: The Association and Initiation Forms and Passing Data
- Lesson 3: Modification Forms
- Lesson 4: Task Forms
- Lesson 5: Utilizing the Document Information Panel
- Lesson 6: Best Practices

Lab 1: Creating SharePoint workflow input forms

## **Module 8: Techniques to Debug SharePoint Workflows**

This module explains how to debug and troubleshoot SharePoint workflows. It also covers the how to interpret the SharePoint log files and how to implement remote debugging.

- Lesson 1: Debugging Techniques
- Lesson 2: The Log files and Event Logs
- Lesson 3: Remote Debugging
- Lesson 4: Best Practices

Lab 1: Debugging and Troubleshooting a SharePoint Workflow **Module 9: The SharePoint Persistence Service**

This module explains how to use the SharePoint Persistence Service to maintain state of a long-running workflow. The concepts of dehydration and rehydration are also discussed.

- Lesson 1: What is Persistence? (Automatic vs. Manual)
- Lesson 2: Persist a Workflow Instance –Dehydration
- Lesson 3: Resume a Workflow Instance - Rehydration
- Lesson 4: Addressing Versioning Issues
- Lesson 5: Best Practices

Lab 1: Using the SharePoint Persistence Service

## **Module 10 SharePoint Workflow Interaction with Office 2007**

This module explains how to allow a SharePoint workflow to interact with Office 2007 applications. Word, Excel, and Outlook 2007 applications will be used. The Office SDK will also be

covered.

Lesson 1: Office 2007 Programming Primer : Office 2007 SDK

Lesson 2: Word 2007

Lesson 3: Excel 2007 and Excel Services

Lesson 4: Outlook 2007

Lab 1: Using Office 2007 with SharePoint Workflows

### **Module 11: Develop a Custom Activity using Visual Studio 2008**

This module explains how to create and use a Visual Studio 2008 custom activity. We will also validate some of the activity's custom properties. We will also explain and utilize Activity Attributes.

Lesson 1: Why would you create a Custom Activity?

Lesson 2: Create and use a Simple Activity

Lesson 3: Create and use a Composite Activity

Lesson 4: Validate Custom Activity Properties

Lab 1: Create and use a custom Visual Studio 2008 workflow activity

### **Module 12: Deploy a SharePoint Workflow**

This module explains how to deploy a SharePoint workflow as a SharePoint feature. It also includes a discussion about security issues when deploying SharePoint workflows and the workflow definition schema.

Lesson 1: SharePoint Deployment Overview

Lesson 2: Deployment Security Issues

Lesson 3: Understanding the Workflow Definition Schema

Lesson 4: Deploying Workflows as a SharePoint Feature

Lesson 5: Best Practices

Lab 1: Deploy a SharePoint Workflow

### **Module 13: Develop a Custom Workflow Activity for use in SharePoint Designer 2007**

This module explains how to design and create custom workflow activities for SharePoint Designer 2007, including custom actions and conditions.

Lesson 1: Introduction to SharePoint Designer 2007(no code) Workflows

Lesson 2: Compare SharePoint Designer 2007 Custom Activities against Custom Activities for use with Visual Studio

Lesson 3: Creating SharePoint Designer 2007 Custom WF Activities

Lesson 4: Best Practices

Lab 1: Creating a custom workflow activity for SharePoint Designer 2007

### **Module 14: Appendix - CodePlex SharePoint Workflow Projects**

To register or for more information call our office **(208) 898-9036** or email [register@leapfoxlearning.com](mailto:register@leapfoxlearning.com)



**Microsoft** Partner  
Silver Learning