

COURSE OUTLINE FOR DEVELOPING SHAREPOINT 2010 SERVER ENTERPRISE APPLICATIONS

Duration: 80 hrs

Fees: INR XXX ☺ per Individual + Taxes

About this Course

This course provides existing .NET developers with practical information and labs that enable them to build solutions based on the Microsoft SharePoint 2010 Server - Enterprise Edition.

Audience Profile

This course is intended for professional developers who use Microsoft SharePoint 2010 in a team-based, medium-sized to large development environment. Members of the audience are experienced users of Microsoft Visual Studio 2008 SP1. The audience understands how to use the new features of SharePoint 2010 and Visual Studio 2010.

Must Have Knowledge

1. SQL and DBMS Concepts
2. ASP.NET web application development using C# and Visual studio 2008 or above
 1. ASP.NET web parts and master page
 2. ASP.NET Navigation
 3. ASP.NET Web Services
 4. ASPnet membership provider
 5. ASP.NET Forms
3. Client Server and three tier Architecture
4. Introduction to JavaScript ,HTML,XML,XSLT
5. Introduction to .NET 3.5 (XAML,LINQ,Workflow foundation,WCF services)
6. Using Office 2010 or 2007
7. Introduction to Silverlight 2.0 or above
8. Introduction to ASP.NET Ajax

Nice to have

1. SQL server management studio with MS SQL SEVER 2005 Enterprise or above
2. SSAS
3. Windows Communication foundation
4. Workflow foundation
5. JQuery
6. XSLT
7. Silverlight Development
8. ASP.NET Ajax
9. REST

At Course Completion Trainees will be able to

- Prepare SharePoint enterprise 2010 development environment
- Describe the SharePoint 2010 development platform and the benefits and features that it offers to developers.
- Use development tools that are integrated with the SharePoint 2010 development platform, such as Visual Studio 2010 and SharePoint Designer 2010.



- Develop Connected Web Parts for SharePoint 2010 solutions.
- Develop code that uses the server-side objects provided by the SharePoint 2010 development platform.
- Develop event receivers and manipulate application pages for SharePoint 2010 solutions.
- Optimize performance of custom code with the help of Developer dashboard
- Develop workflows as part of SharePoint 2010 solutions.
- Develop code that uses the client-side objects provided by the SharePoint 2010 development platform.
- Develop Microsoft Silverlight applications that are integrated with SharePoint 2010 data and solutions.
- Develop sandboxed and farm solutions for SharePoint 2010.
- Develop InfoPath forms as part of SharePoint 2010 solution
- Develop solutions that access external data by using Business Connectivity Services.
- Design dashboard using excel and Performance point services

Module 1: SharePoint 2010 Overview

CONCEPTS

- Define and understand Microsoft SharePoint 2010
- Prepare and install SharePoint 2010 Enterprise development environment
- Introduction to Central Administration
- SharePoint 2010 Site templates
- SharePoint Topology and Terminology (Farm, Web application, site collections, sites, features, lists, fields, event receivers, libraries, application page, Feature, GUID)
- Distinguish between SharePoint Foundation or SharePoint Server
- Ribbon UI
- OOTB features
- Development environment requirements
- SharePoint 2010 PowerShell
- STSADM and 14 hive
- Relation of SharePoint and Silverlight

HANDS ON LABS

1. Prepare Environment for SharePoint Farm and Install SharePoint Farm on single Machine
2. Create Web application, Site Collection and site with various templates
3. See enhanced site editing with ribbon and new features like inline edit and themes

DEMO: Digital asset Management, SharePoint Mobile

Module 2 SharePoint 2010 Development Tools and Options

CONCEPTS

SharePoint Development Options

- Out of the Box vs. Customization
- Customization vs. Development

Refresh Prerequisites

- ASP.NET and SharePoint Relationship
- XML\XSLT and SharePoint
- CAML and SharePoint
- Client Object Model(Managed Code, Ajax, Silverlight)
- LINQ

Introduce Development Tools

- SharePoint Designer 2010
- Visual Studio 2010 Developer Tools for SharePoint
- InfoPath Designer 2010
- U2U Caml Query Builder
- LinqPad

What is?

- List Definition
- Event Receivers
- Workflow(sequential and State Machine Workflow)
- Features
- Application and site pages

- Master page, webpartpage ,page layout
- Site columns
- content types
- GUID

What is?

1. SharePoint Project Items and Item Templates
2. Workflow Designer
3. Visual Webpart Designer
4. SharePoint Server Explorer
5. SharePoint Projects properties
6. Mapped Folders

Debugging SharePoint 2010 Code

Introduce Packaging and Deployment

- SPT Deployment Options and Configuration
- Farm and Sandbox solution
- Package using Package Designer and Explorer
- Feature using Feature Designer

HANDS ON LABS

- 4 Develop and Deploy Hello World Webpart in SharePoint 2010
- 5 Develop List Inspector Webpart To Understand Visual Studio 2010 SharePoint Tools and SharePoint Object Model
- 6 Create Site Columns and Content types and associate it with List\library Using Site Collection UI
- 7 Create Custom list definition, template and instance using Visual Studio 2010.

DEMO: Using SharePoint Designer to create Site columns and Content Type

Module 3 SharePoint 2010 Advanced Web part Development

CONCEPTS

- Evolution of the Web Part Framework
- Web Part Execution Model and Lifecycle
- Web Part Properties Persistence
- Exposing Custom Properties in Web Parts
- Standard Web Parts
- Web part Connections and Connected Web Parts
- Developing Visual Web Parts
- Visual Web Parts using ASP.NET User Control
- Difference between a Standard web part and Visual Web parts.

HANDS ON LABS

- 1 Develop Visual/Connected Web part and deploy it as Farm\Solution for Task

DEMO

ULS Log Viewer

Module 4 Managing Customization: CAS and Performance

CONCEPTS

- Farm Solutions vs. User Solutions

- What is a 'Sandbox'?
- Why Sandboxed Solutions?
- Building and Deploying a Sandboxed Solution
- Managing Sandboxed Solutions
- Code Access Security Policy
- SharePointPermission.ObjectModel
- Solution Gallery
- Supported Solution Types
- Central Administration Solution Monitoring
- SharePoint Developer Dashboard (CPU, Memory, SQL, Exceptions, Critical Errors, Handles, Threads,)
- How to optimize SharePoint Code Performance.

HANDS ON LABS

- 1 Developing Sandboxed Solutions for Web Parts
- 2 Developer Dashboard using powershell and Managing Customization
- 3 Utility To Add Site Collection Administrator using Server OM

DEMO

SharePoint Dispose Checker Utility

Module 5 LINQ to SharePoint

CONCEPTS

- What Is LINQ?
- Why LINQ?
 - CAML : SPQuery() and SPSiteDataQuery()
- LINQ Syntax
 - Extension Methods
 - Lambda Expressions
 - Query Syntax
 - Anonymous Types
- LINQ to SharePoint
 - Creating Entity Classes
 - Microsoft.SharePoint.Linq and SPMetal
 - Accessing SharePoint 2010 Lists Using LINQ to SharePoint
 - List Relationships
 - Query across multiple lists with relationships
 - Cross-List Queries use strongly typed members
 - Modifying List Data
 - List joins, join on lookup fields and Join multiple lists (A → B → C)
 - Using Linq in Web Parts, Event Receivers, Sandboxed code

HANDS ON LABS

- 1 Create a web part for accessing the list data using LINQ.

DEMO

LinqPad and U2U CAML Query Builder

Module 6 Client Object Model

CONCEPTS

- What is Client Object Model
- Why Client Object Model? COM vs. SharePoint Web Services
- COM Vs SharePoint Server Object Model
- full-trust CLR, Silverlight and JavaScript applications
- .NET Client Object Model
 - SharePoint .NET Client Object Model API
 - Supported Application Areas and Types
 - Equivalent Objects
 - Major Objects in Client Object Model
 - Unified .NET and Office Clients with Client Object Model
 - How It Works
 - Client Object Model Limitations and advantages
- Silverlight Client Object Model
 - What is Silverlight?
 - Creating Silverlight Web Parts
 - SharePoint Data Access from Silverlight using
 - Client Object Model
 - ADO.NET Data Services(REST access to lists)
 - SharePoint web services API
 - Through HTML Page
 - custom web service
- ECMAScript\ JavaScript Client Object Model
 - Adding references sp.js
 - Add this using <SharePoint:ScriptLink>
 - debug mode

HANDS ON LABS

- 1 Access SharePoint Lists in Windows Application and in Office Using .NET COM
- 2 Use ADO.NET Data Service to access Data within List
- 3 Using Silverlight with the Client Object Model – C#.
- 4 Enable ECMA Client Object Model IntelliSense in Visual Studio 2010.
- 5 Accessing and Modifying SharePoint List Data with the JavaScript Client Object Model.

DEMO SharePoint 2010 Manager

Module 7 Using REST API and WCF Data Services to access SP lists

CONCEPTS

- REST & WCF Data Services
- What is A RESTful Interface for Data
- Why a RESTful Interface for SP?
- Accessing data using REST
- Rest Operations
- URL Conventions
- Addressing lists and items and Excel via Representational State Transfer (REST)
- ListData.svc

- REST APIs
- CRUD operations on lists
- URI Map - Entity Properties, Filter and Join)
- WCF Data Services
- Data Technologies in SharePoint 2010
- REST APIs and LINQ to SharePoint
- Data Access Technologies Decision Matrix
- SharePoint 2010 APIs Decision Matrix

HANDS ON LABS

- 1 Accessing and Modifying SharePoint List Data Rest and WCF Data Service from WPF Application

DEMO SharePoint 2010 Solution Installer

Module 8 Business Process Automation Using SharePoint Events, Workflow and InfoPath Forms

CONCEPTS

- SharePoint Events Programming
 - Site, List and Web events
 - Cancelling Events and Custom Error Pages
 - Event Registration and Impersonation Capabilities
 - Pre\Post, Synchronous and Asynchronous Events
 - Reacting to Server Events
- Workflow Overview
 - What is workflow
 - Why Workflow
 - Workflow foundation
 - Sequential and state machine workflow
 - Out Of The Box Workflows in SharePoint
- SPD 2010 Workflows
 - List, site and reusable workflows
 - Workflow Initiation and Association Forms
 - Workflow Design in SPD
 - Customize OOTB Workflows
 - Import, Export and Publish SPD Workflow
 - Task Process and Approval Designer
 - SharePoint Designer OOTB Actions
 - Core Actions
 - Document Set Actions
 - List and Relational Actions
 - Task and Utility Actions
- VS2010 SharePoint Workflow
 - Visual Studio 2010 SharePoint tools for
 - Workflow Forms
 - SPD Workflow Import
 - Site Workflow Development Potential uses
 - Custom Activities

- Design and Develop sequential and state machine Workflows with Visual Studio 2010
- ASP.NET Form Templates
- Workflow Event Receivers
- Sandboxed Custom Activities
- SPS/Workflow Communication and External Data Exchange Services
- InfoPath Forms Development
 - Why InfoPath Forms?
 - InfoPath Forms Designer 2010
 - Forms & Form Templates
 - InfoPath Forms Services
 - Custom and External List Forms
 - Workflow: Association, Initiation, Tasks form
 - Form Libraries
 - InfoPath Architecture(Forms ,Views,Manifest,Web Service, Data Sources and Connection ,Controls, Advanced controls, Validation, Conditional formatting, Rules)
 - InfoPath Forms Security(Restricted,Domain,Full Trust)
 - Design, Develop and Deploy Forms
 - Workflow and Forms Integration
 - Browser Enabled Forms and Design Checker
 - Common InfoPath Limitations

HANDS ON LABS

- 1 Creating an Event Receiver in SharePoint 2010 with a Custom Error Page
- 1 Developing a SharePoint 2010 State Machine Workflow with Initiation Forms in Visual Studio 2010 and InfoPath Designer 2010

DEMO

SharePoint 2010 Language Pack

Module 9 SharePoint Editions and Deployment

CONCEPTS

- What is SharePoint Foundation And its High level features
 - Administration
 - Document Management and Records Management capabilities
 - Social Computing
 - Business Connectivity
 - Service Applications
- What is SharePoint Server and High level features
 - Content Management and Publishing Infrastructure
 - People and Social Infrastructure(My site, feeds, social bookmarking, Profile and expertise, organization browser)
 - Enterprise Search and Management (tagging, taxonomy, ...)
 - Business Connectivity Services (BCS)
 - Excel services
 - Performance point services

- SharePoint 2010 Deployment Scenario: Three Tiers
- Enterprise, Standard and Foundation: What to use, when

HANDS ON LABS

- 1 Working With Managed Metadata And Document Sets

DEMO SharePoint 2010 Search Center

Module 10 Business Connectivity Services

CONCEPTS

- BCS Architecture
- External Content Types
- Scenarios Solution Types, Personas and Tools
- Development Approaches
- Visual Studio 2010 Support
- creating .NET Assembly Connectors
- BCS Security Overview
- BDC Authentication (server)
- BCS Development with Visual Studio 2010
- BCS Data Integration Runtime & Admin OM
- BDC Runtime
- Extensibility mechanisms
 - .NET Assembly Connector
 - Custom Connector
 - Secure Store Provider (custom)
- External lists
- Web parts and Business Data
- External Data Column
- External Content Type (ECT) Picker
- ECT Instance Picker
- Business Entity Metadata
- External Lists: Limits
- External Data Columns
- Business Data list column type
- Business Data Connectivity service administration
- External content types
- External data sources: Permissions and Associations
- External data source instances
- Application models and resource files
- External Content Type definitions using SPD
- Throttling and Performance Tuning
- Batching Filters and Bulk API Example

HANDS ON LABS

- 1 Accessing External Data In SP2010 Using SPD and VS2010

DEMO SharePoint 2010 Search Center

Module 10 Business Intelligence

- Business Intelligence (BI) Primer
 - BI Tools in SharePoint 2010
 - SharePoint 2010 BI Architecture
- Excel Services
 - What is Excel Services?
 - Manage and Expose of Excel Content
 - Excel Services Web Parts
 - Excel Services: 2007 Refresher
 - Excel Services & Excel Web App 2010
 - Excel Services 2010 Architecture
 - Excel Services Administration
 - Installation
 - Service Application
 - Global Settings
 - Trusted Locations Settings
 - PowerShell
 - Excel Services Security
 - Claims
 - Unattended Account
 - Secure Store Service
 - Excel Services 2010 Programmability Overview
 - Web Services API
 - Excel Services 2010 REST API
 - JavaScript Object Model (JSOM)
 - Excel Web App Architecture & Administration with Excel Services
 - Co-Authoring
- Performance Point Services
 - Overview
 - SPS 2010 BI Web Parts
 - BI Center Site Template
 - Dashboard Designer
 - PPS 2010 Architecture
 - Performance Point Content Types
 - Dashboards
 - Scorecards
 - Report Views
 - KPI Details
 - Designing PPS Applications
 - Filters
 - Data Sources
 - Decomposition Tree;



- Performance Point Services Administration and Security
 - Trusted Locations
 - Unattended Service Account
 - Security Token Service (STS)
 - Claims based authentication

HANDS ON LABS

- 1 Chart and Dashboard Using Excel and PPS in SP2010.

DEMO: SharePoint Web Analytics