



## CTREC HILTON IT ACADEMY

### Key Data

Course #: **50197**  
Number of Days: **3 days**  
Format: Instructor-Led

## CTREC Hilton IT Academy

5051 Westheimer  
Suite 500  
Houston, TX 77056

713.255.0360  
866.882.8732  
713.622.1915 fax

[www.ctrechilton.com](http://www.ctrechilton.com)



## Developing Web Applications Using Microsoft Silverlight 2.0

### Course Description

This three-day instructor-led course provides students with the knowledge and skills to develop Microsoft Silverlight 2.0 web applications. The course focuses on user interfaces, program structure, language syntax, and implementation details.

### Duration:

3 days (9:00 – 5:00) Instructor-led

### Prerequisites

Before attending this course, students must have:

- Experience with Microsoft .NET Programming Framework
- Working knowledge of web development techniques

### Audience

This course is intended for both novice and experienced programmers who have a minimum of one year programming experience using the Microsoft .NET Framework and have an understanding of HTML.

### At Course Completion

After completing this course, students will be able to:

- Create a simple Silverlight 2.0 web application based on the Silverlight project template.
- Understand Windows Presentation Foundation and how web browsers can display Silverlight 2.0 applications.
- Create comprehensive user interfaces using XAML.
- Utilize built in UI Automation mechanisms to provide accessibility options.
- Understand resources and how they can provide styling and templating to the interface.
- Use animation to provide an interactive and aesthetically pleasing user interface.
- Develop a deep understanding of the Silverlight 2.0 framework and programming libraries.
- Build dynamic data driven applications using the Silverlight service architecture.

- Prepare and package Silverlight 2.0 applications so that they may be successfully deployed to the client.

## Course Outline

### Module 1: Introduction to Microsoft Silverlight 2.0

This module explains some of the basic concepts of web development and introduces the Microsoft Silverlight technology.

#### Lessons

- Rich Internet Applications
- Introduction to Windows Presentation Foundation
- Silverlight Integrated Development Environments

Lab: Navigating Silverlight projects using the IDEs

- Navigating a Silverlight application in Visual Studio 2008
- Navigating a Silverlight application in Microsoft Expression Blend

After completing this module, students will be able to:

- Understand the technologies available in web development
- Understand the relationship between Windows Presentation Foundation and Silverlight
- Navigate Visual Studio 2008 and Microsoft Expression Blend.

### Module 2: Getting Started with Silverlight 2.0

This module will help students develop the skills necessary to create simple Silverlight 2.0 applications. It will also define the Silverlight architecture and help set the platform for working with the Extensible Application Markup Language (XAML).

#### Lessons

- Building a Silverlight Application
- Silverlight Architecture
- Working with XAML

Lab: Building Silverlight applications

- Build a Silverlight application using Visual Studio 2008

After completing this module, students will be able to:

- Install the appropriate Silverlight project file templates
- Build simple Silverlight 2.0 web applications

- Understand the Silverlight architecture and the foundation of its framework
- Discuss the core presentation components of the Silverlight framework .

### Module 3: Building the User Interface

This module provides in-depth detail of the page layout model and the content and items control that can be used to define it.

#### Lessons

- Defining Page Layout
- Content Controls
- Items Controls

Lab: Building the User Interface

- Use an XML namespace and define an items control

After completing this module, students will be able to:

- Design and define the layout of the user interface
- Describe the sequence of events to position controls
- Understand how content and header controls differ and the situations that best suit these types of controls

### Module 4: Customizing Appearance

This module provides in-depth detail of the page layout model and the content and items control that can be used to define it.

#### Lessons

- Resources
- Styling and Templates
- Introduction to UI Automation
- Text and Fonts

Lab: Customizing Appearance

- Customize the appearance of the application

After completing this module, students will be able to:

- Understand the value and importance of resources
- Differentiate between custom controls and controls using resources
- Create resources for use within a page and within an application
- Represent the visual appearance of controls in different states
- Use styles and templates to manipulate the user interface
- Harness the power of UI Automation to develop applications with accessibility in mind
- Create, format and transform text elements

## Module 5: Graphics and Multimedia

This module explains the primary mechanisms of displaying media as well as Silverlight specific features that enhance the user experience.

### Lessons

- Creating Graphics
- Displaying Images
- Audio and Video

Lab: Using graphics and media content

- Adding Images to Application
- Adding Video to Application

After completing this module, students will be able to:

- Draw graphics with built-in controls, paths & geometries
- Use the Ink Presenter control to provide a pen tool service
- Understand the common properties with all shapes
- Manipulate images and paint partial images using brushes
- Define media elements to display video
- Use the specialized video brush to paint on demand or streaming video
- List the supported audio and video formats as well as the option of server side playlists

## Module 6: Animating Silverlight

This module explains some basic concepts of animation and how to apply animations within a Silverlight application.

### Lessons

- Animation
- Animation using Microsoft Expression Blend

Lab: Animating controls and shapes

- Animate shapes by changing properties

After completing this module, students will be able to:

- Define animation and understand the advantages
- Understand the different types of animation
- Create animation and use animation to change properties of elements over time
- Use Microsoft Expression Blend to design and create animations on a timeline

## Module 7: Managed and Unmanaged Silverlight 2.0 Code

This module provides insights into the languages and libraries that could be used to develop Silverlight 2.0 applications.

### Lessons

- Language Foundation
- Dynamic Languages
- Isolated Storage
- Host integration for Silverlight

Lab: Using Silverlight programming foundations and features

- Use managed code to access Isolated Storage

After completing this module, students will be able to:

- Understand the foundation of the language which includes the libraries available in Silverlight
- Use asynchronous call-back methods to provide an effective user experience
- Create Silverlight applications using dynamic languages
- Use Isolated Storage to store site information
- Understand the configuration options of the Silverlight plug-in in regards to site quota
- Use scriptable objects to communicate with the host web page
- Use JavaScript to access managed Silverlight objects.

## Module 8: Silverlight Service Architecture

This module discusses the Silverlight 2 .0 Service Architecture used to access web services and retrieve information from other resources such as sockets and feeds.

### Lessons

- Access Restrictions
- Web Services
- Syndication
- Working with Sockets

Lab: Consuming Services

- Use managed code
- Consume web services
- Retrieve the data asynchronously

After completing this module, students will be able to:

- Understand network security and the policy files required for service calls
- How to consume existing XML based Web Services
- Work with Windows Communication Foundation services
- Integrate with online APIs
- Understand Syndications and what essential namespace do
- Utilize and integrate socket calls and procedures.

## **Module 9: Silverlight Data Access**

The focus of this module is the use of data - binding features available to Silverlight and to how to define custom templates for items controls.

### Lessons

- Silverlight Data Binding
- Binding to Collections of Objects
- Data Templates

### Lab: Accessing Data

- Create an observable collection
- Bind the data to an items control

After completing this module, students will be able to:

- Understand the advantages and efficiencies of data-binding
- Differentiate between the various binding modes
- Use TwoWay binding validation to validate and control user input
- Understand the importance of observable collections and how to create them
- Use LINQ to query enumerable objects
- Create data templates to customize and map objects to a defined formatted layout

## **Module 10: Packaging and Deploying Silverlight**

This module describes how to prepare a Silverlight 2.0 application for deployment.

### Lessons

- The Silverlight Package
- Deployment

After completing this module, students will be able to:

- Understand the contents of the application package
- Read and comprehend the details of the meta data
- How the application package handles assemblies and resources
- How to instantiate the Silverlight plug-in
- Configure the mandatory parameters of the HTML object
- Handle any errors from the deployed package using JavaScript functions and event parameters