

# Exploring Visual Studio LightSwitch

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**Meet the expert:** Don Kiely is a featured instructor on many of our SQL Server and Visual Studio courses. He is a nationally recognized author, instructor, and consultant specializing in Microsoft technologies. Don has many years of teaching experience, is the author or co-author of several programming books, and has spoken at many industry conferences and user groups. In addition, Don is a consultant for a variety of companies that develop distributed applications for public and private organizations.

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**Course description:** LightSwitch is one of the most interesting development technologies to come out of Microsoft in a long time. Built on Visual Studio, it is truly a rapid application development tool in a way that Visual Basic and Access never were. It provides a solid foundation and infrastructure for common business applications, built using tried and true technologies. Yet it is highly extensible and flexible. It is not right for all applications, but when it is a good fit, it is pretty sweet. In this course, you will get a thorough overview of LightSwitch so that you can make a decision about whether it will work for you and the kinds of applications you build.

## Course outline:

### Visual Studio LightSwitch

- Introduction
- A New Way to Develop
- When is LightSwitch Appropriate?
- Installing LightSwitch
- Demo: LightSwitch App
- Summary

### LightSwitch Development Environment

- Introduction
- Building a New LightSwitch App
- Components of a LightSwitch App
- Demo: LightSwitch Tour
- Summary

### Creating a New LightSwitch App

- Introduction
- The Sample Application
- Demo: Creating the Application
- Summary

### Application Architecture

- Introduction
- Application Architecture
- Summary

### LightSwitch Data Sources

- Introduction
- Data Access Layer
- LightSwitch Data Types
- SQL Server Provider Specifics
- Intrinsic SQL Database
- Entity Relationships
- Summary

### Exploring Data Sources

- Introduction
- Demo: Data Entities
- Computed Fields

- Limitations on Computed Fields
- Demo: Computed Fields
- Summary

### Using Data Objects

- Introduction
- Creating Choice Lists
- Demo: Choice Lists
- Setting Default Values
- Demo: Default Values
- Handling Data Events
- LightSwitch Data Objects
- Collection Object Performance
- Comparison of Entity Objects
- Summary

### Queries

- Introduction
- Queries
- Designing Queries
- Sorting and Parameters
- Handling Query Events
- Extending Queries in Code
- Demo: Extending Queries
- Retrieving Query Data Using Code
- Demo: Retrieving Query Data
- Summary

### Application User Interface

- Introduction
- Presentation Layer
- LightSwitch Shell
- Business Objects and Rules
- Screens
- Screen Data Management

- Summary

### Creating Screens

- Introduction
- Creating Screens
- Handling Screen Events
- Demo: Screens
- Summary

### Validating User Input

- Introduction
- Validating User Input
- LightSwitch Validation Rules
- Types of Validation Rules
- Validation Rule Execution
- Writing Custom Validation Rules
- ValidationResultsBuilder Collection
- Validation Errors in UI
- Demo: Validation
- Summary

### LightSwitch Development Detail

- Introduction
- Customizing the Navigation Menu
- Demo: Customizing the Menu
- LightSwitch Extensibility
- Installing and Using Extension
- Demo: Extensions
- LightSwitch Diagnostics
- Demo: Diagnostics
- Controlling Startup State
- Demo: Changing Startup State
- Summary

### Application Security

- Introduction
- LightSwitch Security

- Role-Based Authorization
- LightSwitch Permissions
- Testing Security
- Other Security Features
- Demo: Implementing Security
- Summary

### Deploying an Application

- Introduction
- Deploying an Application
- Demo: 2 Tier App Package
- Demo: Installing the App
- Deploying a 3-Tier App
- Summary