

Developing Microsoft .NET Applications for Windows (Visual Basic .NET)

- **Course Number:** 2565
- **Length:** 5 Day(s)

Certification Exam

This course will help you prepare for the following Microsoft Certified Professional exams:

- **Exam 70-306:** Developing and Implementing Windows-based Applications with Microsoft Visual Basic .NET and Microsoft Visual Studio .NET

Course Overview

This five-day course provides students with the skills required to build Microsoft Windows Forms applications by using the Microsoft .NET Framework. This course is a part of the Microsoft Visual Basic .NET curriculum and is intended to provide Visual Basic programmers with the skills required to create Windows Forms applications by using the .NET Framework. The course will cover the major topics for Windows client application programming on the .NET Framework. These topics include: Windows Forms, GDI+, simple data access, interoperating with unmanaged code, threading and asynchronous programming issues, simple remoting, Web access, XML Web services consumption, debugging, security, and deployment issues for desktop applications.

Prerequisites

The course assumes that students have the following skills:

- Understanding of Visual Basic programming
- Experience building applications

The following prerequisites are recommended for this course:

- Course 2559A—Introduction to Visual Basic .NET programming or equivalent knowledge

Audience

This course is intended for the intermediate programmer who is responsible for designing and building Windows-based applications with the .NET Framework. It is designed for developers who have Visual Basic development skills. Students are required to have the following skills:

- Experience with a .NET language such as Visual Basic .NET
- Experience developing basic applications with MFC and/or Microsoft Visual Basic 6.0

Typically, these individuals perform the following key activities:

- Help create functional specifications.
- Design and develop user interfaces.
- Create and test prototypes.
- Write Windows Forms applications.

Course Outline

Level 1

Overview of Microsoft.NET

- 1.1 Microsoft .NET Platform
- 1.2 .NET Framework
- 1.3 .NET Framework Components
- 1.4 Visual Basic .NET Enhancements

Lab - Skills Measured by Exam 70-306

Development Environment

- 2.1 Integrated Development Environment
- 2.2 Creating Visual Basic .NET Projects
- 2.3 Analyzing Project Structure
- 2.4 Assemblies
- 2.5 Setting Project References
- 2.6 Namespaces
- 2.7 Project Properties
- 2.8 Demonstration – Creating VB.NET Project
- 2.9 Using Development Environment Features
- 2.10 Demonstration – Visual Studio .NET IDE
- 2.11 Debugging Applications
- 2.12 Demonstration – Debugging a Project
- 2.13 Compiling in Visual Basic
- 2.14 Lab - Developing Environment

Lab - Developing Environment

Sample Code

Level 2

Language and Syntax

- 1.1 Data Types
- 1.2 Using Variables
- 1.3 Demonstration – Variables & Structures
- 1.4 Functions, Subroutines, Procedures
- 1.5 Demonstration – Variables & Structures
- 1.6 Exception Handling
- 1.7 Demonstration – Exception Handling
- 1.8 Lab - Implementing Exception Handling

Lab - Structured Exception Handling

Level 3

Object Oriented Design

- 1.1 Designing Classes
- 1.2 Object-Oriented Programming Concepts
- 1.3 Microsoft Visio
- 1.4 Demonstration – Use Case Diagrams
- 1.5 Class Diagrams
- 1.6 Demonstration – Class Diagrams
- 1.7 Lab - Class Diagrams from Use Classes

Level 4

Object-Oriented Programming

- 1.1 Defining Classes
- 1.2 Creating & Destroying Objects
- 1.3 Demonstration – Creating Classes
- 1.4 Lab - Creating Customer Class
- 1.5 Inheritance
- 1.6 Demonstration – Inheritance
- 1.7 Interfaces
- 1.8 Demonstration – Interfaces & Polymorphisms
- 1.9 Working with Classes
- 1.10 Demonstration – Handling Events
- 1.11 Delegates
- 1.12 Comparing Classes to Structures
- 1.13 Lab - Inheriting Package Class

Level 5

Using Windows Forms

- 1.1 Why Use Windows Forms?
- 1.2 Windows Forms Structure
- 1.3 Using Windows Forms
- 1.4 Demonstration – Windows Forms
- 1.5 Using Controls
- 1.6 Demonstration – Using Controls
- 1.7 Drag-n-Drop Functionality
- 1.8 Demonstration – Drag-n-Drop

1.9 Windows Forms Inheritance
1.10 Demonstration – Inheritance
1.11 Lab - Customer Form
Lab - Manipulating Windows Forms

Level 6

Working with Controls

1.1 Windows Forms Controls
1.2 Demonstration – Toolbar Controls
1.3 Dialog Boxes
1.4 Demonstration – Dialog Boxes
1.5 Validating User Input
1.6 Demonstration – Validating Data
1.7 Lab -Working with Controls
Lab - Open File Dialog Control

Level 7

Building Controls

1.1 Extending & Creating Controls
1.2 Demonstration – Creating Controls
1.3 Demonstration – Creating Composite Controls
1.4 Adding Design-Time Support for Controls
1.5 Demonstration – Control Design-Time Support
1.6 Licensing a Control
1.7 Demonstration – Licensing Controls
1.8 LIC File
1.9 Lab - Building Controls
Lab - Creating and Using Controls

Level 8

Building Web Applications

1.1 Introduction to ASP.Net
1.2 Response and Request Objects
1.3 Maintaining State
1.4 Managing ASP.Net Applications
1.5 ASP.net Security
1.6 Creating Web Form Applications
1.7 Demo - Creating Web Forms
1.8 Lab - Creating Web Forms
1.9 Building Web Services
1.10 Demo - Creating a Web Service
1.11 Using Web Services
1.12 Demo -Web Services
1.13 Lab - Customer Service Web Service
Lab - Using Web Services

Level 9

Using ADO.Net

1.1 ADO.Net Overview
1.2 .Net Providers
1.3 Demo - Ado.Net and Retrieving Data
1.4 Data Set Object
1.5 Demo - Using Datasets
1.6 Data Designers and Data Binding
1.7 Demo - Data Form Wizard
1.8 Data Binding
1.9 XML Integration
1.10 Demo - XML Schemes
1.11 Lab - ADO.Net Applications
Lab - Using Datasets

Level 10

Developing Components

1.1 Components Overview
1.2 Creating Service Components
1.3 Demo - Service Components
1.4 Lab - Creating a Service Component
1.5 Creating Component Classes
1.6 Demo - Creating Components
1.7 Threading
1.8 Demo SyncLock Statement
Lab - Stopwatch Component

Level 11

Interoperating Managed Objects

- 1.1 .Net and Com in Windows Applications
- 1.2 Demo - Com Components in .Net
- 1.3 Win32 APIs and Windows Applications
- 1.4 Demo -Win32 API
- 1.5 Lab - Com and Win32 APIs

Level 12

Printing and Reporting

- 1.1 Printing from a Windows Forms Application
- 1.2 Demo - Adding Print Support
- 1.3 Print Preview and Page Setup
- 1.4 Print Documents and GDI+
- 1.5 Demo - Print Documents and GDI+
- 1.6 Crystal Reports
- 1.7 Lab - Creating Crystal Reports

Lab - Crystal Report

Level 13

Asynchronous Programming

- 1.1 .Net Asynchronous Programming Model
- 1.2 Demo - Asynchronous VS Synchronous
- 1.3 .Net Asynchronous Support
- 1.4 Asynchronous Programming Model Design
- 1.5 Demo - Asynchronous Call and XML Service
- 1.6 Asynchronous Calls to any Method
- 1.7 State and Data Multithreaded Protection
- 1.8 Demo - State and Data Protection
- 1.9 Asynchronous Calls and XML Service

Level 14

Enhancing Usability

- 1.1 Adding Accessibility Features
- 1.2 Demo - Accessibility Features
- 1.3 Adding Help Support
- 1.4 Demo - Help Support
- 1.5 Localizing an Application
- 1.6 Demo - Localization
- 1.7 Lab - Application Usability

Lab - Add Context Sensitive Help

Level 15

Deploying Applications

- 1.1 Describing Assemblies
- 1.2 Deployment Strategy
- 1.3 Lab - Packaging Components
- 1.4 Creating a Setup Project
- 1.5 Demo - Deploying Web Applications
- 1.6 Lab - Deploying Windows Applications

Level 16

Securing Forms Applications

- 1.1 .Net Framework Security
- 1.2 Code Access Security
- 1.3 Demo - Security Policy Settings
- 1.4 Code Access Security Test
- 1.5 Demo - Permission Request
- 1.6 Role Based Security
- 1.7 Demo - Role Based Security
- 1.8 Lab - Permission Request

Lab - Security Policy Settings

Upgrading to Visual Basic.Net

- 2.1 Upgrade Decisions
- 2.2 Upgrade Options
- 2.3 Recommendations
- 2.4 Performing Upgrades
- 2.5 Demo - Upgrade Wizard
- 2.6 Course Summary

Lab - Upgrading to VB.Net