

70-536 R3 C#: .NET Framework 2.0 - Application Development Foundation

Course Introduction

8m

Module 01 - Working with Data Types

3h 36m

Working with Data Types
Working with Value Types
Making Your Own Structures
Using Enumerations
What is a Reference Type?
What's the Difference Between a Reference and Value Type?
Built-in Reference Types
Describing Arrays and Streams
Error Handling with Throw and Catch Exceptions
Understanding Classes and Inheritance
Using Interfaces
Process Diagram
Demo - Fundamentals
Demo - Data Access
Demo - Database Connectivity
Demo - Write Data
Demo - Intermediate Language Disassembler
Demo - Develop Custom Controls
Demo - INI Files
Demo - Type Conversion
Demo - Safe Conversion
Module 01 Review

Module 02 - Working with Text

37m

Working with Text
Creating Regular Expressions
Issues with Regex
Examples of Regex
Working with Encoding & Decoding Formats
Formats
NameSpace Used for Encoding
Demo - Regular Expressions
Demo - Encoding and Decoding
Module 02 Review

Module 03 - Understanding How to Use Collections

47m

Understanding How to Use Collections
Collections
Collection Types
Sequential Lists
Working Dictionary
Generic Collections
Demo - Collections
Demo - Objects and Generics
Module 03 Review

Module 04 - I/O Using the File System

58m

I/O Using the File System
Converting Types

Navigating the File System Through Programming
Working with Files
Saving Space and BW with Stream Compression
Isolated Storage
Demo - File I/O
Demo - Binary Read and Write
Demo - Memory Stream
Demo - Compress and Decompress
Demo - Isolated Storage
Module 04 Review

Module 05 - Working with Graphics

24m

Working with Graphics
System.Drawing Namespace
Graphics
Classes
Structures
Drawing Lines and Shapes
Working with Pens
Methods
Text
Text Formatting
StringFormat Class
Formatting
Images
Icons
Bitmaps
Demo - Graphics
Module 05 Review

Module 06 - Understanding Serialization

17m

Understanding Serialization
Serialization
Deserializing
Implementation
Serializable Attributes
Guidelines
XML Serialization
Limitations of XML Serialization
Demo - Serialization
Module 06 Review

Module 07 - Adding Protection and Isolation Through Application Domains

43m

Adding Protection and Isolation Through Application Domains
Application Domain
userName
Isolate Tasks
Implementation
Loading Assemblies
Configure Application Domains
Application Domain Security
Application Domain Properties
Demo - Application Domain
Module 07 Review

Module 08 - Installing Configurable Applications

38m

Installing Configurable Applications
Benefits to Application Configuration Settings
Configuration Decisions
Handling Configurations
Benefits of .NET Configuration
Common Settings
Creating an Installer
Installer Class
Using the Installer Class
Committing the Installation
Demo - Windows Service
Demo - Debugging Windows Service
Demo - Configuration
Module 08 Review

Module 09 - Creating a Multi-Threaded Program

2h 24m

Creating a Multi-Threaded Program
Threading
System.Threading Namespace
Main Thread
Threading Process
Thread Priority Enumerations
ParameterizedThreadStart
Stopping Threads
Critical Region
Run Method
Share and Lock Data
Thread State Diagram
Demo - Threads
Demo - Multi-Threading
Demo - Sleeping
Demo - Locking
Demo - Wait Thread
Demo - Producer/Consumer Queue
Module 09 Review

Module 10 - Debugging and Event Logging

47m

Debugging and Event Logging
Instrumentation
Reproduction of Problems
Log Files
Resolution of Problems
Windows Events
Benefits of Windows Events
Security
Debugging Code
Reasons for Debugging
Compilation Options
Common Methods of Debug Class
Trace Class
Monitoring Performance
Knowing Applications
Windows Management Instrumentation (WMI)
WMI Query Language

Demo - WMI
Demo - Instrumentation
Demo - Instrument Trigger
Module 10 Review

Module 11 – COM

23m

COM
Component Object Model (COM)
Runtime Callable Wrapper (RCW)
Exceptions
Functionality
P/Invoke
Benefits of Creating a P/Invoke Class
Callback Functions
Shortcomings with Using Unmanaged Code
Demo - COM
Module 11 Review

Module 12 - Using Reflection for Meta-Data

26m

Using Reflection for Meta-Data
Reflection
Code in the CLR
Assembly
Assemblies and Modules
Assembly Class
Assembly Attributes
Common Attributes
Getting Attributes
Reflecting Types
Enumerating Class Members
Demo - Reflection
Module 12 Review

Module 13 - Your Application Can Send E-Mail

42m

Your Application Can Send E-Mail
Mail
Creating a Mail Message
MailMessage Object
MailMessage Properties
Attach Files
HTML Messages
Sending Mail
Demo - Messaging
Demo - Mail
Module 13 Review

Module 14 - Providing Security to and from Applications

27m

Providing Security to and from Applications
Application Security
Code Access Security (CAS)
Role-Based Security (RBS)
Evidence
Security Policies
How CAS Works
Declarative CAS Demands

CAS Assembly Declarations
Types of Assembly Permission Declarations
Types of CAS Assembly Declarations
Permissions
Demo - CAS
Module 14 Review

Module 15 - Securing Data from Users

45m

Securing Data from Users
Protection
Role-Based Security (RBS)
Integration
Authentication & Authorization
Authentication & Authorization Example
User Name & Password
WindowsIdentity
WindowsIdentity Class Methods
User Information
Access User Groups
Permissions
Properties for PrincipalPermission
IIdentity
Access Control List (ACL)
Discretionary Access Control List (DACL)
Managing Permissions
Security Access Control List (SACL)
Users of SACL
Data
Encryption
Symmetric Key Encryption
Demo - Encryption and Decryption
Demo - Encrypt and Decrypt Data
Demo - RBS
Module 15 Review

Module 16 - Deploy Your Program Around the World

24m

Deploy Your Program Around the World
Globalization
System.Globalization Namespace
CultureInfo Class
Uses of CultureInfo Class
Culture Categories
Custom Culture
Installing Custom Culture
Custom Culture Properties
Demo - Culture
Module 16 Review
Course Closure

Total Duration: 14h 25m