Advanced.NET Framework 2.0 Using VB 2005: Part 3 of 3

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Meet the expert: Jan Fransen has been working to educate people in the best ways to use Microsoft products for more than 15 years. She's written both data-based and document-based applications for large and small companies and has helped hundreds of Office users and developers get started on the right foot through public and onsite training classes. As a writer, Jan has developed training courseware, contributed to books on Microsoft Office, written white papers for publication on MSDN, and created samples designed to help developers get up to speed quickly on new Microsoft products and features.

F. Scott Barker has over 15 years of experience as a software developer in Visual Basic .NET and most recently in C#. He has been a Microsoft MVP and worked at Microsoft as a member of the Access and FoxPro teams. Scott is a seasoned trainer and frequent speaker at Microsoft conferences worldwide. He has also been a contributing editor and writer for various technical magazines and has written several software development books.

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Course description: In this volume, you'll learn about the .NET Framework 2.0 system types like Generic and Reference types. Work with groups of data using various classes like Collection, Hashtable, ArrayList, and Dictionary. Improve type safety and performance using generic collections and manage data better by using specialized collections. You'll learn about object serialization and working with XML formatted data. Manage files and folders using the System.IO namespace. See how to work with external data using the Stream classes.

Course outline:

.NET Framework Class Library
- Introduction
- Overview
- System Types
- Value Type / Ref. Types
- Built-in Value Types
- Number Types
- Demo: Numeric Types
- ToString Method
- Demo: Numeric ToString
- Instance vs. Shared
- Nullable Type
- Numeric Shared Methods
- Demo: Nullable Value
- Dates and Times
- Demo: Date/Time Properties
- Demo: Date/Time ToString
- Date/Time Instance Methods
- Date/Time Shared Methods
- Summary

Reference Types
- Introduction
- Copy a Value Type
- Copy a Reference Type
- Value vs Ref. Types
- Work with Strings
- Overview: Stringbuilder
- String ReferenceTypes
- Demo: String Formatting
- Demo: Concatenate Strings
- Demo: Stringbuilder
- Overview: Arrays
- Array Methods
- Iterating Arrays
- Demo: Work with Arrays
- Handling Exceptions
- Demo: Work w/Exceptions
- Summary

Conversion
- Introduction
- Implicit Conversions
- Using Option Strict
- Convert Explicitly
- VB Conversion Functions
- Convert w/.NET Framework
- Boxing / Unboxing
- Wide/Narrow Conversion
- Demo: ToString
- Demo: Parse/TryParse
- Summary

Custom Types
- Introduction
- Overview: Custom Types
- Value vs Ref. Type
- Constants
- Enumerations
- Demo: Constants
- Demo: Enumerations
- More Complex Enum.
- Structures
- Demo: Simple Structure
- Constructors
- Properties
- Add Methods to Structure
- Property vs Method
- More Complex Structure
- Summary

Creating Classes
- Introduction
- Overview
- Class Constructors
- Properties / Methods
- Demo: A Simple Class
- Inherited Members
- Overloading Methods
- Instance / Shared members
- ApplicationException Class
- Handle Exceptions
- Complex Class/Shared Mem.
- Demo: Exceptions
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Advanced Custom Types
- Introduction
- Using Attributes
- Built-in Attributes
- TypeForwardedToAttribute
- Build Your Own Attributes
- Implement Interfaces
- Use IComparable
- Use IDisposable
- Use IConvertible
- Use ICloneable
- Use IEquatable
- Use IFormattable
- Create Custom Interfaces
- View Custom interface
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Delegates and Events
- Introduction
- Overview: Delegates
- Overview: Events
- Custom Event Handler
- Generic Classes

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- Create Generic Types
- Consume Generic Type
- Add Constraints
- Demo: Generic Class
- Demo: Constraints
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Simple Collections
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- Overview: ArrayList
- Demo: ArrayList
- Common Functionality
- IEnumerable Interface
- IEnumerator Interface
- ICollection Interface
- IList Interface
- CollectionBase Class
- ReadOnlyCollectionBase
- Implement Custom Collection
- Sequential Lists
- Queue Class
- Stack Class
- Demo: Queue
- Demo: Stack
- Summary

Dictionaries and Sorting
- Introduction
- Dictionary Classes
- Handle Key/Value Pairs
- Hashtable
- GetEnumerator
- Demo: Hashtable
- Demo: DictionaryEntry
- Determine Duplicates
- IEqualityComparer
- Demo: IEqualityComparer
- SortedList
- Demo: SortedList
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- Comparer Class
- Implement ICompare
- SortedList Collection
- Custom Sort Collection
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- Generic Collections
- Generic List Class
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- Demo: Generic List
- Demo: Iterate Generic List
- Demo: Find / Predicates
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- Generic Stack Class
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- Demo: Generic SortedList
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- Demo: LinkedListNode
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- StringWriter
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- Demo: BinaryReader/Writer
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• Demo: Compress File in IS
• Summary