Visual Basic .NET 2003 Part 2

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Ken Getz is a featured instructor for several of our Visual Studio courses. He is a Visual Basic and Visual C# expert and has been recognized multiple times as a Microsoft MVP. Ken is a seasoned instructor, successful consultant, and the author or co-author of several best-selling books. He is a frequent speaker at technical conferences like Tech-Ed, VSLive, and DevConnections and he has written for several of the industry's most-respected publications including Visual Studio Magazine, CoDe Magazine, and MSDN Magazine.

Mary Chipman is a programmer-writer for the Data Access Technologies team at Microsoft. Previously, she was a senior consultant and was repeatedly recognized as a Microsoft MVP. Mary is the co-author of the "Microsoft Access Developer's Guide to SQL Server" (Sams) and has written additional books and articles for technical journals. She has been a frequent speaker at industry conferences and is an experienced trainer and courseware author.

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Course description: In the first part of this course you will learn how to use Visual Studio .NET and Visual Basic .NET to build applications to run on the .NET platform. You will become familiar with the new Visual Basic .NET programming syntax including new object-oriented enhancements like inheritance. This course teaches you how to create Windows Forms and trap Windows Forms Events. You will learn how to access data using the new objects in ADO.NET including the DataReader, DataAdapter, and DataSet. Learn to build solid applications using the new Try/Catch block and Exception Object for efficient error trapping and Event logging and Breakpoints for effective debugging. Tap into the Internet by building Web-based application and XML Web Services including understanding the SOAP toolkit, UDDI, and how to build Web Services consumers. Learn how to leverage the security features in the .NET framework and build powerful reports using Crystal Reports.

Course outline:

ADO.NET
- Overview
- Introduction to ADO.NET
- ADO.NET Classes
- OleDb vs. SqlClient
- System.Data
- ADO.NET Architecture
- Presentation Tier
- DataTable Object
- Filling a DataTable
- Summary

Connections and Commands
- Overview
- Set Up Connections
- Make the Connections
- Commands
- Command Object
- DataReader
- SqlDataReader
- Close Connections
- Summary

Working with Data
- Overview
- DataAdapter Object
- DataSet Object
- Filling a DataSet
- OleDb DataSet
- Iterate Rows and Bind
- Rows and Columns
- Using SqlDataAdapter
- Iterate Columns
- Summary

ADO.NET Providers
- Overview
- Choosing a Provider
- SQL Data Provider
- OLE DB Provider
- ODBC Data Provider
- Multiple Providers
- Use Interface Inheritance
- ReadData Procedure
- Using IDataReader
- Summary

Using COM Objects
- Overview
- Component Types
- .NET Advantages
- CLR vs. COM
- Runtime Callable Wrapper
- Use VB6 COM Object
- Summary

Support Data to Excel
- Overview
- Working in Excel
- Send Data to Excel
- ReleaseComObject
- Explicitly Declare / Release
- Summary

Platform Invocation Services
- Overview
- Calling Windows API
- Create Wrapper Class
- Call Wrapper Class
- Summary

COM Callable Wrapper
- Overview
- Compiler
- Create COM Object
- Set Properties
- Calling .NET
- Summary

DataBinding Basics
- Overview
- .NET DataBinding
- Setting Up DataSource
- Data Adapter Wizard
- Generating a DataSet
- Bind DataGrid Control
- Add Fill Method
- Summary

Limiting Results
- Overview
- Query by Form
- Generate DataAdapter
- Categories DataSet
- Bind / Fill ComboBox
- Create Parameter Query
- ComboBox Categories
- Summary

Data Navigation
- Overview
- Context and Navigation
- Set Properties
- BindingContext

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- Run Navigation Buttons
- Binding Alternatives
- Summary

Data Form Wizard
- Overview
- Access the Wizard
- Build from DataSet
- Run / Load Form
- Add / Bind Controls
- Bind Control in Code
- Bind Control to Controls
- Summary

Review Classic ASP
- Overview
- ASP Example
- Data Access Code
- ASP Object Model
- View Example
- Handling ASP Postbacks
- Mixing Code & HTML
- Generated HTML
- Summary

ASP vs. ASP.NET
- Overview
- Loosely-typed Code
- Limited Tools
- Obscure Settings
- Compiled Code
- XML-based Files
- Automatic Handling
- Summary

Create ASP.NET Application
- Overview
- Create New Project
- Web Form Layout
- HTML View
- Edit Control Properties
- Code Window
- Edit Code
- Test Application
- Rendering HTML
- Summary

Server Controls
- Overview
- Sample Page
- HTML Controls
- Work with HTML Controls
- Retrieve Data
- Hidden Control
- HTML Table Control
- Setting HTML Properties
- Summary

Using Web Controls
- Overview
- Sample Page
- DataGrid Properties
- Bind Data to DataGrid
- Use Control Events
- AutoPostBack
- Client-side Code
- Summary

Using DataSets
- Overview
- ADO.NET Object Model
- Advantages
- XML Bridge
- ASP.NET Using DataSet
- Caching Data Changes
- Accept / Reject Changes
- Constraints in DataSets
- Update Database
- Summary

Creating DataSets
- Overview
- Code Overview
- Page_Load Event
- Fill Method
- DataSet to Session
- Retrieve DataSet
- Add Constraints
- Constraints
- Add Relations
- Summary

Update with DataAdapters
- Overview
- Add Commands
- Get Commands
- ASP.NET DataGrid
- Custom Commands
- Add Parameters
- SourceVersion
- Stored Procedures
- Output Parameters
- Summary

AutoIncrement
- Overview
- Column Properties
- Value Conflicts
- AutoIncrement Strategy
- Summary

Transactional Model
- Overview
- ADO.NET Batch Process
- BeginEdit / EndEdit
- Explicit Transaction
- DataRowVersion
- RowState
- GetChanges Method
- AcceptChanges
- RejectChanges
- Summary

DataSets and XML
- Overview
- Data and Schema
- File Creation
- Create Nested XML
- Open XML Schema
- XML View
- Constraints
- Summary

DataSets and Nested XML
- Overview
- Open Nested Schema
- Reading XML File
- Implement XML Schema
- ReadXML
- Summary

Typed DataSets
- Overview
- Advantages
- Fill DataSet
- View Typed Schema
- Generate DataSet
- View Typed Objects
- Work with Typed DataSets
- Summary

Creating XML Schema
- Overview
- Create Typed DataSet
- Modify Schema
- Define Relationship
- Add Constraints
- Saving Schema
- Summary

Using Crystal Reports
- Overview
- Crystal Reports for VS.NET
- Report Layout
- Report Issues
- Setting Up Data
- Create Report
- View Expert Results
- Summary

Modifying Reports
- Overview
- Modify Fields
- Format Objects
- Format Sections
- Set Up to View Report
- Load Report
- View Report
- Summary

Crystal Reports Formula
- Overview
- Customized Behavior
- Background Formula
- Build Expression
- Review Expression
- Apply Formula to Report
- Calculated Fields
- Format Calculated Fields
- Summary

Grouping and Totaling Reports
- Overview
- Group Options
- View Grouped Report
- Subtotal / Grand Total
- Format Options
- Filtering Reports
- Programmatic Filtering
- Summary

Windows Services
- Overview
- Starting Services
- Considerations
- Building Windows Services
- Windows Services Code
- Service Properties
- Build Service Installer
- Install Service
- Test / Uninstall
- Summary

Windows Service Example
- Overview
- Starting Example
- Event Procedures
- OnStart Event
- Install Setup
- Test
- Debug
- Summary

Understanding Web Service
- Overview
- Functionality Issues
- Web Service Code
- Test Web Service
- Service Providers
- Web Service
- Summary

Web Service Example
- Overview
- Sample Project
- Web Service Methods
- GetAllInventory Method
- GetInventory Method
- WSDL Document
- Namespace
- Summary

Web Service Clients
- Overview

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- Adding Web References
- Web Reference Files
- Reference.vb
- Calling Web Services
- Retrieve Value
- Retrieve DataSet
- Summary

MS SOAP Toolkit
- Overview
- Downloading SOAP
- Set COM Reference
- Using SOAP
- Call Web Services
- Summary

Using UDDI
- Overview
- UDDI on the Web
- Search UDDI Service
- Add Reference
- Implement Web Service
- Summary

Binding to Views
- Overview
- Data Grid Controls
- Binding Context
- Adding Relationships
- Binding to Relations
- Summary

Formatting the DataGrid
- Overview
- Table Styles
- DataGridTableStyle Editor
- Format DataGrid
- DataGrid Format Property
- Summary

Restrict DataGrid Editing
- Overview
- Updating Columns
- Allow Edit / New / Delete
- Using DataViews
- Summary

ListBox Controls
- Overview
- ListBox Tools
- Add Items to ListBox
- Set ListBox Focus
- Bind to an Array
- Summary

Working with Images
- Overview
- Populating Options
- Populate ListBox
- Remove Header
- Picture Box
- Get Image
- Insert Image
- Clean Up Database
- Summary

Code Access Security
- Overview
- Security Features
- Code-based Security
- Policy Levels
- Configuration Tool
- Evidence
- Stack Walk
- Permission Requests
- How Managed Code Works
- Summary

Implementing Requests
- Overview
- Declarative Security
- Security Action
- Embedded Attributes
- Imperative Security
- Summary

Using Role-based Security
- Overview
- Concepts
- Principal Objects
- Enable Role Example
- Add New Group
- Security Implementation
- Validate Identity Role
- Set Security Attributes
- Permission in Code
- Summary

MDI Properties
- Overview
- Sample Project
- IsMdiChild
- IsMdiContainer
- Create MdiParent
- Code MDI Forms
- Summary

Menus in MDI
- Overview
- Merge Menus
- MDI List Properties
- Active MdiChild Properties
- MergeType / MergeOrder
- MDIChild Code
- Add Menus and Submenus
- Cut / Copy / Paste Code
- Summary

Microsoft MDI Sample
- Overview
- MDI Samples
- Image Organization
- Use MDI ToolBars
- ImageList Controls
- Built-in Components
- Serializable Classes
- Graphical Procedures
- Serialize / Deserialize
- Summary

Graphic Manipulation
- Overview
- Sample Form
- OwnerDraw ComboBox
- OwnerDraw Options
- DrawItem Event
- DrawList Item
- Use GDI+ Objects
- Array List
- DrawItem
- Summary

Drawing on Forms
- Overview
- Example Code
- Reflection
- Assign Array
- CreateGraphics
- Pass Parameters
- Set Up GDI+ Objects
- GDI+ Brush Object
- Override OnPaint
- Summary

Transparency and Shaping
- Overview
- Transparency Example
- Shaping Forms
- OwnerDraw Menu
- MenuItem Size
- Draw MenuItem
- TransparencyKey
- GraphicsPath
- Regions and Opacity
- Summary

Sample Deployment
- Overview
- The Basic Unit of Deployment
- Use ILDASM.EXE
- Private / Shared Assembly
- Deployment Options
- Summary

Windows Installer
- Overview
- MSI
- Create New Package
- Select Files
- Build MSI File
- Install / Uninstall
- Registry / File Types
- Custom Actions
- Replace MSI Files
- Summary

Deploying to the GAC
- Overview
- Versioning
- Version Numbers
- Assembly Cache Viewer
- Using Strong Names
- SN.EXE
- Sharing Components
- Install in GAC
- Add Merge Module Project
- Summary

HTTP Deployment
- Overview
- Example
- XCopy Deployment
- Security Settings
- Run Deployed Application
- Configure Evidence
- Configure Assembly Trust
- Summary