

Getting Current with Delphi XE

This course is a four-day course on Delphi XE. This course is designed to provide the Delphi professional with the opportunity to explore the enormous wealth of features that have been added to Delphi in recent years. During this time, the Delphi integrated development environment, debugger, compiler, and especially the Delphi language have all undergone a radical transformation.

This course focuses on bring Delphi developers up-to-date with Delphi's rich assortment of new features. In particular, features added in Delphi 2005 through Delphi XE are explored. The course starts with the VCL and RTL enhancements that have been added to Delphi. Next, we take a look at the language features. Included in this discussion is a focus on how Unicode-enabled Delphi affects your code as well as issues involved in migrating existing applications to unicode-enabled Delphi. We then explore the Delphi IDE and Debugger features added to Delphi. Next, we cover Delphi DataSnap and building DataSnap Clients and Servers. We finish up with a look at preparing for 64-Bit Delphi.

Although this course is intended for experienced Delphi developers, we can also customize this course for developers who have less experience with Delphi.

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Course includes a course book plus all code examples presented along with additional code examples.

Getting Current with Delphi: VCL and RTL Enhancements

Delphi 2005

- Integrated Unit Testing
- ButtonGroup and CategoryButtons
- DockTabSet
- Other Enhancements

Delphi 2006

- Margins and Padding
- New Panel Types
- Tray Icon
- IntelliMouse Support
- Other VCL/RTL Enhancements

Delphi 2007

- Vista and XP Themes

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Vista and Windows 7 Dialogs
MainFormOnTaskbar
ShellResources Component
dbExpress 4
Other Enhancements

Delphi 2009

Unicode Support
DataSnap 2009
Additional Vista/Windows 7 Improvements
GlowSize
TCustomButton
TProgressBar
New and Enhanced Components and Classes
TCustomButton Revisited
TEdit
TButtonEdit
TLinkLabel
TCategoryPanelGroup and TCategoryPanel
TListView
Ribbon Control
TCustomHint and TBallonHint
Generics
Enhancements Borrowed from .NET
System.TMonitor
TStringBuilder
Reading and Writing Files and Streams
.NET-Inspired TObject Methods
Other Enhancements

Delphi 2010

Gestures
Adding Gesture Support
Gestures and Event Handlers
Creating Custom Gestures
JSON Support
Creating a JSON Object
JSON Object to String
String to JSON Object
Retrieving Data from a JSON Object
Marshaling and Unmarshaling
Virtual Keyboard
DataSnap Enhancements
Other Enhancements

Delphi XE

Regular Expressions
More DataSnap Enhancements
Thread Enhancements

Other Enhancements

Summary

Delphi Unicode Support and Issues

What is Unicode?

Unicode in Delphi

What to Watch Out For

Assumptions About a Character's Size in Bytes

Assignment Between UnicodeStrings and AnsiStrings

Reading and Writing Files

Getting Current with Delphi: Language Features

Delphi 2005

New Visibility Directives

Namespace Support

FOR IN Loop

Function Inlining

Nested Types and Nested Type Constants

The & Character in Identifiers

Class Helpers

Unicode Characters in Non-published Identifiers

Delphi 2006

Enhanced Records

Record Members

Overloaded Operators

Record Helpers

New Class Members

Class Variables

Class Static Methods

New Class and Methods Directives

Abstract Classes

Sealed Classes

Final Methods

Delphi 2007

Delphi 2009

Unicode

Generics

Using Generics

Generic Constraints

Anonymous Methods

Anonymous Method Types

Anonymous Methods and Closures

Scoped Enumerators

InnerExceptions

Other Language Enhancements

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Delphi 2010

- Expanded and Enhanced RTTI Attributes
- Delayed Loading of DLLs
- Interface Operators and Casting
- Class Constructors and Destructors

Delphi XE

Summary

Getting Current with Delphi: IDE and the Debugger

Delphi 2005 IDE

- New IDE with Dockable Panes
 - The Structure Pane*
 - Floating Designer*
- Code Folding in the Editor
- New Tool Palette with Search (Ctrl-Alt-P)
 - Enhanced Tool Palette Behavior*
- Refactoring
 - Symbol Renaming*
 - Variable and Field Declarations*
 - Resource Refactoring*
 - Extract Method Refactoring*
 - Find Unit*
- SyncEdit
- History Manager
 - The Content Pane*
 - The Info Pane*
 - The Diff Pane*
- Other IDE Enhancements
 - Error Insight*
 - Help Insight*
 - Toggle Comments*
 - Filename in Object Inspector*
 - Group by Option in Find in File*
 - Saving Messages Pane Contents*
 - Persistent Bookmarks*
 - Small Update to Code Navigation*
 - Saving Source Files As Unicode*
 - Basic XML Document Generation*

Delphi 2005 Debugger

- Run Without Debugging
- Updated Breakpoint-Related Dialog Boxes
- Log Call Stack Breakpoint Option
 - Updated Breakpoint pane*
 - Frame Selection in the Local Variables Pane*

Delphi 2006 IDE

Designer Alignment Assistance

Dynamic Alignment Guides

Design Guidelines

Form Positioner

Live Templates

Access Live Templates

The Parts of a Live Template

Custom Live Templates

Surround Templates

Active Scripts

Block Completion

Enhanced Navigation

Custom Help Sight Support

Change Parameter Refactoring

The Enhanced Code Editor Gutter

Other IDE Enhancements

Delphi 2006 Debugger

FastMM

File Closing Options

Reintroduction of the Remote Debug Server

Other Debugger Enhancements

Expandable Local Variables and Watches Panes

Expandable ToolTips

Grouped Watches

Control over Order of Symbol Table Loading

Delphi 2007 IDE

MS Build

Build Configurations

Build Events

Project Page

Delphi 2007 Debugger

Frame Breakpoints in the Call Stack

Ignoring Non-user Breakpoints

Transparent ToolTips (hold down CTRL key)

Delphi 2009 IDE

Updated Resource Support

Choice of Resource Compilers

Resource Editor

Integrated Resource Linker

Updated Type Library Editor

Other IDE Enhancements

Class Explorer

Together No More

Inheritable Build Configurations

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Flat, Nested, and List Options in the Project Manager

Delphi 2009 Debugger

Wait Chain Traversal
InnerExceptions

Delphi 2010 IDE

IDE Insight
Code Formatter and Formatting Options
Component Toolbar
Updates to Searching
New Incremental and Find Search Bar
Search in Directories and Directory Groups
Object Repository Search
Other IDE Enhancements
Managing the Reopen Menu
Background Compilation
Audits and Metrics Without Modeling Support
Reserve Words in Code Completion
Refactoring and Generics

Delphi 2010 Debugger

Debugger Visualizers
Skip/Replay
Enhanced Thread Debugging
Breaking on a Specific Thread
Freezing and Thawing Threads
Other Debugger Enhancements
Event Log Scroll Lock
New Context Menu Items in Registers Pane of CPU Windows

Delphi XE IDE

Subversion Integration
Updated Code Formatting
Other IDE Enhancements
Embedded Help
Build Groups in Project Manager
Display Preferences in Help
Command-Line Tools for Audits, Metrics, and Document Generation
Other Enhancements

Delphi XE Debugger

Updated Breakpoint Windows
Third-Party Tools
Auto-Close the CPU and Modules After Debugging

Summary

Building DataSnap Servers and Clients

DataSnap Servers

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- COM-Based DataSnap Servers
- IP-Based DataSnap Servers
- Building a DataSnap Server
- Exposing DataSetProviders and Methods from your DSServerModule
- Authentication and Authorization
 - Authentication*
 - Authorization*
- Filters: Encrypting and Compressing Client/Server Communications
- Installing a DataSnap Server
- DSServerModules and Concurrency

DataSnap Clients

- COM-Based DataSnap Clients
- IP-Based DataSnap Clients
- Creating an IP-based DataSnap Client
 - Adding IP-Based DataSnap Server Connectivity*
 - Adding Support for Filters*
 - The Server Methods Proxy Class*
 - Connecting to the DataSnap Server*
 - The Effects of Authentication and Authorization*

Creating a DataSnap Server Windows Service from a DataSnap Server VCL Forms Application

Summary

Getting Ready for 64-Bit Delphi

Overview of 64-Bit Computing

- The Need for a 64-Bit Delphi Compiler
- Data Types and the 64-Bit Compiler
- Do I Have to Compile in 64-Bits in Future Delphi?
- Windows 64 Issues
- Code Affected by 64-Bit Compilation

Summary