

Delphi XE8 Development **Essentials**

Delphi XE8 Development Essentials 1st edition, April 2015



Author: Bob Swart (aka Dr.Bob) **Bob Swart Training & Consultancy (eBob42)**





Table of Contents

1. Delphi XE8	1
XE8 Editions	1
Subscription	2
RAD Studio	2
2. Installation and Configuration	3
Installation	3
Installation Notes	3 7 7
CodeSite Express	7
FastReport	7
IntraWeb	7
TeeChart Standard	7
DUnitX Unit Testing Framework	7
Android SDK and NDK	8
Additional Available Downloads	13
ER/Studio Developer Edition	13
DB PowerStudio Developer Edition	13
HTML5 Builder	13
IP*Works!	14
AQtime Standard	14
FastReport FMX More Additional Tools	14
After Installation	14 15
Run this program as an administrator	15
Registration	16
Embarcadero Support	17
Subscription Login	18
About Box and Version	18
Settings Migration	19
RAD Studio Help and Docwiki	22
Mobile Help Wizard	23
Manual Automatic Updates?	24
Summary	25
3. Delphi XE8 New Features	26
IDE Enhancements	26
Version Insight: Mercurial Version Control System	26
Castalia	27
Customer Experience Program	27
XE8 Welcome Page	28
FireMonkey Designer	29
FireUI	29
Compiler Enhancements	33
DCCiOSARM64	33
New Data Types FixedInt and FixedUInt	33
Dynamic Arrays as Strings	33
RTL Enhancements	34
New HTTP Client API	34
Beacon Support Classic Bluetooth Component	34 34
CIASSIC DIDELOCHT COMDONEM	.34

Delphi XE7 RTL Enhancements Parallel Threading Library Parallel for-loop Parallel Task VCL Enhancements TAppAnalytics VCL Sensor Components App Tethering App Tethering Logging Summary	34 34 35 36 37 37 37 38 38 42
4. Delphi 64-bit Development	43
32-bit vs. 64-bit Data Types	43
64-bit Floating Point	43
Platform Assistant	44
64-bit code examples	46
Remote Profile	47
GetMem	51
64-bit DLLs	53
New Delay Loading 64-bit Deployment	54 56
64-bit Database drivers	57
64-bit Components	57 57
Summary	58
F. V. Dlotform with FinalMankov	59
5. X-Platform with FireMonkey Mac OS X	59
FireMonkey	59
Project Targets	59
FireMonkey Example	60
FireMonkey Controls	62
HD Example	78
Mac OS X	79
Mac OS X Development	82
Mac OS X Deployment	87
Migration from VCL to FireMonkey	88
FireMonkey Connectivity	88
FireMonkey and SOAP	88
SOAP Client	89
Deployment to Mac OS X	90
FireMonkey 3D vs. HD FireMonkey 3D Requirements	91 91
3D Demo	91
LiveBindings	92
Data-binding	93
Link to DB DataSource	93
DataSnap Client	98
Example DataSnap Server	98
Returning DataSets	101
DataSnap Client	103
Connecting to the DataSnap Server	103
SqlServerMethod	104
Mac OS X Target	106
Summary	106

6. Mobile Development	107
NextGen Compiler	107
Strings	107
ARC	108
Operator Overloading for Classes	110
Pointers	112
with	112
ASM	112
Mobile Development	112
Setting up your Mac for iOS Development	113
Mac OS X	113
iPhone, iPad or iPod	113
Xcode	113
Platform Assistant	113
Setting up your Android environment	114
Java Development Kit (JDK)	114
Android Software Development Kit (SDK)	114
Android Native Development Kit (NDK)	114
SDK Manager	115
USB Driver for Android Device	115
IDE Enhancements for Mobile	117
New Target Platform: iOS Device - 64 bit	117
iOS Code Signing options	119
'Receive Push Notification' No Longer Needed	119
iOS Simulator Targets	119
Multi-Device Preview	120
Device Manager	121
Disabling Built-in Java Libraries for Android	122
Summary	122

Apart from this Delphi XE8 Development Essentials courseware manual, with a general overview of the new features in Delphi XE8 compared to previous versions of Delphi XE (and the free bonus manual Delphi XE Development Essentials with new features since Delphi 7), there are a number of Delphi courseware manuals available with far more indepth coverage of certain topics:

- Delphi XML, SOAP and Web Services
- Delphi DataSnap Development
- Delphi Mobile Development (Android and iOS)
- Delphi Web Development (WebBroker and IntraWeb)

See http://www.eBob42.com/courseware for more details on these and other Delphi courseware manuals.

The information in this courseware manual is © 2011-2015 by drs. Robert E. (Bob) Swart of Bob Swart Training & Consultancy. All Rights Reserved.

The information in this courseware manual is presented to the best of my knowledge at the time of writing. However, in case of errors or omissions, I welcome your feedback or comments (by e-mail) as Bob Swart Training & Consultancy cannot be held responsible for any damage that results from using the information in this manual or the example source code snippets. Thanks in advance for your understanding.

1. Delphi XE8

Delphi XE8 was released in April 2015. The Delphi XE8 Install from the Web can be downloaded from CodeCentral registered users (if you've installed and registered Delphi XE8 already). For unregistered users, you can download and install/register Delphi from http://altd.embarcadero.com/download/radstudio/xe8/delphi xe8 esd.exe and also from http://altd.embarcadero.com/download/radstudio/xe8/radstudio-xe8-esd.exe

You can download the 5.2GB ISO for the RAD Studio XE8 installation (to burn on a DVD) from http://altd.embarcadero.com/download/radstudio/xe8/delphicbuilder_xe8_win.iso

In this document, I will cover some of the Delphi XE8 noteworthy new features. Some available only in the Enterprise or higher editions (like the DataSnap enhancements), but mostly new features available in all editions. I will also cover some features that were introduced in previous versions of Delphi, and were enhanced in Delphi XE8.



XE8 Editions

There are five (5!) different editions of Delphi XE8 available for purchase. Below, I'll list the New User and Upgrade prices (in EURO without 21% VAT, available from http://www.bobswart.com/CodeGear for EU customers), plus – in the last column - the subscription price (for the first 12 months, renewable each year):

Delphi XE8	New User	Upgrade	Subscription
Starter	225,=	171,=	n/a
Professional	1119,=	613,=	373,=
Enterprise	2798,=	1678,=	933,=
Ultimate	3918,=	2464,=	1306,=
Architect	4477,=	2798,=	1493,=

There are two add-on packs for Delphi Professional: one is called the Mobile Add-On Pack, and the other is called the FireDAC Client/Server Add-On Pack. Both cost 559 Euro for a New User, 332 Euro for an Upgrade, and 186 Euro for the annual subscription. Note that if you take them both, it may be a better idea to turn to the Enterprise edition of Delphi (which also includes DataSnap for multi-tier development).

Subscription is possible for New User or Upgrades. For an upgrade, you need to own at least Delphi XE4 or higher. Otherwise, a New User license is required, or you need to purchase Subscription together with the Upgrade.

Until June 30, 2015, you can Upgrade from Delphi XE3 without subscription required.

Delphi XE8 Ultimate is the same as Delphi XE8 Enterprise plus the addition of DB PowerStudio. **Delphi XE8 Architect** is the same as Delphi XE8 Enterprise plus the addition of ER/Studio. The two database products are from Embarcadero (who is the owner of Delphi). To be honest, as a reseller I mostly sell Professional and Enterprise editions of Delphi. The biggest difference between the Professional and the Enterprise editions is the DataSnap technology, which is part of the Enterprise edition only, as well as the Mobile Development and the FireDAC functionality which can also be purchased separately if you own the Professional edition.

For the complete details, see the official Embarcadero Delphi XE8 feature matrix at http://www.embarcadero.com/products/delphi/delphi-feature-matrix

The Starter edition is limited, check out the conditions and constraints before you purchase this edition (especially if you plan to make some money with it).

Apart from these five commercial editions, you can also get special Academic versions of these Delphi editions, but only if you are a registered student at a school or university (obviously, these Academic editions cannot be used for any commercial development). Finally, you can download a 30-day trial edition of Delphi Architect to get a hands-on feeling of what the product is capable of. This does not include source code by the way, and you obviously are not allowed to deploy applications compiled with the trial edition.

Subscription

Subscription is offered for the Professional edition and higher, and is valid for a period of a year (optionally extended each year by another year before the subscription expires). With an active subscription, developers will automatically get the new editions of Delphi once released by Embarcadero. Plus they get the right for three so-called "incident support calls" with Embarcadero (for example for problems that even your reseller cannot solve for you). Subscription is especially beneficial for the high-end editions of Delphi, but even for Professional users if they upgrade at least once every two years, especially since Embarcadero is currently releasing two new version of Delphi each year!

RAD Studio

If you purchase Embarcadero RAD Studio, which includes C++Builder and HTML5 Builder apart from Delphi, the prices are as follows (see http://www.bobswart.com/CodeGear for more details):

RAD Studio XE8	New User	Upgrade	Subscription
Professional	2023,=	1216,=	674,=
Enterprise	3358,=	2238,=	1119,=
Ultimate	4477,=	3013,=	1493,=
Architect	5037,=	3358,=	1679,=

With an active subscription of Delphi or RAD Studio, you also get a (5-15%) discount on my training days and courseware manuals, see again http://www.bobswart.com for more details.

Make sure to purchase your license and subscription through a reseller (and not directly from Embarcadero itself). A reseller will most often offer you added-value, and it's always possible to switch from one reseller to another (but it's not possible to switch from Embarcadero to one of the resellers, especially not if your subscription is already "bound" to Embarcadero itself).

The official RAD Studio 2015 Roadmap from Embarcadero can be seen at http://community.embarcadero.com/index.php/blogs/entry/rad-studio-2015-roadmap
Also, an image was shown at several of the road shows and presentations, showing the focus of Embarcadero to bring Delphi applications to different platforms:



This list is missing Linux, for which Embarcadero also mentioned doing initial research (especially for Linux server applications).