

## MÅL

Du ska efter kursen kunna skriva avancerade databasdrivna Windows- och webbapplikationer som utnyttjar de senaste funktionerna i Delphi 2007 och CodeGear RAD Studio 2007.

Kursen genomförs i Göteborg.

## FÖRKUNSKAPER

Du ska ha 2-3 års erfarenhet av programmering i Delphi.

## KURSLÄRARE

Lärare är **Bob Swart**, mer känd som "Dr. Bob", från Holland. Bob har en lång erfarenhet som utbildare och konsult och är en ofta anlitad talare på Delphi-konferenser runt om i Europa. Läs mer om Bob på [www.drBob42.com](http://www.drBob42.com).

## KURSLÄNGD

3 dagar.

## SYLLABUS

THIS COURSE IS TAUGHT IN ENGLISH

This 3-day training event will be performed by Bob Swart, using the courseware material from Bob Swart Training & Consultancy and hosted by PC-Ware in Gothenburg, Sweden.

### Monday, May 19th

Monday, May 19th, will be the Delphi 2007 Essentials and Database Development Essentials day. We start in the morning with an introduction to Delphi 2007 and CodeGear RAD Studio 2007, with the focus on IDE changes and language enhancements (compared to Delphi 7). In the afternoon, this is followed by a coverage of database access technologies in Delphi 2007, where the attention will not be on the different databases available, but more on the different ways to access the data from these databases from VCL applications. I will use a number of different databases, including SQL Server, InterBase, Blackfish SQL, and the local table formats Paradox, dBASE and MyBase.

The main focus however will be the available data access technologies available to Delphi developers. I will mainly cover data access components found in Delphi itself (i.e. "in the box").

#### 9:00 - 10:30 Intro Delphi 2007 IDE (Enhancements)

Compared to Delphi 7, the Delphi 2007 and CodeGear RAD Studio IDE is quite different. In this first session, I'll show and demonstrate the new way the IDE works with the embedded designers (with the VCL designer guidelines – one of the most helpful new features in Delphi 2007), the tool palette and the different tools options. The code editor with the enhanced code insight, error insight and live templates will be demonstrated in detail, as well as the refactoring and unit testing capabilities.

#### 10:45 - 12:00 Language Enhancements

After the first break, we'll continue with the major language enhancements that have been implemented in Delphi since version 7, including the strict private and protected keywords, the concept of namespaces and their connection to unit names, final methods and sealed classes, class helpers, and embedded const, type and data declarations inside classes (which allow the possibility for nested classes). The new for-in-do loop will also be demonstrated in detail.

Finally, we'll see some new VCL components like the TTrayIcon and the new Vista dialog components.

#### 13:00 - 14:15 BDE / dbGo for ADO / TClientDataSet / DBX4

After lunch, we'll cover database access technologies found in Delphi, with the focus on the new dbExpress 4 framework. For each of the data access techniques, we will discuss the pros and cons, plus the list of available database drivers for these particular data access components. The list includes the following technologies:

- Borland Database Engine (BDE) and SQL Links
- ADO Express / dbGo for ADO
- TClientDataSet
- dbExpress (DBX4)

Criteria to compare these techniques include the ease of use, as well as portability (Win32, .NET and even Linux) of the code and drivers, performance, scalability and availability of recent drivers for new versions of database.

We will start with the BDE / SQL Links, but also spend some time on dbGo for ADO (aka ADOExpress), dbExpress, the stand-alone ClientDataSet possibilities, and especially the latest version of dbExpress called DBX4. For each technology, I will explain the strong and weak points, and implement a simple but non-trivial database application to demonstrate and compare the techniques.

A significant amount of time will be spend covering the latest release of dbExpress, also called DBX4. Among the DBX4 sub-topics that are covered are disconnected data model, connecting to databases, DataSetProvider and ClientDataSet, reconciling updates, dbExpress drivers, delegate drivers (plus an example of writing our own delegate DBX4 driver), connection pooling, tracing, and finally deployment.

### **14:30 - 15:45 Migration to DBX4**

Since the BDE has also been "frozen" and SQL Links even deprecated, with dbExpress (and especially DBX4) moved forward as the solution to migrate database applications to, I will also spend some time in showing how to migrate BDE / SQL Links applications to ADO (using dbGo for ADO) or DBX4, using some of the existing demos that are included with Delphi.

Migrating VCL database application to ADO or DBX4 will be an important topic for those of us who have to maintain legacy Delphi applications, but also need to move up to the new Windows XP and Vista world (which is not very BDE-friendly).

As practical example, I will demonstrate how to move the DBDEMOS data to a real SQL DBMS like SQL Server, InterBase and Blackfish SQL.

### **16:00 - 17:15 Multi-Tier with DataSnap**

Where previously covered data access techniques could be used for stand-alone or Client/Server solutions, in the last session of the day we'll jump to the world of multi-tier applications using DataSnap to split the application in two parts: a middle-ware database layer (which connects to our database tables) and a database-independent thin/smart-client. We'll also discuss error reconciliation options and deployment details.

### **17:15 - 17:30 QA**

The closing section of each day consists of a short summary of what we've seen, and some questions and answers that haven't been addressed during the day itself.

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## **Tuesday, May 20th**

Tuesday, May 20th will be the Web Development Essentials day. On this day, I will give an overview of the current web development techniques available in Delphi 2007. Web Development solutions which will be discussed – pro/cons and examples – include:

- WebBroker / WebSnap
- VCL for the Web / IntraWeb
- ASP.NET 2.0

ASP.NET 2.0 will be the first time where we have to use the .NET personality of CodeGear RAD Studio, where all previous topics could be done with Delphi 2007 for Win32. AJAX will be discussed as add-on for the above techniques (but not as a stand-alone solution in itself).

After the initial discussion of pro/cons, I will demonstrate each technique by implementing (and deploying) a simple but non-trivial data-based web application in each of the techniques. Attention will not only be given to the presentation, but also the application logic, session management, database connectivity and finally deployment.

### **9:00 - 10:30 WebBroker / WebSnap**

WebBroker and WebSnap are non-visual way to develop web server CGI or ISAPI web applications (but can also be used to produce Apache 1.x and 2.x web applications), with the focus on handling incoming requests as "actions" using code written in Delphi.

WebSnap adds the concept of adapters with fields and actions, but has a higher learning curve.

### **10:45 - 12:00 Intro IntraWeb / VCL for the Web**

IntraWeb offers a true WYSIWYG way to design VCL web applications with Delphi. You can re-use existing data modules from desktop VCL applications inside your IntraWeb web applications, which helps migration (or shared development in a combined GUI – Web project approach).

IntraWeb has been added to Delphi 7 in two editions: Page Mode and Application Mode, and we'll see the differences between these modes. As of Delphi 2007, this technology has been renamed to VCL for the Web, to emphasize the way it "connects" with the rest of the VCL.

In this introduction, we'll see how VCL for the Web works, how we can navigate between pages, maintain session information, add login and authentication options, and place controls on the web pages.

### **13:00 - 14:15 IntraWeb / VCL for the Web**

After lunch, we'll continue with IntraWeb to build an actual demo application using databases, also covering deployment details. We'll also see how to combine AJAX techniques to build more interactive web GUIs with VCL for the Web.

### **14:30 - 15:45 Intro ASP.NET 2.0**

Using the Delphi 2007 for .NET 2.0 personality of CodeGear RAD Studio 2007 we can build ASP.NET 2.0 applications as well to develop WYSIWYG web applications. We'll see how ASP.NET applications work, and how we can navigate between pages, maintain session information, add login and authentication options, and place controls on the web pages.

### **16:00 - 17:15 ASP.NET 2.0**

After the break, we'll continue with ASP.NET 2.0 to build an actual demo application using databases, also covering deployment details. We'll also see how to combine AJAX techniques with ASP.NET to build more interactive web GUIs.

### **17:15 - 17:30 QA**

The closing section of each day consists of a short summary of what we've seen, and some questions and answers that haven't been addressed during the day itself.

## Wednesday May 21st

The focus of the third – shorter - day will be on XML and SOAP development, mainly using Win32 but also using ASP.NET (with the Delphi for .NET 2.0 personality of CodeGear RAD Studio) as the .NET framework that supports SOAP in the .NET world.

### 9:00 - 10:15 Win32 XML

We start with the coverage of XML in Delphi 2007, and see that the regular TXMLDocument component is not very user-friendly to work with. Instead, we should use the Data Binding Wizard or the XML Mapping Tool to let Delphi create special classes of transformation information files with mappings between XML documents and VCL DataSets that can be used to simplify the processing of XML data.

### 10:30 - 11:45 Win32 SOAP / Web Services

After the first break, we'll create and import SOAP Web Services using Delphi 2007 for Win32, starting with an overview of what a Web Service is and how SOAP changes the way in which services are shared and distributed in the (Service Oriented Architecture) world.

We'll see how to create a new Win32 Web Service, how to add web methods and how Delphi will generate the WSDL definition in order to import it again in other environments. Finally, we'll see testing, debugging as well as deployment details.

### 12:45 - 14:00 ASP.NET SOAP / Web Services

After lunch, we'll create and import SOAP Web Services again, but this time using the Delphi for .NET 2.0 personality of CodeGear RAD Studio, basing the solutions on the ASP.NET 2.0 framework, which ensures 100% compatibility with all .NET web service engines or clients. We'll also discuss interoperability issues with Delphi for Win32 web services and deployment as well as debugging options.

### 14:15 - 14:45 Final QA session

The closing section of the last day consists of a short summary of what we've seen in all three days, and some questions and answers that haven't been addressed during the day itself.

Attendees can always contact me by e-mail after the training event for more information or support.



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