

Confessions of a JDeveloper Novice

Introduction

What and why?

Recently I have embarked on the long and sometimes frustrating journey of learning the J2EE architecture with only Java and HTML knowledge. The purpose of this series of articles is to provide some advice and direction to developers who are wondering where and how to get started when it comes to J2EE applications with the Oracle product JDeveloper. This first article discusses an initial approach and some useful resources.

In what context?

My learning experience and hence perspective is specific to Oracle's default web application template consisting of ADF Business components, Apache Struts and Java Server Pages or ADF UIX with the 10g release of JDeveloper. This being the case I believe that this reference is still relevant for developers wishing to pursue any of the numerous development templates supported in JDeveloper.

For who and by whom?

This article has been written by a java novice for people with little knowledge of java and little or no knowledge of the J2EE architecture as an aid to facilitate skill development in this area. The contents are the views and experiences of the author and may not be appropriate for all developers.

What it isn't.

Please note that this is not intended as a resource for learning Java, xml or other web technologies specific to JDeveloper or otherwise.

Approach - How do I start?

It is important to have a general understanding of the fundamentals of Java as a language and the Object Orientated development concepts before jumping into the J2EE arena. Java development is very different from a database development environment such as Oracle Forms and requires a different mind set when studying and developing in this environment. As with any development technology the Java environment has its own set of terms and lingo which complicate the learning process.

Oracles Application Development Framework implements the Model – View – Controller design pattern. This J2EE design pattern identifies three layers to an application and the source code within it. Knowing the design concepts of the MVC pattern facilitates an understanding of the components and their purpose in the architecture.

For those of you who have already explored previous versions of JDeveloper note that ADF Business components are similar in use and design to Business Components for Java. In any case there is much more to the Oracle's Application Development Framework than just the business components. Also note that there are considerable differences from JDeveloper 9i (9.0.3.2) to the current 10g (9.0.5.2) release which must be explored.

General reading and material

When you first start your research into JDeveloper, J2EE and probably Oracles ADF it is advised that you gain an over all picture of the development environment before attempting to understand their specific implementation.

It is hard to navigate and process the technology without abstracting your self from implementation details in the early stages of research.

High level analysis into JDeveloper and the J2EE technologies it levers, will give you an idea of some of the components and concepts you will be exposed to in the Java Development environment.

It will help if you choose a particular development template early on in your exploration of JDeveloper and avoid trying to comprehend every implementation that JDeveloper facilitates. My examination started with the Oracle JDeveloper default template utilising ADF Business Components, struts and JSP.

Once you have a general understanding of the J2EE technologies, familiarise yourself with JDeveloper's IDE components before diving into the numerous demo's and tutorials available on the Oracle Website. The product tour is a basic resource that gives you a guide to the components and features within JDeveloper. This is an elementary task, however it will enhance your understanding of the tool and make your learning and development more productive. The environment is challenging enough with out fighting with the difficulties of learning a new development tool.

Tutorials and Demos on your chosen implementation

You will find several entry level demos and tutorials for each of the development technologies. I urge you again not to leap into the more advanced articles until you are comfortable with JDeveloper as a tool and the basics for your technology scope.

Once you are at this stage I found it beneficial to explore and experiment with some of the mechanism in JDeveloper as well as the components that are automatically generated for you in the tutorials. It assisted me to understand and relate to the explanations in the more technical articles.

Technical Articles

When you review some of the more in depth resources you will likely find that you will need to re-read several areas repeatedly to understand them fully. If you are following the default technology template it is crucial to understand Oracles ADF and Apache Struts before starting on the ADF Toy Store sample application.

Make sure you work through resources such as the Oracle ADF Data Binding Primer and ADF/Struts Overview before tackling the ADF Toy Store. The Toy Store was by far the most beneficial and challenging resource I discovered in my research in ADF and Struts. The whitepaper which is packaged with the sample application covers each area of development thoroughly making it an invaluable source.

With the whitepaper as a reference examine the internals of the ADF Toy Store sample application including the authors ADF framework extension. Discover the importance of the ADF datapage lifecycle as well as the integration of Struts, JSP and business components.

Think of some how do I's and then research the solutions?

You will certainly have many questions and encounter problems during your analysis of the J2EE environment. Metalink may provide some answers however the OTN JDeveloper forum is definitely the best option for support to unanswered questions. The search mechanism utilised in the JDeveloper forums is inefficient for some searches however with time you will find the answers to most of your questions.

Sources – Where do I start?

JDeveloper is now Oracle's primary development tool and as such there are a vast number of resources ranging from whitepapers, articles, books, how to's and sample applications. Most of these can be found on the JDeveloper Product Centre site within Oracle's Technology Network (<http://www.oracle.com/technology/products/jdev>).

Basic Resources

There is an abundance of entry level resources on the Oracle Technology website. After reviewing some of the overview and introduction papers your best option is to work your way through some of the tutorials for a given technology scope. You will find that the majority of resources explore ADF, Struts and this appears to be the direction Oracle is encouraging developers to take. Most of the tutorials are very simple and you will quickly surpass their level. The real challenge is to understand the components behind the wizards and 'drag and drop' tools.

JDeveloper's help files contain information on "getting started" as well as guiding you through the components in the MVC design pattern. When you begin your development in JDeveloper you should utilise the help pages available with the graphical editors for explanations of properties and settings. I personally found the help pages very useful as an aid while exploring components and features of the sample application. The context sensitive help accessed through F1 is accurate the majority of the time during coding and is excellent for providing specific information on tags and classes within the framework.

Advanced Resources

The ADF Toy Store sample is written by Steve Muench who is a member of the JDeveloper/ADF Development Team. His accompanying one hundred and fifty page whitepaper explains in depth the key components to the sample which employs the default template of ADF, Struts and Java Server Pages. An important aspect to the application is the utilisation of an extension to the development framework. These extension classes sit between the ADF struts and business component classes providing additional utilities and functions in the application.

Another resource which proved to be useful is the Business Rules in BC4J whitepaper. Although an older publication it contains useful information on methods of implementing different types of business rules in Oracle BC4J which also apply to ADF Business Components. The correct placement of business validation was a personal concern which is unanswered in this Article.

JDeveloper Handbook

The Oracle JDeveloper 10G Handbook is a great starting point for developers wishing to pursue the J2EE road. It covers all the basic areas associated with J2EE development and JDeveloper as a tool. It also contains code examples and "hands on" exercises into the fundamental areas

of Java development with Oracle's JDeveloper. It will however only take you so far before forcing you to utilise other more advanced resources.

Summary

While JDeveloper has been around for some time now it is still a new product for a lot of Oracle Developers who have primarily possessed database associated skills. The J2EE architecture is a complex and highly functional design impeding the learning process necessary with any new skill.

Oracle's encouraged path into the J2EE field is through the use of the Application Development Framework making it necessary to learn the architecture from this perspective. They have been clear that JDeveloper and ADF are at this time the direction they are heading in with regards to web application development.

If you are serious about learning JDeveloper and J2EE then spend some time researching the architecture and technology. Then once you are familiar with your chosen approach to J2EE development, download JDeveloper and have a play with some of the tutorials and samples.

Oracle JDeveloper 10.1.2 is due out soon and represents a maintenance release to 10g with bug fixes, performance improvements and some small changes. This version is likely your best option as bugs cause enough problems when you are familiar with a tool let alone when you are in the learning phase.

Despite being relatively new to the J2EE world I am keen to pursue and explore its offerings as a development environment. If you have any questions or comments relating to this article, JDeveloper or Oracle ADF feel free to drop me an email and I will endeavour to help or point you in the right direction.

Resources

Basic Resources

Introduction to Oracle JDeveloper10g and Struts

http://www.oracle.com/technology/products/jdev/collateral/papers/10g/jdev10g_struts.pdf

Installing the Sample Schemas and Establishing a Database Connection

<http://www.oracle.com/technology/obe/obe9051jdev/common/OBEConnection.htm>

Oracle JDeveloper 10g Product Tour

<http://www.oracle.com/technology/documentation/jdev/quicktour10g/index.html>

Oracle JDeveloper 10g Overview

http://www.oracle.com/technology/products/jdev/collateral/papers/10g/jdev10g_overview.pdf

Creating a JSP Application with ADF Using a Model 1 Architecture

<http://www.oracle.com/technology/obe/obe9051jdev/ADFmodel1/ADFmodel1.htm>

Oracle JDeveloper 10g Online Demonstrations

<http://www.oracle.com/technology/products/jdev/viewlets/viewlet.html>

Advanced Resources

Oracle JDeveloper 10g New Features

http://www.oracle.com/technology/products/jdev/collateral/jdev10g_fo.html

Oracle ADF Data Binding Primer and ADF/Struts Overview

<http://www.oracle.com/technology/products/jdev/collateral/papers/10g/ADFBindingPrimer/index.html>

Developing an End-to-End Web Application Using the Default Technology Scope

<http://www.oracle.com/technology/obe/obe9051jdev/ADFtoJSP/defaultendoend.htm>

ADF Toy Store sample application and whitepaper

<http://www.oracle.com/technology/products/jdev/collateral/papers/10g/adftoystore/readme.html>

ADF Toy Store authors Blog Steve Muench

<http://radio.weblogs.com/0118231>

Business Rules in BC4J

<http://www.oracle.com/technology/products/jdev/htdocs/bc4j/BusinessRulesInBc4j.pdf>

Other Sources

Sun Java Web Site

<http://java.sun.com>

Oracle new to Java

<http://www.oracle.com/technology/products/jdev/collateral/newtojava.html>

Oracle Technology Network JDeveloper Forum

<http://forums.oracle.com/forums/forum.jsp?forum=83>

Apache Struts Web Site

<http://struts.apache.org/>



Eddie Harris is a Systems Consultant for SAGE Computing Services and has worked on a number of traditional Oracle developments and more recently J2EE developments for Sage's clients. Eddie studied at Curtin University in WA and received a Bachelor of Commerce (Double major Electronic Commerce and Information Technology) Eddie can be contacted by email at Eddie@sagecomputing.com.au