

Oracle Portal 101 – Getting Started, Step-By-Step

Presented By:

Craig Warman

Chief Technical Officer, Computer Resource Team, Inc.

1. Introduction

Oracle Portal (formerly WebDB) is one of the latest in a line of web-based RDBMS development and management tools marketed by Oracle Corporation. This browser-based software environment allows users to build and deploy enterprise portals using a secure, manageable framework for delivering access to distributed software services and information resources. The real draw behind this tool (aside from its relatively straightforward wizard-based development structure) is the simplicity with which these functions can be carried out - it utilizes an entirely web-based environment, and resides as PL/SQL packages in an Oracle database schema. Everyone from novice-level web content creators all the way up to professional software developers and database/web administrators can effectively use the tool.

The most common use of Oracle Portal is for the development of content-driven websites that reside entirely in an Oracle database. These sites are composed of components called "portlets" that provide access to web-based resources. Any web page, application, report, newsfeed, or other resource can be accessed through a portlet, which can be customized and managed as a component within Oracle Portal. Developers can create their own portlets, or select from those provided by Oracle or other third-party providers. The portal framework provides additional services including single sign-on, content classification, enterprise search, directory integration, and security.

Oracle Portal also provides tools for creating applications that allow dynamic HTML representation of database information. These components include data entry forms, reports, charts, calendars, menus, and hierarchies. Performance tracking tools are available to display response time, requestor, and security histories for these components. Additionally, tools are provided that allow users to browse database objects (tables, views, PL/SQL routines, indexes, sequences, synonyms, etc.) via the HTML-based Oracle Portal interface (security for these operations is provided by the existing Oracle role-based security model).

2. Frequently Asked Questions

I've been presenting on this topic since the product was first released – here's the questions that I receive most often...

2.1 What is Oracle Portal/WebDB Used For?

These products are used to provide a framework – fully contained within an Oracle database – with which organizations can do the following things:

2.1.1 Build Content Driven Websites

Websites can be built and managed using Oracle Portal and WebDB. In Oracle Portal, these sites are composed of reusable components called *portlets*. Developers can create their own portlets, or select from those provided by Oracle or other third-party providers. Certain portlets can contain content whose management is delegated to individuals or groups. WebDB provides a similar capability, although it is implemented using stand-alone schemas rather than portlets. The tools for management of Oracle Portal and WebDB content - which is stored in the database - is provided by the tools, which is intended to reduce the burden of new content deployment typically carried by most webmasters.

2.1.2 Develop Database-Driven Applications

Oracle Portal and WebDB provide tools for creating applications (called *components*), which allow dynamic HTML representation of database information. These components include data entry forms, reports, charts, calendars, menus, hierarchies, and frame drivers.

2.1.3 Track Website and Application Performance

Oracle Portal and WebDB provide performance-tracking tools on the components and web pages for which they are used to deploy. Pre-built reports can be used to display performance, requestor, and security histories, and administrators can also perform ad-hoc queries against the logs to produce customized reports.

2.1.4 Manage Database Objects and Security

Users can create, browse, edit, and/or drop database objects (tables, views, PL/SQL routines, indexes, sequences, synonyms, and types) via the HTML-based Oracle Portal interface. Security for these operations is provided by the existing Oracle role-based security model, which can also be managed using the Oracle Portal interface. WebDB provides a subset of these capabilities (PL/SQL routines, for example, can be created but not edited).

2. FAQs (cont'd)

2.2 What's The Difference Between Oracle Portal and WebDB?

WebDB is the predecessor to Oracle Portal. It was released in early 1999, and the current (production) version is 2.2. Oracle Portal is essentially "WebDB 3.0", although the product was renamed to Oracle Portal 3.0 to emphasize the portal metaphor. The product was essentially re-written between versions 2.2 and 3.0, so – aside from certain outward appearances – there's very little commonality shared between the two from an internal architectural standpoint. Even so, someone who is familiar with 2.2 will find that everything that they learned while using that version will apply directly to version 3.0.

If you've already installed Oracle Portal and want to see a summary of changes from 2.2, then refer to the document:

`http://servername:port/help/qt_new.htm`

where

`servername` is the name of the server on which the Oracle Portal listener is installed.

`port` is the port on which the listener is installed (usually 80, unless another type of listener is installed).

2.3 I'm New To All Of This – Should I Use Oracle Portal or WebDB?

From a pure stability standpoint, I'd recommend starting off with WebDB. It's currently in production (version 2.2), readily available, and there's a reasonable amount of documentation out there (see the section *Resources and Training Plan for Oracle Portal and WebDB* at the end of this whitepaper).

The production version of Oracle Portal has been released to Oracle's manufacturing division and should be available for general distribution within the next two to three weeks. It is part of the 9i Internet Application Server product (iAS), so you'll be installing that product in order to get the Oracle Portal software itself.

Finally, everything that you learn with WebDB is immediately applicable to Oracle Portal, and an upgrade script will be provided to move your work from WebDB 2.2 to Oracle Portal 3.0. So you should really have nothing to lose by starting off with 2.2, and then moving up to 3.0 when it becomes production in a couple of months.

3. Getting The Ingredients Ready

3.1 Database Server

For WebDB, all you really need on the server side is an Oracle database that supports PL/SQL. Oracle literature indicates that the database versions which have undergone certification testing for Oracle Portal 2.x include Oracle 7.3.4, Oracle 8.0.5 and 8.0.6, and Oracle 8.1.5 for both Solaris and NT. The only major limiting factor from a database standpoint is the ability for the listener to connect via SQL*Net - specifically, it appears to require a Net8 connection (this may be an issue for Oracle 7.3.4 database installations). Access to SQL*Plus, SQL*Loader, and the SYS schema is required, but during the installation process only.

Oracle Portal requires Oracle 8.1.6 for its database server. It will not run on a lower version. **Important:** For the Early Adopter version (what's current as of this writing), you can install the software on the same machine as the database. You must, however, *be sure to install Oracle Portal in its own Oracle home* – if you do not, then it will overwrite the database's 8.1.6 libraries with the 8.1.7 libraries that it requires, thus rendering your 8.1.6 database unbootable!

3.2 Web Server

WebDB includes a lightweight web listener, which has been ported to a number of different platforms (NT and Solaris, primarily, plus Linux - though that version has memory leaks). WebDB can be run under Oracle Application Server v4.x, but use of the WebDB listener is recommended due to authentication and file upload capability extensions that have been included in the WebDB-specific listener. Note that the listener is the only executable supplied in the WebDB product - everything else is provided as DB-level packages. The listener can also be run as a CGI under third-party web servers, although it will only work for public websites in this mode since authentication (log in/out) will not work properly.

Oracle Portal utilizes Apache as its web listener, and includes a plug in called *modplsqli*, which provides a bridge between the web listener and the database. Additionally, a Java layer is employed to support single sign-on and other session-oriented functionality. It is recommended that the Early Adopter version (what's current as of this writing) be run on a dedicated machine, as the ability to install the *modplsqli* plug in on an existing web server is not readily evident (it may be possible, in other words, but I haven't found it yet!). You'll need to deploy on either Windows NT 4.0 SP 3 or higher (SP 3 and SP 4 are supported, and SP 5 and SP 6 are certified) or Solaris 2.6.

3.3 Client Browser

Essentially any browser can be used to view Oracle Portal/WebDB content by the end-user. Developers will require a JavaScript-capable browser - Oracle has certified Netscape 4.0.8 and 4.7 for NT and Solaris, and Microsoft IE 4.0.1 or 5.0.1.

4. Installation

4.1 Automated Method – Oracle Portal and/or WebDB

The default mechanism for installation of Oracle Portal and WebDB requires installation from an NT or Solaris machine and can be run against a local or remote Oracle instance. This is the preferred installation method for WebDB – and the only method for Oracle Portal – and can be used whether or not the WebDB lightweight listener or Oracle Portal Apache listener/plugin is installed. Access to the database via SQL*Plus and SQL*Loader is required, as well as access to the Oracle SYS schema. A new schema (usually called PORTAL30 or WEBDB) will be created for holding all of the Oracle Portal/WebDB packages and tables. If either listener is installed then it's assumed that the machine on which the install is taking place is where the listener will ultimately be run.

Note - Before starting installation of the Early Adopter version of Oracle Portal (what's current as of this writing) be sure to read through the *relnotes.htm* file that's included with the distribution media. You can search for this file or look for it under the *Disk1* subdirectory.

Installation of either product is relatively straightforward, as one would expect. Start the process as with any other Oracle product install - mount the CD and click on SETUP (the Early Adopter version of Oracle Portal has this file located in the *Disk1\install\win32* or *Disk1\install\solaris* subdirectory). The default answers to most installation questions should be sufficient. Note that the web listener (if installed) is run as an NT service that automatically starts at system boot, and the vast majority of installation time is devoted to upload of the packages/tables to the database and associated compiling.

For WebDB - If the installation was made against a remote database, and the WebDB lightweight listener is to be used, then one configuration setting needs to be made once installation is complete. First, make sure that the listener has been booted (on NT the service name is "Oracle WebDB Listener"). Then use a web browser to go to:

`http://servername:port/admin_/gateway.htm`

where

servername is the name of the server on which the WebDB lightweight listener is installed.

port is the port on which the listener is installed (usually 80, unless another type of listener is installed).

On the *Change PL/SQL Gateway Settings* page, scroll down to the *Oracle Connect String* entry field for the WebDB Data Access Descriptor. Enter the alias name for your remote database, and then click *Apply*.

Additional listener configuration settings for WebDB and Oracle Portal - if needed - are available at the following URLs:

`http://servername:port/admin_/gateway.htm`

`http://servername:port/admin_/listener.htm` (*WebDB only*)

4.2 Manual Method – WebDB Only

When the automated method mentioned above is either undesirable or appears to have problems, then a manual install may be necessary. This process involves three tasks - installation of the PL/SQL toolkit, installation of the WebDB packages, and (optional) installation/configuration of the WebDB listener. The manual installation process is sufficiently detailed that it exceeds the scope of this presentation, however, a document called *maninst.htm* is included with the WebDB installation media which describes the process in reasonable detail (search for this file or look for it under one of the *doc* directories).

5. Usage

Making use of Oracle Portal, once installed, is relatively easy. Essentially it involves pointing a browser to the Oracle Portal URL, which is typically of the form:

`http://servername:port/webdb` or `http://servername:port/pls/portal30`

where

servername is the name of the server on which the Oracle Portal lightweight listener is installed.

port is the port on which the listener is installed (no need to include if port 80 was used).

A dialogue box will be presented, and the user may enter the Oracle userid/password of the schema they wish to access. Logging off is similarly straightforward - For WebDB, add "/logmeoff" to the URL at anytime, as follows:

`http://servername:port/webdb/logmeoff`

Oracle Portal provides a *Logout* link in the upper right-hand corner. In both cases, a screen will appear which informs the user that disconnection from the database is complete.

6. Resources and Training Plan for Oracle Portal and WebDB

One of the most difficult things for developers to overcome with any new product is the "information barrier" - where do you go to get started? Here are some useful Oracle Portal/WebDB application development resources, along with a specific training plan to get you started.

Helpful Resources

Oracle Portal Product Page - This is the main product page on Oracle's website, which provides a good overview of the product and contains links to marketing literature, reviews, white papers, and other marketing-oriented material.

<http://www.oracle.com/tools/portal/> and <http://www.oracle.com/ip/develop/ids/index.html?portal.html>

Oracle Technology Network (OTN) Oracle Portal/WebDB Sections - Technical resources on Oracle's website which are specific to Oracle Portal and WebDB, including a number of white papers, FAQ's, bug database, and an online technical discussion board.

<http://technet.oracle.com/products/iportal/> (Oracle Portal)

<http://technet.oracle.com/products/webdb/> (WebDB)

Virginia Oracle User's Group (VOUG) - This was the first Oracle user group to deploy its website using the WebDB platform, and was also one of the first publicly available WebDB sites on the Internet. It contains a number of WebDB whitepapers, as well as WebDB Q&As in the form of archives from the VOUG email listserv.

www.voug.org

Lonyx.com "WebDB and OAS" Category - Lonyx.com is an Oracle-specific search engine that was built using WebDB. It features scripts, articles, downloads, sites, book reviews, career guidance, resume help, and OCP certification help for DBAs, developers, and managers.

www.lonyx.com

Product Documentation List - A complete listing of release notes, installation guides, tutorials, and product reference documentation for each release of Oracle Portal and WebDB.

<http://technet.oracle.com/docs/products/iportal/listing.htm> (Oracle Portal)

<http://technet.oracle.com/docs/products/webdb/listing.htm> (WebDB)

Product Downloads - Links from which to download the latest versions of Oracle Portal and WebDB for each platform that it's available on.

<http://technet.oracle.com/software/products/iportal/htdocs/listing.htm> (Oracle Portal)

<http://technet.oracle.com/software/products/webdb/htdocs/listing.htm> (WebDB)

Training Plan

Here is a step-by-step training plan that has worked well for several developers that I've gotten started with Oracle Portal and WebDB. Of course, the very first thing you'll need to do is get the product installed. Once you've done that, here's what I recommend:

Go through the product tutorials - The tutorials provided by Oracle will take you less than half a day to complete, depending on your comfort level with web development environments. You can access the tutorials by going to the *Product Documentation List* link mentioned above, and choosing the link to the tutorial document, which corresponds to your version of the product. Note: It takes a bit of time for the tutorial documents to download (6-12 minutes if you're going over a modem) since they're rather large PDF files.

Download the WebDB product reference document - You can access this by going to the *Product Documentation List* link for WebDB mentioned above and choosing the link to the Creating and Managing Components - Task Help document which corresponds to your version of the product. Of particular interest is the chapter titled "Building Components and Objects". You should study this in detail.

Read the Building Advanced Portals document - You can access this by going to the *Product Documentation List* link for Oracle Portal mentioned above and choosing the link to the Building Advanced Portals document.

Study a book - Although there isn't much in the way of third-party reference material available yet for Oracle Portal, a book called *The Oracle WebDB Bible* by Rick Greenwald and James Milbery provides a good overview of the WebDB product and will be helpful in getting started. You should pay particular attention to the second section - Building WebDB Components -, which addresses form, report, chart, and other component building techniques.



Computer Resource Team, Inc.
Va Tech Corp Research Center
1750 Kraft Drive, Suite 1400
Blacksburg, VA 24060

Voice: +1.540.552.3100 x203
Fax: +1.540.552.0700
<http://www.crtnet.com/>
crwarman@crtnet.com

Copyright ©2000 Craig Warman & Computer Resource Team, Inc.
CRT, Computer Resource Team, Oracle, and the various products mentioned above are trademarks.
All rights reserved. No portion of this document may be reproduced without permission.