

Tips for Configuring Oracle Developer Server for Forms 6 and 6i Under WebDB

— Gene Schneider
Workplace Systems plc

This article contains various tips and notes I have made when installing, configuring, and running the Developer Server for deploying Forms 6 and 6i to the Web. I have Developer 6.0 working successfully as both a static and cartridge implementation (against OAS 4.0.7.1 on NT SP3) and Developer6i working as a static implementation (using the provided WebDB Listener on NT SP5) using the CGI invoker. The following lists the steps that I used to follow a custom installation of Developer 6i. I performed a Custom Install as opposed to a Deployment Install as the builders are not installed in a deployment configuration. If you are installing in a deployment situation and not a development situation, it is probably best to run the Deployment Install option.

Configure Your Web Server Virtual Directories and MIME Types

For the WebDB Listener provided with 6i, go to the PL/SQL Listener Settings page, where the URL is given during the installation (hostname:portnumber/WebDB/admin_/listener.htm).

For WebDB, go to the Miscellaneous Settings section and specify an HTML page that will be used as your application's Welcome page (e.g., /doc/default.htm), and click on Apply. This page can be anything you like and should have a link to access the application — it is **not** the static HTML file used by the applet, as this is not called directly in Developer 6i.

If you are using another Web Server such as Oracle Application Server, you will need to ensure that the following virtual directories are mapped. In the case of Developer 6i and the included WebDB Listener, the following were already mapped.

- Under the Directory Mapping section (WebDB), there should already be entries for:
 - /dev60html/ — To the HTML directory used by Forms tools such as WebDB (leave)
 - /dev60temp/ — To a directory within Forms used for storing temporary files such as reports generated for display on the Web (leave or change if desired)
 - /forms60java/ — To the applet and associated classes (%ORACLE_HOME%\Forms60\java\)

- /images/ — To the image directory used by WebDB (leave)

• In addition, add the following virtual directories:

- /jinitiator/ — To the directory where the Jinit.exe and associated download files are located for JInitiator
- /webicons/ — To the directory where the application-specific icons are stored (.GIF/.JPG)
- /webimages/ — To the directory where the splash/background images are

I have specifically set up two image directories (one for icons and one for splash/background images) so that I can use a JAR file for the splash and background images (which doesn't seem to work for icons on buttons?), and normal image download for the icons.

- /doc/ — To the directory containing application-specific HTML files

Using WebDB, there should already be an entry under CGI Directory Mappings for /dev60cgi/, which points to %ORACLE_HOME%\tools\web60\cgi\. You will need to add this entry if using another Web Server with Developer 6i.

When you try to run a report from Forms deployed over the Web and you direct the output to the screen, the browser uses the MIME type returned by the Web Server to determine how it should be displayed (i.e., .PDF or HTML). This is determined according to the FORMS60_REPFORMAT registry entry discussed below. The resolution of this MIME-type by the Web Server appears to be case sensitive, so either enter "pdf" or "html" in lowercase for this registry entry or, as I would recommend, add HTML and .PDF in uppercase in the MIME Types section of your Web Server (you can do this by just adding them to the existing entries for the lowercase versions, separated by spaces).

Set-Up Environment Variables

UNIX uses environment variables set up in the user login that is in charge of running the Forms Server. In Windows NT, you use registry entries in the HKEY_LOCAL_MACHINE/Software/Oracle node.

Installing Developer 6i sets up the required registry entries that allow Web Forms to run. The only change to the defaults that I made were for the following:

- **UI_ICON** to locate the .ICO and .GIF images (no trailing slash). UI60_ICON was used for Tree Navigator icons in earlier versions but is no longer required.
- **FORMS60_PATH**: Set this to the location of the .FMX files. You may also need **REPORTS60_PATH** for running reports.
- **FORMS60_MAPPING**: This is used to locate temporary files (such as reports) output by the server as mapped using virtual directories under your Web listener (e.g., `http://...../dev60temp` or `/dev60temp`). It is very important not to use a trailing slash. Forms gets confused and cannot find the files if you do (Well, 6.0 did; not sure about 6i).
- **FORMS60_OUTPUT**: This is the physical path to the above directory (e.g., `%ORACLE_HOME%\tools\web60\temp`). Leave the trailing slash off of this entry, too.
- **FORMS60_REPFORMAT**: This specifies .PDF or HTML for report output when reports in the form are directed to the screen. This is case sensitive when resolving the MIME type with your Web Server, so use lowercase or add uppercase .PDF and HTML to your Web Server's MIME types.

Forms Server Configuration File and HTML Set-Up

With Forms 6.0, you need to edit the appropriate `base.html`, `base_jinit.html` (for cartridge implementation) or `static.html`, `static_jinit.html` (static implementation) files to reflect the configuration settings desired. This is where you would specify the parameters passed to the applet to control the module launched, connection used, color, etc. If you are using a cartridge implementation, you need to set up OAS to pass the parameter values to the `base.html` or `base_jinit.html` files.

In Forms 6i, there is a configuration file called `FORMSWEB.CFG` which controls all of these settings and is used to pass the appropriate settings to the `base.htm` or `basejini.htm` when invoked using the CGI launcher.

In the `<FORMS60>\server` directory, you will find the configuration file (`FORMSWEB.CFG`, available on the ODTUG Web site at www.odtug.com) and the two HTML files used to launch the Web Forms applet (`BASE.HTM` and `BASEJINI.HTM`). One of the HTML files is used to launch the applet without using `JInitiator` and the other is used to launch the applet using `JInitiator`.

It is important to note that before you begin changing these files, make a copy of the `FORMSWEB.CFG` file and

save it as `FORMSWEB.ORIGINAL`. This will allow you to restore the original settings if the edited version of that file does not work.

It is also important to copy the `BASE.HTM` and `BASEJINI.HTM` files and rename these to be specific to your application (e.g., `APPBASE.HTM` and `APPBASEJINI.HTM`). This will preserve a copy of these files in case the "Forms Web CGI and Cartridge" is reinstalled and overwrites the standard files.

The following changes are required to the `FORMSWEB.CFG`:

- Because you have renamed the HTML pages used to launch the applet, you will need to change the `baseHTML` and `baseHTMLJInitiator` parameters to use the new filenames as opposed to `BASE.HTM` and `BASEJINI.HTM`, respectively.
- Comment-out the `Mmetrics` parameters from the system parameters section to simplify things when originally getting things working and not using loadbalancing.
- Change `IE50=JInitiator` to `IE50=native` to test IE 5.0's Native Java VM. This will probably be left at the original setting in production (as it requires configuration changes to IE5.0 to reduce Java sandbox security and will not use our custom font mappings).
- Under the User Parameters section, enter the following:
 - The application start-up form in place of `test.fmx` (e.g., `G_MAIN.FMX`).
 - The `userid` as a connect string (e.g., `user/password@database`).
 - Change the applet width and height parameters to 750 x 800 to fit our application when viewed within the browser (as sometimes occurs even when `separateFrame` is specified under Internet Explorer).
 - Specify `separateFrame=true`.
 - Specify `splashScreen` image using "webimages/wslogo.gif" (Use relative path to cater for JAR use).
 - Specify background image using "webimages/background.gif" (Use relative path to cater for JAR use).
 - Specify `colorScheme=blue`.
 - Specify a `hostname` for `serverHost` parameter until load balancing is implemented.
 - Change `archive` to `archive=f60splash.jar` as it speeds start-up time by dynamically loading classes as needed (according to Oracle documents) instead of using `archive=f60web.jar`.

Continued

- Change the `jinit_download_page` property to point to a customized download page (e.g., `/jinitiator/jinit_download.htm`).
- Modify the JInitiator version parameters to use the 1.1.7.27 version as shown in Listing 1.

Font and Image Settings Using Registry.dat

If you use any “non-standard” Web fonts that require special mapping to Java fonts, or if you want to specify a specific conversion, you will need to set up an Application Registry file. In the case of Developer 6.0, you must edit the original Registry.dat file. Changes to this file require you to restart Forms Server.

Likewise, by default, images are located relative to the HTML document that launches the Web Forms applet (i.e., in the base HTML file’s directory). If you want to specify a different location, you will also need to set up an Application Registry file. This overrides the corresponding settings in the REGISTRY.DAT file.

To do this so that images are displayed, use the following steps:

- Copy the REGISTRY.DAT file from the `<ORACLE_HOME>\forms60\java\oracle\forms\registry\` directory into another directory.
- Map a virtual directory to this directory using your Web Server (e.g., `/webconfig/`).
- Rename the REGISTRY.DAT file to an application-specific name (I used WORKPLACE.DAT). This file must have a .DAT extension.
- Edit this file for the image settings as shown in Listing 2.

```
jinit_classid=clsid:093501ce-d290-11d3-a3d6-00c04fa32518
jinit_exename=jinit11727.exe#Version=1,1,7,27
jinit_mimetype=application/x-jinit-applet;version=1.1.7.27
```

Listing 1. Modification of JInitiator Version Parameters to Use the 1.1.7.27 Version

```
default.icons.iconpath=/webicons/
(using the image virtual path)

default.icons.iconextension=gif
(GIF or JPG)
```

Listing 2. Image Settings

- You need to specify the Application Registry file in FORMSWEB.CFG or the HTML file used to load the applet. I modified the FORMSWEB.CFG and set the property “serverApp” to “/webconfig/workplace.”

I have found that the “default.icons.iconpath” parameter is used to retrieve images used for buttons, etc., and will not find them if they are in a JAR file under a “webicons” sub-directory/path (when webicons/ is used instead of /webicons/ to specify a relative path under the CodeBase). The splashScreen and background images can be retrieved from a JAR file by specifying a different path that corresponds to the one used in the JAR file.

If you want to set specific font conversions, you will need to look at the documentation for how to set the various “default.fontMap” properties and how this is used by JInitiator (the Sun Java Plug-in documentation helps explain this, too — see font.properties configuration).

Using a JAR File to Reduce Image Downloads and Traffic

You can cause application images to be downloaded from a JAR file. This saves a database retrieval or file load. Use the following steps to implement this technique:

- Ensure that your images are in a directory with the same name as the virtual path to your images (e.g., webimages).
- From the parent directory of this image directory, run the jar.exe program as supplied as part of Sun’s JDK. For example:

```
jar -cvf images.jar webimages\*.gif
```

This will store the images in the JAR file, along with the path information, “webimages.”

- Tell Web Forms to search for the images in the CodeBase as opposed to the document root. To do this, I used the formsweb.cfg file to specify the “imageBase” property as `imageBase=CodeBase`.
- Modify your application-specific versions of base.htm and basejini.htm files to accept the imageBase parameter.
- Modify the archive property in the FORMSWEB.CFG file so that the JAR image is appended to the existing entry (i.e., `archive=f60web.jar,images.jar`).

- Because Forms will search the CodeBase for the JAR file and images, the JAR file needs to be placed in the directory from which the applet was loaded. This is the directory specified by /forms60java/ in the Web Server, which points to %ORACLE_HOME%\forms60\java.

- At this stage, the only images that seem to be retrieved correctly from the JAR files are the splashScreen and background images specified in the FORMSWEB.CFG file. For some reason, the images used for buttons, etc., do not seem to work this way, and instead use the path from the application registry file to search for virtual paths — excluding any in the JAR.

to modify these files such as to change forms60code to forms60java). For Developer 6i, use your application-specific base files as set up in the %ORACLE_HOME%\forms60\server\ directory.

Listing 4 shows the example from the JInitiator 1.1.7.18 examples directory.

Continued

Tips for Forms 6 and 6i

The following are tips you can use for Forms 6 and 6i:

- A static setup is easier, and probably best, to start with. After you have got that working, a cartridge set-up should not be too much extra work, and at least it reduces the things that can go wrong when trying to get it working in the first place.
- Make .GIF or .JPG files for icons that you want to display on the Web. You also need to map a virtual directory in your Web Server for their location. Then edit the lines in the registry.dat file as shown in Listing 3.

The REGISTRY.DAT file is in the %ORACLE_HOME%\forms60\java\oracle\forms\registry\ directory on the application server. You need to restart the Forms Listener after editing this file.

- When you install the particular version of JInitiator that you will be using, you will find examples of both the cartridge and static HTML launch pages in the “examples” directory. This is what you should use if using Developer 6.0 (**Note:** Using the mappings given in this document for Developer 6i, you may need

```
default.icons.iconpath=/webimages/

(This can be an absolute or a relative path.)

default.icons.iconextension=gif

(This could, alternatively, be jpg.)
```

Listing 3. Edit of Registry.dat File

```
<HTML>

<!-- FILE: static_jinit.html -->
<!-- Oracle Static (Non-Cartridge) HTML File Template (Windows NT) -->
<!-- Tags and parameters have been modified for Oracle JInitiator -->

<HEAD><TITLE>Developer Server and Oracle JInitiator</TITLE></HEAD>
<BODY>
<P>
<OBJECT classid="clsid:020f6116-407b-11d3-a3bb-00c04fa32518"
        WIDTH=800
        HEIGHT=600
        codebase="http://mymachine/jinit11715.exe#Version=1,1,7,18">
<PARAM NAME="CODE"        VALUE="oracle.forms.engine.Main" >
<PARAM NAME="CODEBASE"    VALUE="/form60code/" >
<PARAM NAME="ARCHIVE"     VALUE="/form60code/f60all.jar" >
<PARAM NAME="type"
VALUE="application/x-jinit-applet;version=1.1.7.18">
<PARAM NAME="serverPort"  VALUE="9000">
<PARAM NAME="serverArgs"  VALUE="module=fmx_name
userid=user/password@datasource">
<PARAM NAME="serverApp"   VALUE="default">
<COMMENT>
<EMBED type="application/x-jinit-applet;version=1.1.7.18"
        java_CODE="oracle.forms.engine.Main"
        java_CODEBASE="/form60code/"
        java_ARCHIVE="/form60code/f60all.jar"
        WIDTH=800
        HEIGHT=600
        serverPort="9000"
        serverArgs="module=fmx_name userid=user/password@datasource"
        serverApp="default"
        pluginspage="http://mymachine/jinit_download.htm">
        <NOEMBED>
</COMMENT>
</NOEMBED></EMBED>
</OBJECT>
</BODY>
</HTML>
```

Listing 4. Example from the JInitiator 1.1.7.18 Examples Directory

Tips for Configuring Oracle Developer Server (Continued)

NOTE: For other versions of JInitiator, the `clsid`, `codebase` version and `type` property need to be correct for that version. Additional parameters that you can add to this HTML page include the following:

- `splashScreen="/webimages/wsplogo.gif"`
- `separateFrame=true` (or `false`)
- `lookAndFeel=oracle` (or `generic`)
- `colorScheme=blue` (or `teal`, `olive`, `purple`, `titanium`, `red`, or `khaki`)
- `background="/webimages/background.gif"`

Edit this file as required and copy it to your Web Server. Calling it should start the JInitiator applet. Open the requested form using the given connection parameters. This is **not** the case with Developer 6i. Once you have set up your Application Registry file, the `FORMSWEB.CFG` file, and associated base HTML files, you invoke the application by calling the CGI launcher — **not** the base HTML file directly. An example of this URL is `http://gene.wsp.co.uk:8000/dev60cgi/ifcgi60.exe? config=workplace`.

This URL will call the CGI launcher to start the application and use the configuration settings specified under the “workplace” specific section of `FORMSWEB.CFG`. The CGI program will substitute the values into the base HTML page before returning it to the browser and calling the applet. If you call the base HTML page directly, no substitution takes place and your applet will not load.

It is a good idea to set up a directory for JInitiator and a `jinit_download.html` page from which JInitiator can be installed to a client that does not have it. When you call the HTML page, if the appropriate version is not found on the client, it will try to get it from the following locations:

- The location specified by the “codebase” property in the case of IE
- The location specified by the “pluginspage” property in the case of Netscape

I hope that this will provide a guide to those of you new to Developer Server 6.0 or 6i so that you can get it up-and-running with as few problems as possible. I decided to document these guidelines as I found it quite difficult to get an overall feel for what was required from the

documentation, even when it was there. These tips should help you get started and then allow you to experiment or modify the various configuration settings to your needs.

About the Author

Gene Schneider graduated from Curtin University of Technology in Western Australia with a bachelor of business degree (information technology). He then started his IT career with the Management Information Systems (MIS) department of Curtin University, working on a student self-service application (terminal-based) and Executive Information Systems (EIS) applications before moving to the Web development arena using Oracle tools. Since 1999, he has worked for Workplace Systems plc in the U.K. as their Web developer. Gene has extensive experience with the Web Generation capabilities of Oracle Designer (particularly 1.3.2) and using the PL/SQL Web Toolkit with Oracle Application Server. Recently, he has been looking into the use of Java for Workplace's application, in particular Oracle JDeveloper 3.0 and Developer Server 6 using Oracle8i.

Network with over

7,000

Oracle Applications

users worldwide

Join the



+1 (404) 240-0999

Oracle Applications Users Group

www.oaug.org