Oracle 10gR2 Forms Services – Using Sun's Java Plug-in

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INTRODUCTION

This paper provides a guideline for deploying Oracle10gR2 Forms Services (Oracle Forms 10.1.2) using the latest Java Plug-in from Sun version 1.6.0. Sun's Java Plug-in is a browser independent runtime environment including a Java virtual machine (JVM), class libraries, and other files that support the execution of programs written in the Java programming language.

Once you have completed installation and configuration and successfully tested the Java Plug-in, you should be able to run Oracle 10gR2 Forms applications in the browser. Note that in order to use the Sun's Java Plug-in to run Oracle 10gR2 Forms applications, the HTML page that you use to launch the application must use the specific Sun's Java Plug-in tags that are recognized by the browser.

For additional details on the Sun's Java Plug-in refer to `http://www.java.com

For more information regarding Client Platform Support and level of certification, please refer to the *Oracle Forms Client Support, Statement of Direction 10gR2* available from OTN (See section Additional Information at the end for a link).

PLUG-IN VERSION

In releases prior to JRE 5.0 Update 6, you could specify exactly which JRE release to deploy with a Java applet, so called static versioning.

As of JRE 5.0 Update 6, you can no longer specify the exact JRE release due to the potential misuse of static versioning. Instead, all Java applets are run using the latest version of the JRE software that is installed on the system. For details of the related Sun Alert, see http://sunsolve.sun.com/search/document.do?assetkey=1-26-102557-1 .

It is however possible to specify a family of versions that your application finds acceptable. Using this functionality you can for example specify that you want to use the latest version of 1.5 but you don't want to use 1.6. Forms is currently certified to use the 1.4, 1.5 and 1.6 families of versions but when 1.7 comes out it will be necessary to specify a 1.6 family until Oracle certifies 1.7. This family versioning system can be used at that time for that purpose.
Please visit the following link for more information on implementing the new dynamic versioning method.

http://java.sun.com/javase/6/webnotes/family-clsid.html

Parameters and values

There are two parameters to set in the forms configuration file:

`jpi_classid=clsid:CAFEEFAC-0016-0000-FFFF-ABCDEFFEDCBA`
This classid will cause Forms to use version 1.6.0_07 of the plug-in (or later if that is installed)

`jpi_classid=clsid:CAFEEFAC-0016-0000-0007-ABCDEFFEDCBA`
This classid will use version 1.6.0_07 (it will not use any version of 1.5) if it is available and will use a later version if it is installed.

`jpi_classid=clsid:CAFEEFAC-0015-0000-0006-ABCDEFFEDCBA`
This classid will use version 1.5.0_06 (it will not use any version of 1.4) if it is available but will use a later version of 1.5 if it is installed. It will try to use the latest version of 1.6.0 if it is installed and will prompt for downloading it, if it isn't.

`jpi_classid=clsid:CAFEEFAC-0015-0000-FFFF-ABCDEFFEDCBA`
This classid will use version 1.5.0_06 (it will not use any version of 1.4) if it is available but will use the latest version of 1.5 that is installed and will not prompt for download.

`jpi_mimetype=application/x-java-applet;`
`jpi-version=1.6.0_07` `[Line feed should not be used in the`
`file. Its used here to make it easier to read]`
The mimetype version should correspond with the version specified in the classid. For the FFFF version of the classid, the fourth digit can simply be omitted:

`jpi_mimetype=application/x-java-applet;jpi-`
`version=1.6.0`
Using this jpi-version you indicate that the latest version installed on the deployment client machine is acceptable for your deployment.

`jpi_codebase= http://example.com:port/forms/`
`jre/jre-1_6_0_07-windows-i586-p.exe#Version=1,6,0,07`
JPI_codebase is used to indicate asite-specific place to download the JRE to the client if the client doesn't already have the JRE installed. The example above assumes that a virtual directory called JRE has been setup in the webserver's config files (one way of doing that is to add this line to the httpd.cfg file:
`AliasMatch ^/forms/jinitiator/(..*)`
`"D:\Oracle\product\FRHome_1/jre/$1")`

The executable file that is the JRE installer file (jre-1_6_0_07-windows-i586-p.exe is this case) must be located at the physical location pointed to by the virtual directory (`D:\Oracle\product\FRHome_1/jre` in this case). See Metalink Note 560233.1 for more information on this topic.

Specifying version in 1.6.0_10

The dynamic versioning described here does work with Internet Explorer but does not work with Firefox version 2 and lower. It works in version 3 of Firefox but not

until version 10.6.0_10 of the plug-in where the version is expressed not in the classid (it will work for backward compatibility in IE) but in a parameter called `java_version` in either the OBJECT tag (for Internet Explorer) or in the EMBED tag (for Firefox)[1].

```
<OBJECT classid="…"> …
   <PARAM NAME="JAVA_VERSION" VALUE="1.6.0">
   <EMBED SRC="" …
      java_version="1.6.0"> …
</OBJECT>
```

Forms configuration files

The `formsweb.cfg` file needs to be modified in order for you to use Sun's plug-in. By adding a new configuration section to the formsweb.cfg file you can specify the parameters that will be used with Sun's plug-in. A file called `basejpi.htm` is provided to simplify using Sun's plugin.

Example from `formsweb.cfg`:

```
[jpi]
baseHTMLJinitiator=basejpi.htm
jpi_classid=clsid: CAFEEFAC-0016-0000-0007-
ABCDEFFEDCBA
jpi_mimetype=application/x-java-applet;jpi-
version=1.6.0
jpi_codebase=http://java.sun.com/products/plugin
/autodl/jinstall-1_6_0-windows-
i586.cab#Version=1,6,0,07
```

To run Forms with Sun's plug-in you add the config section called jpi to the normal URL:

```
http://localhost:7777/forms/frmservlet?
config=jpi
```

APPLET LIFECYCLE

Application performance within a browser session is improved by applet instance caching. When a user navigates from the current page in the browser, the running Oracle10gR2 Forms Services application is cached. When the user comes back to the page containing the applet, the applet that was running is automatically fully restored including all of the data entered in the application.

This functionality was introduced in Sun's 1.4.1 Java Plug-in, which provides parity with our current behavior in Oracle JInitiator 1.3.1. The difference is that an Applet parameter, `legacy_lifecycle`, must be added to the html file in order to utilize this new enhancement in Sun's Java Plug-in. The value should be set to "true". In

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[1] Forms uses the OBJECT tag for Internet Explorer and the EMBED tag for Firefox. The object tag has the built-in functionality that it will transfer control to any tag inside it if it has failed. In the case of running in Firefox the OBJECT tag will fail so the EMBED tag will be used instead. The basejpi.htm deployment file utilizes this functionality to make the same file work for both browsers.

the htm file that comes with 10.1.2 and later that is already done for you and no additional configuration is necessary unless you want to turn it off which you can do by setting the PARAM or EMBED parameter to false. Running in this mode allows a Forms end user to navigate to other web pages in the browser or reload the current page without immediately terminating the Forms Applet session. Thus the applet has a "legacy" which lasts beyond the current web page.

DENSE JAR FORMAT

With Forms we have found that we can improve compression and thus reduce download size of our JAR files by running them through the JAR utility an additional time. Therefore Forms is distributed with several jar files that contain jar files themselves, and Oracle JInitiator in turn allows the use of this dense jar format. The plug-in from Sun also allows this format but requires that the jar file have an extension of '`.jarjar`'. Any dense jar file listed in the archive parameter of the HTML or configuration file will need to have the new extension. The jar files provided with Forms can be copied and renamed with the new extension. For example, `frmall_jinit.jar` can be copied and renamed to `frmall_jinit.jarjar`. In version 10.1.2 using `frmall_jinit.jarjar` will save you about 500k of download.

RUNNING WITH SUN'S PLUG-IN THE FIRST TIME

The first time an end user accesses a Forms application registered to use the plug-in a security warning is shown, asking the user to grant permission to the code signed by Developer. The user should select either Yes or Always if the user don't want the message again for the Forms applet.

There currently is no supported way to prevent this dialog from appearing the first time the application is launched.

MS INTERNET EXPLORER'S NATIVE JVM

Microsoft's Internet Explorer used to have a native JVM and Oracle Forms used to support using that instead of a plug-in. That is no longer the case.

ADDITIONAL INFORMATION

Oracle Forms Client Platform Support, Statement of Direction 10gR2:
http://www.oracle.com/technology/products/forms/htdocs/10gR2/clientsod_forms10gR2.html

Download:

http://java.com/en/download/index.jsp

Developer Guide:

http://java.sun.com/j2se/1.5.0/docs/guide/plugin/index.html

Please see the Java Plug-in 1.4.1 Developer Guide for details about the CLSID and MIME type.
http://java.sun.com/j2se/1.5.0/docs/guide/plugin/developer_guide/version.html

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