

Customizing Oracle Business Intelligence Enterprise Edition 11g

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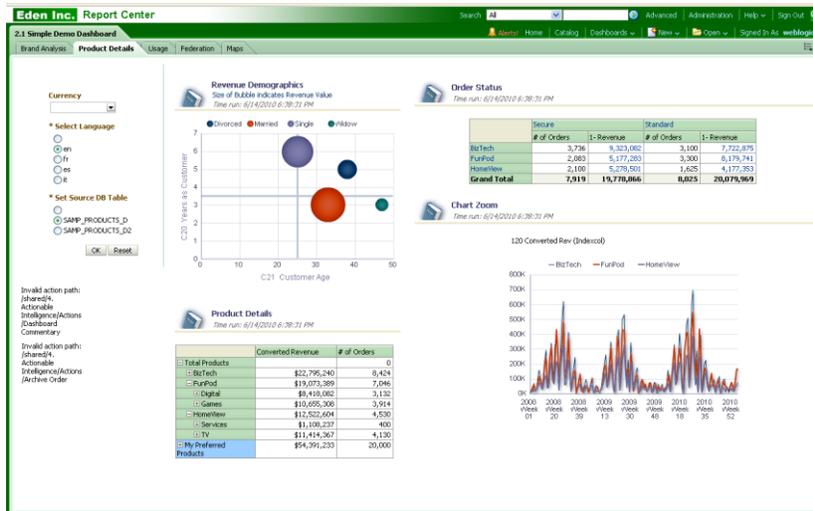
OVERVIEW

In order to best deliver an intuitive and interactive end-user experience, architecture and UI elements have been redesigned from the ground-up in Oracle Business Intelligence Enterprise Edition 11g Release (Oracle BIEE). The 11g UI is now dynamically generated using scripts which makes it highly customizable, but also significantly different from Oracle BIEE 10g implementations. This whitepaper illustrates methodology and steps used to deploy custom styles, skins and messages in Oracle BIEE 11g.

INTRODUCTION

Oracle BIEE look and feel are controlled by **Skins**, **Styles** and **Messages**. **Skins** define the UI chrome outside the home and dashboard area (e.g. toolbar). **Styles** control the appearance of a dashboard and various views (e.g. font in a pivot table view). **Messages** store the text for various UI elements (e.g. brand name).

Oracle BIEE 11g ships out-of-the-box with two default styles – BLAFP (Browser Look and Feel Plus) and Fusion (FusionFX), both found in the `ORACLE_HOME/bifoundation/web/app/Res` directory. These provide a starting point for the custom style and skin that the user wishes to deploy. Common customizations are illustrated by examples below. As an instructive instance outside of the default install, these examples packaged with the example scenario and name “Eden” can be downloaded here¹.



The Eden example customizes UI graphics, default colors, and application messages

CREATING AND DEPLOYING CUSTOM STYLES, SKINS AND MESSAGES

Custom styles, skins and messages are stored in a directory that can be accessed by the BI Presentation Services. The recommended approach is to use an HTTP server like Oracle HTTP Server, Apache or Microsoft IIS to expose the directory to Oracle BIEE. As a workaround or for a demo, WebLogic Server (default application server with Oracle BIEE 11g - WLS) can be used to expose the directory. The bulk of the instructions below describe the WLS approach as a working example which can be modified appropriately as needed.

The directory for custom files can be anywhere in the file system including a shared file system (e.g. for clustering). Regardless of technical approach, here is the syntax for specifying the path in the *instanceconfig.xml* file:

<URL>

<CustomerResourcePhysicalPath>c:\my_custom_files_path</CustomerResourcePhysicalPath>

</URL>

NOTE: Default styles and skins in *ORACLE_HOME/web/app/res* directory should not be modified. This directory will be overwritten with any upgrade or new installation.

Exposing a Static Directory in WebLogic Server

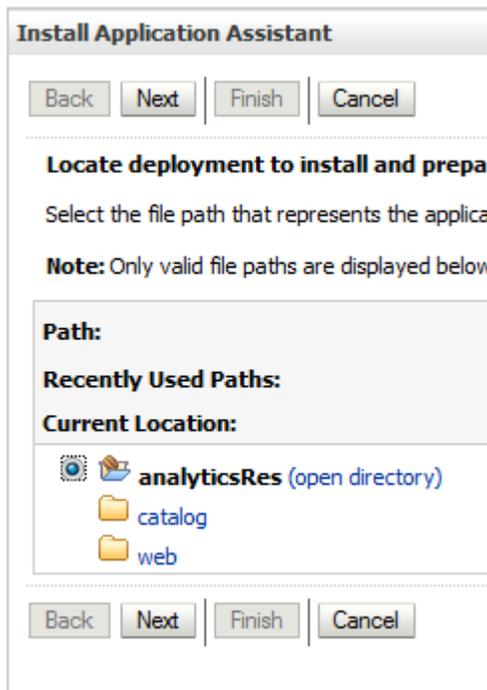
A directory can be exposed in WebLogic Server (WLS) by deploying it as a J2EE application. With default configuration, the installer sets up

ORACLE_INSTANCE/bifoundation/OracleBIPresentationServicesComponent/coreapplication_obips1/analyticsRes directory, which is used for customization (skin, style, custom message, images etc.) here. The following steps expose this directory to WLS:

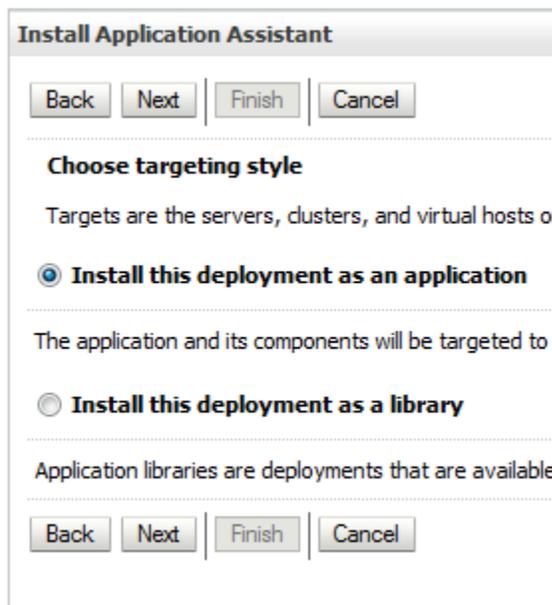
- Open Weblogic console application, (<http://host:port/console>), login and select *bifoundation_domain*.
- For *bifoundation_domain*, navigate to the deployment area.

The screenshot displays the Oracle WebLogic Server Administration Console interface. On the left, the 'Change Center' section contains a 'View changes and restarts' header, instructions to click 'Lock & Edit' to modify items, and two buttons: 'Lock & Edit' and 'Release Configuration'. Below this is the 'Domain Structure' tree, where 'bifoundation_domain' is expanded to show 'Environment', 'Deployments' (highlighted), 'Services', 'Security Realms', 'Interoperability', and 'Diagnostics'. At the bottom left is the 'How do I...' section with a bullet point: 'Install an Enterprise application'. The main content area is titled 'Summary of Deployments' and has 'Control' and 'Monitoring' tabs. A paragraph explains that the page lists Java EE applications and modules, and provides instructions on how to install a new application. Below this is a 'Customize this table' link and a 'Deployments' table. The table has buttons for 'Install', 'Update', 'Delete', 'Start', and 'Stop'. The table lists several deployments, including 'ActionSamples', 'adf.oracle.domain(1.0,11.1.1.2.0)', 'adf.oracle.domain.webapp(1.0,11.1.1.2.0)', and 'analytics (11.1.1.2.0)'. Each row has a checkbox and a plus icon for expansion.

- Click the “Lock &Edit” button in top left to enable the install for the deployments.
- Click the Install button to install a new web application.
- In the Install Application Assistant dialog, provide the path *ORACLE_INSTANCE/bifoundation/OracleBIPresentationServicesComponent/coreapplicatio*
n_obips1. This gives the user an option to select *analyticsRes* as a valid application to deploy.



- Select *analyticsRes* and continue by clicking the Next button.
- Use default settings on subsequent screens.



- In the last screen, select the *I will make the deployment accessible from the following location* option and then click Finish.

Install Application Assistant

Back

Next

Finish

Cancel

Optional Settings

You can modify these settings or accept the defaults

— General —

What do you want to name this deployment?

Name:

analyticsRes

— Security —

What security model do you want to use with this application?

- DD Only: Use only roles and policies that are defined in the deployment descriptors.**
- Custom Roles: Use roles that are defined in the Administration Console; use policies th**
- Custom Roles and Policies: Use only roles and policies that are defined in the Administ**
- Advanced: Use a custom model that you have configured on the realm's configuration**

— Source accessibility —

How should the source files be made accessible?

- Use the defaults defined by the deployment's targets**

Recommended selection.

- Copy this application onto every target for me**

During deployment, the files will be copied automatically to the managed servers to which the application

- I will make the deployment accessible from the following location**

Location:

C:\biee\buildtree\orainst\bifoundation\OracleBIPresent

Provide the location from where all targets will access this application's files. This is often a shared direct

Back

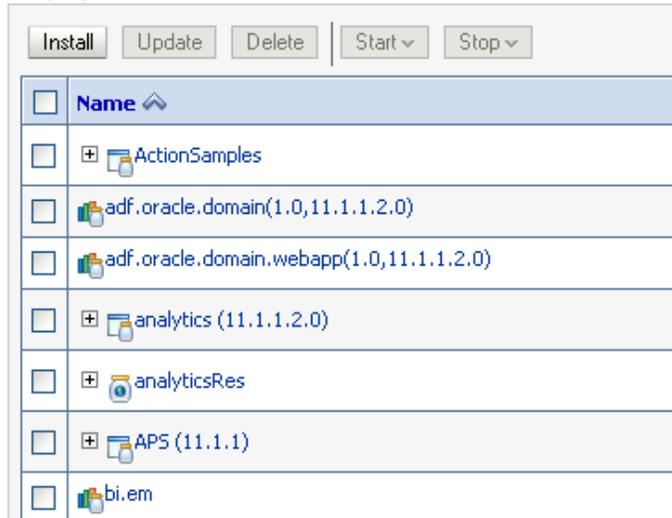
Next

Finish

Cancel

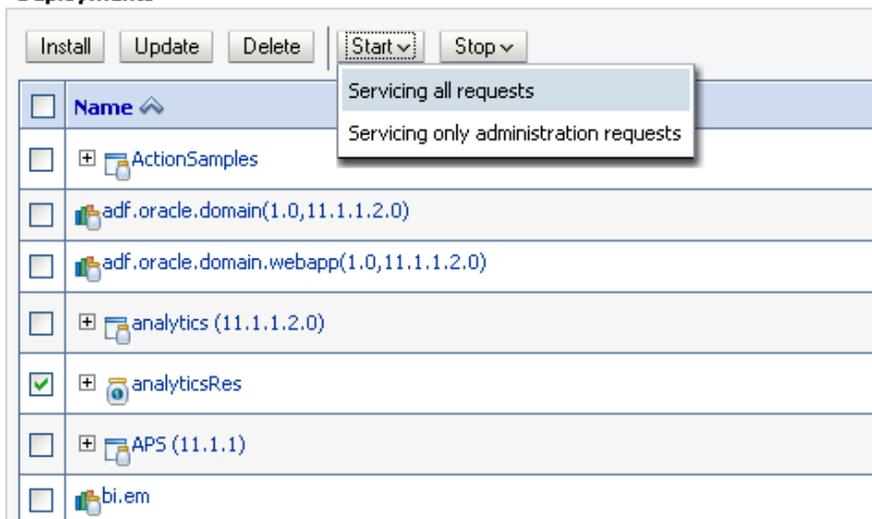
- The next screen takes you back to the Deployments screen where you should now see your *analyticsRes* application deployed.

Deployments



- If *analyticsRes* application is not Active start it by first selecting *analyticsRes* and then clicking the Start button.

Deployments



- If the deployment was successful, the State column corresponding to *analyticsRes* application should show Active and the Health column should show OK.

Deployments

Install Update Delete Start ▾ Stop ▾			
<input type="checkbox"/>	Name ↕	State	Health
<input type="checkbox"/>	+ ActionSamples	Active	✔ OK
<input type="checkbox"/>	adf.oracle.domain(1.0,11.1.1.2.0)	Active	
<input type="checkbox"/>	adf.oracle.domain.webapp(1.0,11.1.1.2.0)	Active	
<input type="checkbox"/>	+ analytics (11.1.1.2.0)	Active	✔ OK
<input type="checkbox"/>	+ analyticsRes	Active	✔ OK

- At this point the *analyticsRes* can be accessed at <http://host:port/analyticsRes>. Verify this by putting a test text file in *analyticsRes* directory and accessing it via url on the server.

Deploying Custom Skin

After exposing *analyticsRes* to WLS successfully, this directory can be used for custom skins. Follow the steps below for deploying a custom skin:

- Copy the default skin (*ORACLE_HOME/bifoundation/web/app/res/sk_blafp*) to *analyticsRes*
In Linux, for example:

```
cp ORACLE_HOME/bifoundation/web/app/res/sk_blafp/analyticsRes/sk_Eden
```

- Change the skin name in *instanceconfig.xml*
`<UI><DefaultSkin>Eden</DefaultSkin></UI>`

NOTE: For user specific skin, use *NQ_SESSION.SKIN* session variable

- Modify the images and css files in *sk_Eden* directory for achieving the customization.
NOTE: If the size of the skin is a problem, delete the unmodified files. While deleting, make sure to not delete any file which is referenced in a modified css file as it picks up the files relative to the local directory. Default files (blafp skin) will be picked for the deleted files.
- Restart the Oracle BI Presentation Services and clear the browser cache to see the changes. Here are a few examples.
- Change the logo: Replace the *analyticsRes/sk_Eden/b_mozilla_4/oracle_logo.png* and *analyticsRes/sk_Eden/login/oracle_logo.png* with the new png file. Try to keep the size of the new png file close to the original file (119X25 px).
- Change the banner color: Modify *HeaderContainer* class in *analyticsRes/sk_Eden/b_mozilla_4/common.css*
`.HeaderContainer {..; background-color: #006600; ..}`
- Change the Tabs color (for dashboard page) in a dashboard: Modify the tab images (*.gif) in *analyticsRes/sk_Eden/b_mozilla_4/uicomponents/obips.TabBar*

NOTE: If the *uicomponents* directory does not exist in *analyticsRes/sk_Eden/b_mozilla_4* then create the *uicomponents* directory and copy the *obips.TabBar* from *ORACLE_HOME/bifoundation/web/app/res/b_mozilla/uicomponent/obips.TabBar*. Delete *.js and *.xml files.

- Change the body color of the home page: Modify the background color of the body in *analyticsRes/sk_Eden/b_mozilla_4/home.css*
body{..; background-color: #006600; ..}
- Change the alert color: Modify the *HeaderAlerts* class in *analyticsRes/sk_Eden/b_mozilla_4/common.css*
.HeaderAlerts a:hover{..; color:#FF7777; ..}
- Change the header bar separator line: Modify the *HeaderBarSeparator* class in *analyticsRes/sk_Eden/b_mozilla_4/common.css*
.HeaderBarSeparator{..; border-top: 1px solid #005500; ..}
- Change the background color of the dashboard name: Replace the *analyticsRes/sk_Eden/b_mozilla_4/11_seltab_bg.gif* with the new image. Make sure the size of the new image is the same as the old one.
- Change the header spacer line: Replace the *analyticsRes/sk_Eden/common/header_spacer_bg.gif* with the new image. Make sure the size of the new image is the same as the old one.
- Change the background color of the dashboard page edit and help icon: Replace the *analyticsRes/sk_Eden/b_mozilla_4/12_spacer_bg.gif* with the new image. Make sure the size of the new image is the same as the old one.

NOTE: The path of this image is hard coded in *DashUpperContainer* class in *portalcontent.css* file of the chosen style. This is a bug and is being fixed. For now, change this class to reflect the Eden skin (*sk_eden*).

- Change the status icon next to Sign Out (top right corner): Replace the *analyticsRes/sk_Eden/common/page_lev_connected.gif* with the new image. Make sure the size of the new image is the same as the old one.
- Change the menu bar separator line: Replace the *menubar_gSeparator.gif* in *analyticsRes/sk_Eden/b_mozilla_4/uicomponents/obips.UberBar*

NOTE: If the *uicomponents* directory does not exist in *analyticsRes/sk_Eden/b_mozilla_4*, create the *uicomponents* directory and copy the *obips.UberBar* from *ORACLE_HOME/bifoundation/web/app/res/b_mozilla/uicomponent/obips.UberBar*.

- Change the color, font and left margin of the brand name text (next to the logo): Modify the *HeaderBrandName* class in *analyticsRes/sk_Eden/b_mozilla_4/common.css* and *appName* class in *analyticsRes/sk_Eden/login/login.css*
.HeaderBrandName{..; color:#007700;font-family:Arial; left:120px; ..}

```
.appName{..; color:#007700; font-family:Arial; ..}
```

Deploying Custom Style

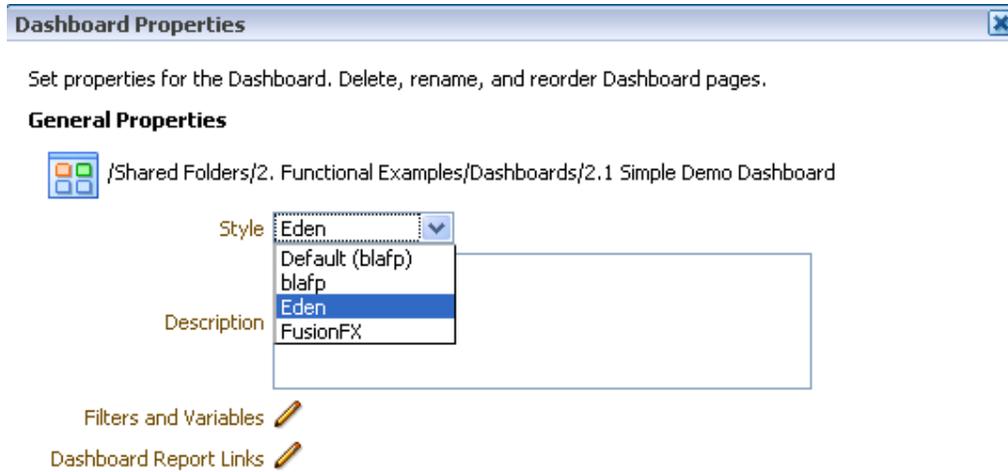
The same analyticsRes directory can be used for a custom style using the steps below.

- Copy the default style (*ORACLE_HOME/bifoundation/web/app/res/s_blafp*) to *analyticsRes*

In Linux, for example:

```
cp ORACLE_HOME/bifoundation/web/app/res/s_blafp analyticsRes/s_Eden
```

- Choose the Eden Style in Dashboard Properties



NOTE: For user specific style, use *NQ_SESSION.STYLE* session variable

- Modify the images and css files in *analyticsRes/s_Eden* directory to achieve your customization.

NOTE: If the size of the style is a problem, delete the unmodified files. While deleting, make sure to not delete any file which is referenced in a modified css file as it picks up the files relative to the local directory. Default files (blafp style) will be picked for the deleted files.

- Restart the Oracle BI Presentation Services and clear the browser cache to see the changes. As an example:
- Change the background color of the pivot table header: Replace the *analyticsRes/s_Eden/viewui/pivot/ptgrd_overly.png* with the new image. Make sure the size of the new image is the same as the old one.

Deploying Custom Message

Custom messages should be stored in the same analyticsRes directory.

- Create *customMessages* folder in analyticsRes directory for the custom messages (.xml file). A good example would be writeback template that should be saved here.

In Linux, for example:

```
mkdir customMessages analyticsRes/
```

- For creating the language dependent custom message, create the appropriate directory structure within *analyticsRes* directory. As an example:
- Change the brand name text –
 - Create the message directory for the required language (English language here).
In Linux, for example:

```
mkdir analyticsRes/customMessages/1_en/messages
```
 - Create *CompanyName.xml* and add the text within *kmsgHeaderBIBrandName* tag:

```
<WebMessageTables
xmlns:sawm="com.siebel.analytics.web/message/v1"><WebMessageTable
protect="true" export="true" translate="false" system="ProductMessages"
table="ProductNames">

<WebMessage name="kmsgHeaderBIBrandName"><TEXT> Report Center
</TEXT></WebMessage>

</WebMessageTable></WebMessageTables>
```

SUMMARY

As a result of the fundamental changes in architecture and UI elements in Oracle BIEE 11g release, migration from previous skin/style to the 11g instance requires new effort. It is recommended that the user start from scratch following the methodology outlined in this paper. Examples in this paper illustrate common, representative customizations however similar concepts can be extended to achieve other customizations. These examples are packaged as a starting point and are available for download¹.

REFERENCES

1. Eden Skin - <https://codesamples.samplecode.oracle.com/servlets/tracking?id=S578> (see attachment for Eden.zip)



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