

# **Oracle Utilities Customer Self Service**

Whitepaper:

Using Google Maps™

Release 2.1.0.1

**E36188-04**

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# Chapter 1

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## Overview

This document provides an overview of using the base map provided by Google Maps service in conjunction with the Oracle Utilities Customer Self Service (OUCSS) Outage Map screen.

The [OUCSS Mobile Maps](#) chapter provides an overview of using Google Maps with the OUCSS Mobile application.

## Additional Resources

Resource	Location
Oracle Map Viewer User Guide	<a href="http://www.oracle.com/technetwork/middleware/mapviewer/documentation/index.html">http://www.oracle.com/technetwork/middleware/mapviewer/documentation/index.html</a>
Oracle ADF Mobile Browser documentation	<a href="http://docs.oracle.com/cd/E28280_01/web.1111/e10140/toc.htm">http://docs.oracle.com/cd/E28280_01/web.1111/e10140/toc.htm</a>
Oracle Fusion Developers Guide (JDeveloper and ADF)	<a href="http://docs.oracle.com/cd/E28280_01/web.1111/b31974/toc.htm">http://docs.oracle.com/cd/E28280_01/web.1111/b31974/toc.htm</a>

**Note:** This document and the documentation mentioned above is subject to revision and updating. For the most recent version of this and related documentation, as well as information on functionality and known issues for other Oracle products that may be required for installation and proper functionality of this product, check the Oracle Utilities Customer Self Service section of the [Oracle Utilities Documentation](#) area on the Oracle Technology Network (OTN) web site (<http://www.oracle.com/technetwork/apps-tech/utilities/documentation/index.html>).

# Chapter 2

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## Configuration

This section describes how to reconfigure your existing installation of Oracle Utilities Customer Self Service to work with the Google Maps service.

### Assumptions

Google Maps is used to draw the base map (roads, geographic features, etc.); but city, county and zip geometry data must be available for the MapViewer component to overlay the base map with areas in which outages occur.

For illustrative purposes this document assumes that NAVTEQ data is used for city, county and zip; the data can be obtained elsewhere, provided that it is loaded into the schema that is available to MapViewer and contains city, county and zip geometry information.

**Note:** This document also contains a procedure that should be performed to make the spatial data available to MapViewer. For more information about configuring MapViewer refer to Configuring MapViewer section in the Oracle Utilities Customer Self Service Installation Guide Release 2.1.0.1.

### MapViewer Configuration

Configuration comprises three steps:

- Enabling the Google Maps service using Google configuration screens.
- Configuration of MapViewer metadata.
- Adjustment of OUCSS settings.

## Google Maps Configuration

Follow the steps outlined in ‘Obtaining an API Key’ chapter in the *Google Developers* document at: <https://developers.google.com/maps/documentation/javascript/v2/introduction#Intro>.

After completing the procedure, the Google Maps (version 2) service should be enabled and the API key should be ready for subsequent setup steps.

**Note:** Google Maps version 2 is used, since version 3 is not compatible with the version of ADF used in the current OUCSS installation.

## MapViewer Metadata Configuration

This procedure configures MapViewer to use the base map from Google Maps and use overlay data from the local database.

- 1 Create a new datasource as described in the “Configuring MapViewer” section of the *OUCSS Installation Guide*. The name of this datasource will later be used to adjust SS\_Configuration parameters.

### ORACLE® MapViewer Administration Console 11g

#### Manage MapViewer

- Configuration
- **Datasources**
- Geometry Cache
- Create Tile Layer
- Manage Tile Layers
- Monitoring
- View Logs

Refresh

#### Existing data sources

	Edit	Delete	Purge cached metadata
Select	Name	User	Container DS
<input type="radio"/>	NAVTEQ_SF	NAVTEQ_SF	

- 2 A new tile should be created to be used with Google Maps. To create the new tile, click the **Create Tile Layer** link under **Manage MapViewer**.

#### Manage MapViewer

- Configuration
- Datasources
- Geometry Cache
- **Create Tile Layer**
- **Manage Tile Layers**
- Monitoring
- View Logs

Refresh

#### Existing map tile layers

	Edit / View details	View map / Ma
Select	Name	Data Sc
<input type="radio"/>	ELOCATION	NAVTEQ
<input type="radio"/>	ELOCATION_MAP	NAVTEQ
<input type="radio"/>	NAVTEQ WORLD MAP	NAVTEQ

3 In the **Select type of map source** dropdown list, select **Google Maps**.

- Configuration
- Datasources
- Geometry Cache
- Create Tile Layer
- Manage Tile Layers

**TIP** You must first specify where the map tile images will come from. Choose Internal if this MapViewer  
Select type of map source: Google Maps ▼

Continue

- 4 Select the datasource defined in Step 1 and leave other parameters as is (otherwise, you may have a problem saving the input).
- 5 Save the new map tile layer.
- 6 In the **Manage Tile Layers** list, select the newly-created tile layer and edit it:

**Manage MapViewer**

- Configuration
- Datasources
- Geometry Cache
- Create Tile Layer
- Manage Tile Layers
- Monitoring
- View Logs

Cancel XML mode Submit

Name: OUCSS\_GOOGLE\_MAP  
Data source: NAVTEQ\_SF  
Copyright text:

**Adapter Settings**

Adapter properties Add

Delete

Select	name	value
<input type="radio"/>	version	2
<input type="radio"/>	lib_url	http://maps.google.com/maps?file=api&v=
<input type="radio"/>	key	AlzaSyBAB33zr8KTErKQ0VFrwaFPsOd
<input type="radio"/>	map_type_values	MVGoogleTileLayer.MAP_TYPE_ROAD;M
<input type="radio"/>	map_type_names	Road;Hybrid;Shaded;Satellite

Properties:

[Coordinate System Definition](#)  
[Zoom Level Definition](#)

Cancel XML mode Submit

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- For *lib\_url* use the following URL:

`http://maps.google.com/maps?file=api&v=2&key=<your_GOOGLE_API_key>&`

This URL ensures that the ADF component will fetch the Google Maps version 2 API. Also note that it contains the Google API key that was obtained in the previous “Google Maps Configuration” procedure.

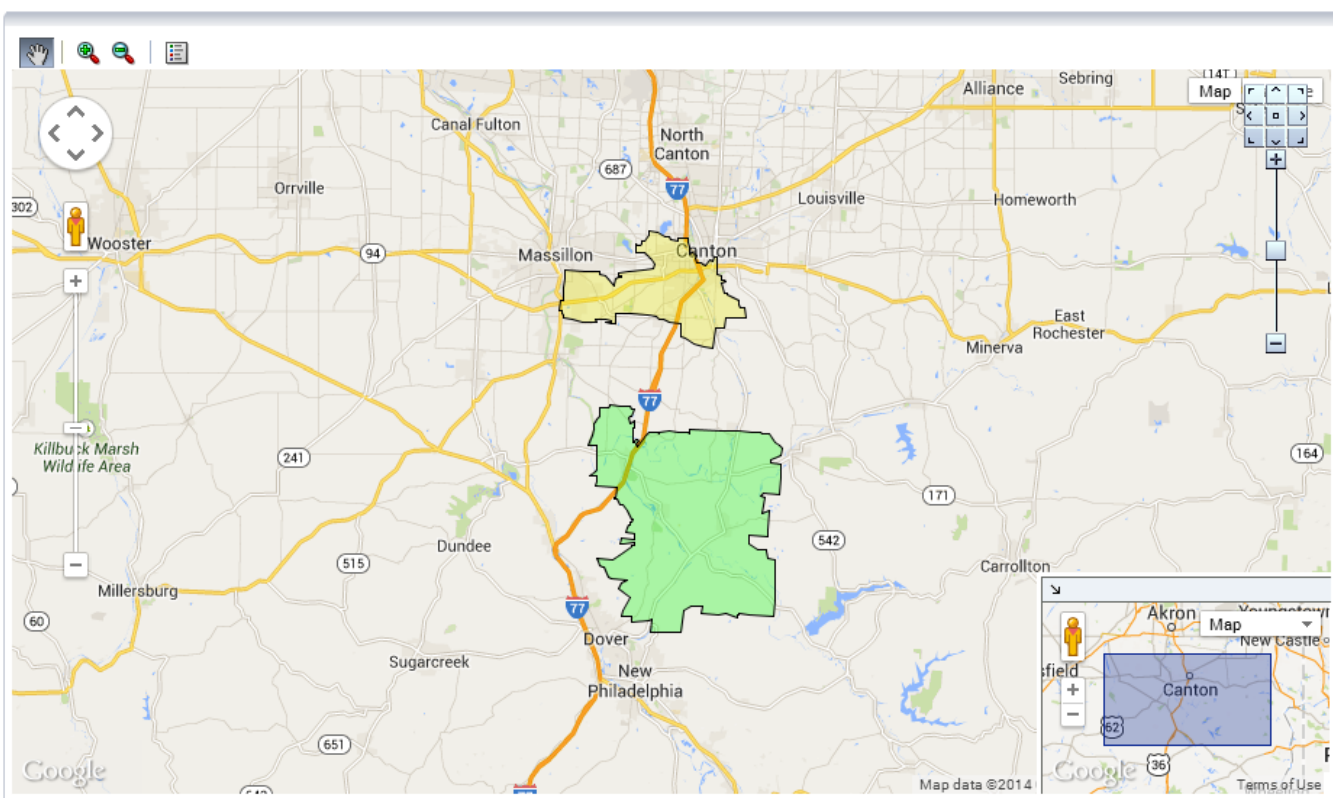
- For the *version* parameter, use ‘2’.
- For the *key* parameter, use the previously-obtained Google API key.

7 Save your changes.

## MapView Metadata Configuration

Values in the SS\_CONFIGURATION table must be adjusted to match the datasource name, tile layer name, and geometry theme name that were created in the previous procedures.

- 1 **'outage.map.base.map'** should contain the value `<Datasource_Name>.<Tile_Layer_Name>`. For example, `NAVTEQ_SF.GOOGLE_WORLD_MAP`.
- 2 **'outage.map.color.theme'** should contain the name of geometry theme. For example, `'GOOGLE_ZIP'`.
- 3 **'outage.map.color.theme.loc'** points to the column in the table with postal codes. It should match the one that was used during creation of a text style. For example, `'POSTALCODE'`.
- 4 **'outage.map.srid'** should reflect the spatial reference system identifier of the data.
- 5 Restart OUCSS servers and verify that the Outage Map shows the base map from Google Map service, as well as the outage data overlay.





# Chapter 3

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## OUCSS Mobile Maps

This section describes how to use Google Maps service as custom implementation with the OUCSS Mobile application.

### Overview

The OUCSS Mobile Outage map implementation uses the Oracle Maps JavaScript API to render the map. The implementation can be changed to use Google maps by adding custom code and deploying it as part of the custom mobile library.

Out of box the map viewer from <http://elocation.oracle.com> is used which can be replaced by the implementation specific map viewer installation.

Out of box the <http://elocation.oracle.com> geolocation service is used for geocoding the city names, county names and zip codes. This can be replaced by the Google geocode service.

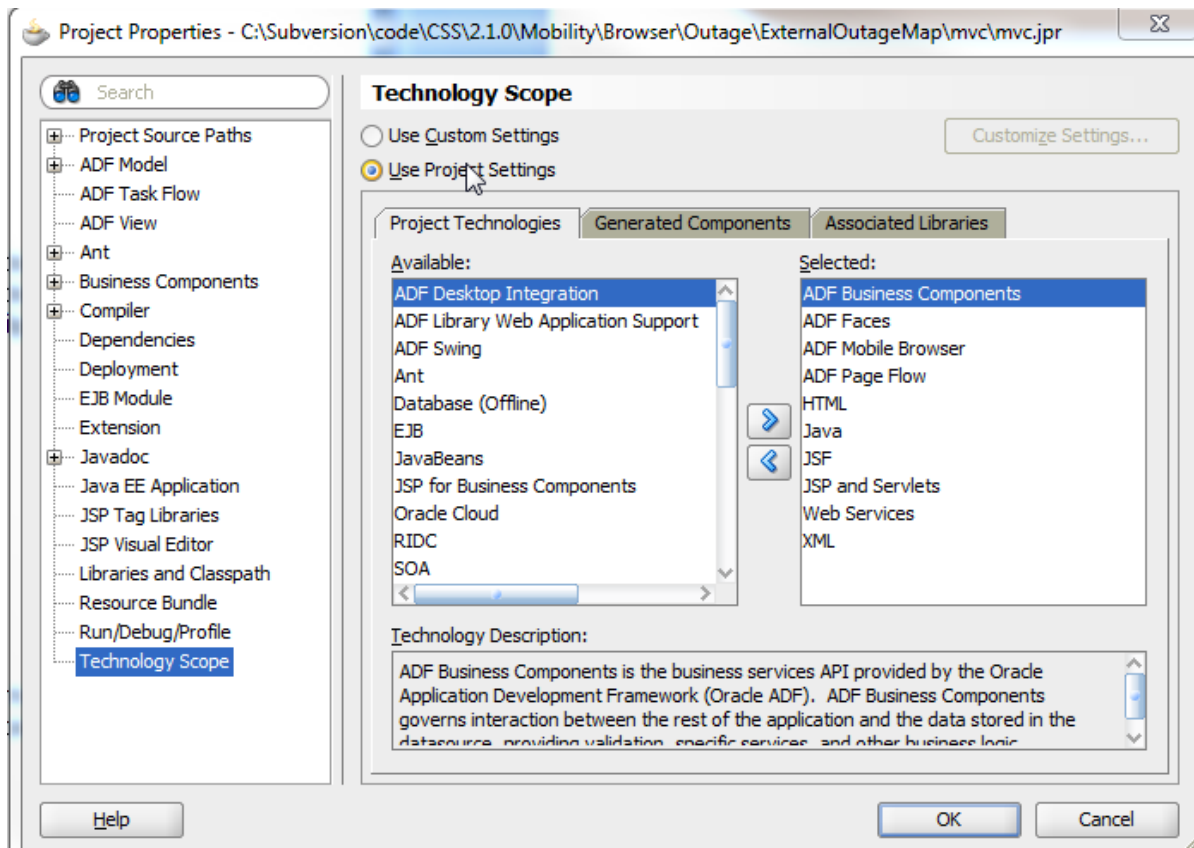
### Custom Code

The following steps can be followed to create the custom library which can implement the Google maps for OUCSS mobile outage map.

**Note:** A sample project is available with this document which can be opened in JDeveloper. The sample project can be used to make code changes and then step number 8 onwards can be followed to create the ADF library.

- 1 Open JDeveloper and create a new Fusion Web Application, and ensure the following technology scopes are selected for view project:
  - ADF Business Components
  - ADF Faces
  - ADF Mobile Browser
  - ADF Page Flow

- HTML
- Java
- JSF
- JSP and Servlets
- Web Services
- XML



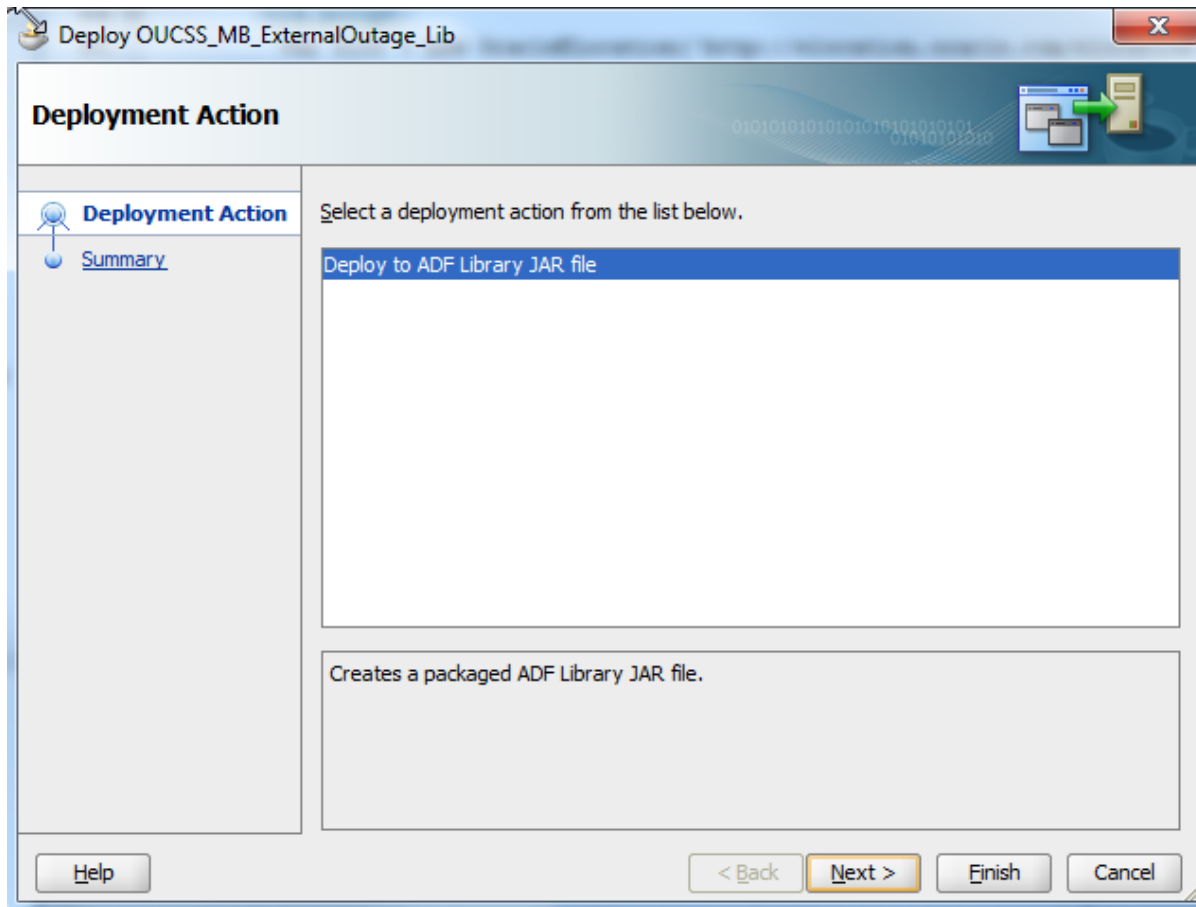
- 2 Add the code for appropriate web services to get the Outage data from external systems.
- 3 Add the jsp page for displaying the Outage map with Google maps to the Project
- 4 In the jsp page the following Javascript import statements are necessary to access Google maps API
 

```
<trh:script source="https://maps.googleapis.com/maps/api/js?v=3.exp&sensor=true"/>
```
- 5 The Oracle maps JavaScript API can be used to render Google map as the base map on the jsp page. To access the Oracle JavaScript API the following import statements are needed
 

```
<trh:script
source="http://elocation.oracle.com/mapviewer/fsmc/jslib/oraclemaps.js"></trh:script>

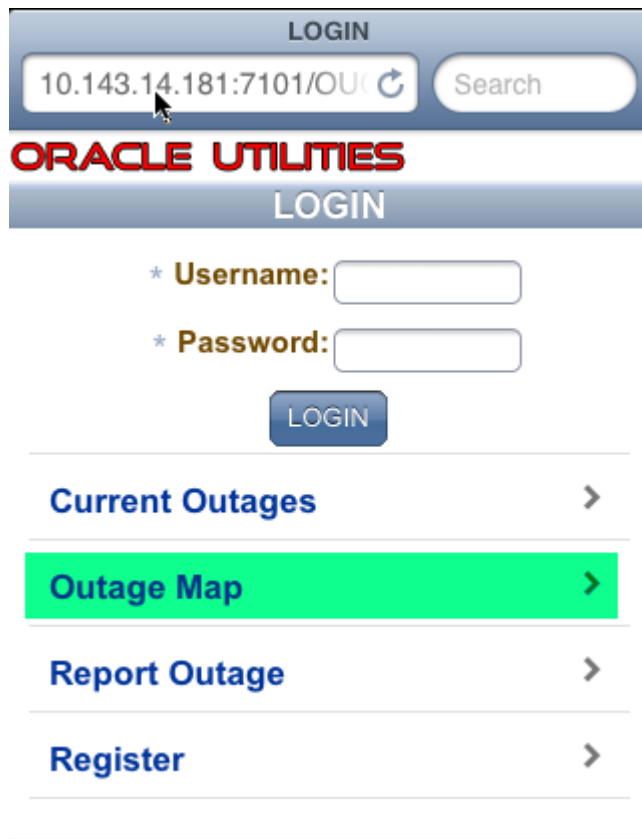
<trh:script
source="http://elocation.oracle.com/elocation/jslib/oracleelocation.js"></trh:script>
```
- 6 The *MVGoogleTileLayer()* object is used to create the Google maps tile layer which will display the Google map as base map on the jsp page.
- 7 The *google.maps.Geocoder()* objects geocode method can be used to geo code the cities, counties and zip codes sent from the external system. Geocoding will provide the latitude and longitude and enable to plot a marker on the map.

- 8 After the code is final create the ADF library jar by right clicking on the project → Deploy → <Deployment\_Name> → Deploy to ADF Library JAR File



- 9 Download the OUCSS Mobile custom application zip file  
(<PRODUCT\_HOME>/Install/application/oracle.ugbu.ss.mobile.browser.custom.zip).
- 10 Unzip and open the custom application in explorer and create a *lib* folder under *mvc\public\_html\WEB-INF* folder
- 11 Copy the generate Google outage map ADF Library JAR file under the *lib* folder
- 12 Open the custom application in JDeveloper and create a WAR file by right click → Deploy
- 13 Package this application as a web archive (\*.war) and deploy as a WebLogic library with the following the metadata:
- Extension-Name: oracle.ugbu.ss.mobile.browser.custom\_2.1.0.1
  - Specification-Version: 11.1.1
  - Implementation-Version: < value higher than 2.1.0.1>
- 14 Deploy the archive on the WebLogic domain, targeting it to the WebLogic managed server hosting the OUCSS Mobile solution.
- 15 Restart the oracle.ugbu.ss.mobile.browser\_2.1.0.1 application using the WebLogic console, or restart the OUCSS Mobile managed server.

## Outage Map Link



LOGIN

10.143.14.181:7101/OU Search

**ORACLE UTILITIES**

LOGIN

\* Username:

\* Password:

LOGIN

Current Outages >

**Outage Map** >

Report Outage >

Register >

The default outage map menu link points to the OutageMapTaskflow, which uses Oracle maps. To point the Outage map menu link to point to the Custom Google map taskflow:

- 1 Login into the OUCSS Portal application with the WSSAdmin role.
- 2 Navigate to the **Admin > Resources** page.
- 3 Select the resource with resource code *MOB\_B\_OUTAGE\_MAP\_URL*, add the override URL value and click on the **Save** button. The override URL value will be the path to the custom Google map taskflow.

**Example:**

```
/faces/adf.task-flow?_id=ExternalOutageMapTaskflow&_document=/WEB-INF/ExternalOutageMapTaskflow.xml
```

The screenshot shows the Oracle WebLogic console interface. At the top, there is a table with columns: Resource Code, Resource Type, Locator Type, URL, and URL Override. The table lists several resources, with 'MOB\_B\_OUTAGE\_MAP\_URL' highlighted in yellow. Below the table, the 'Resource' configuration page for 'MOB\_B\_OUTAGE\_MAP\_URL' is displayed. It includes fields for Resource Code, Resource Type (set to 'WXURL'), and Locator Type (set to 'WXREL'). The URL field contains a long path: '/faces/adf.task-flow?\_id=OutageMapTaskflow&\_document=/WEB-INF/com/oracle/ugbu/ss/mobile/browser/outage/geomap/OutageMapTaskflow.xml'. The URL Override field contains: '/faces/adf.task-flow?\_id=ExternalOutageMapTaskflow&\_document=/WEB-INF/ExternalOutageMapTaskflow.xml'. There are also fields for Description, Help, Description Override, and Help Override. At the bottom right of the configuration page are 'Reset', 'Save', and 'Cancel' buttons. A 'No Preview Provided' message is at the bottom left.

- 4 The override URL will be picked up by the Outage Map menu link on restart of the Mobility server.

## Modifying the jazn-data.xml File

The jazn-data.xml in the *oracle.ugbu.ss.mobile.browser\_2.1.0.1.ear* needs to be modified and the EAR file has to be deployed again. The jazn-data.xml has to be modified to give permission to the custom taskflow. To modify the jazn-data.xml file:

- 1 The jazn-data.xml is not upgrade safe and a backup of the EAR file has to be taken before updating the jazn-data.xml.
- 2 Unzip the oracle.ugbu.ss.mobile.browser\_2.1.0.1.ear and open the jazn-data.xml in the oracle.ugbu.ss.mobile.browser\_2.1.0.1/META-INF folder
- 3 In jazn-data.xml for the *anonymous-role* add the permission for the custom Google map taskflow:

### Example:

```
<permission>
  <class>oracle.adf.controller.security.TaskFlowPermission</class>
  <name>/WEB-INF/ExternalOutageMapTaskflow.xml#ExternalOutageMapTaskflow</name>
  <actions>view</actions>
</permission>
```

- 4 Now zip the folder and create the oracle.ugbu.ss.mobile.browser\_2.1.0.1.ear file
- 5 Deploy the newly created EAR file from the WebLogic console. For this login into the console at URL **Error! Hyperlink reference not valid..**
- 6 Navigate to the **Deployments** page and select the deployment oracle.ugbu.ss.mobile.browser\_2.1.0.1 (v2.1.0.1) and click on the Delete button. This will remove the Mobile application EAR from the Mobility server

- 7 To deploy the new EAR on the Deployments page click on the **Install** button and in the next screen browse to the EAR location on the machine, select the EAR file and click on the **Next** button.

The screenshot shows the 'Install Application Assistant' dialog box. At the top, there are buttons for 'Back', 'Next', 'Finish', and 'Cancel'. The main heading is 'Locate deployment to install and prepare for deployment'. Below this, a text box explains: 'Select the file path that represents the application root directory, archive file, exploded archive directory, or application module descriptor that you want to install. You can also enter the path of the app'. A note states: 'Note: Only valid file paths are displayed below. If you cannot find your deployment files, upload your file(s) and/or confirm that your application contains the required deployment descriptors.' The 'Path:' field contains 'C:\spl\SS\tools\product\_home\2.1.0.1\Install\application\_hudson\_mob\oracle.ugbu.ss.mobile.browser\_2.1.0.1.ear'. The 'Recently Used Paths:' list shows several paths, including 'C:\spl\SS\tools\product\_home\2.1.0.1\Install\application\_hudson\_mob' and 'C:\spl\SS\tools\product\_home\2.1.0.1\Install\application'. The 'Current Location:' is '127.0.0.1 \ C: \ spl \ SS \ tools \ product\_home \ 2.1.0.1 \ Install \ application\_hudson\_mob'. A list of files is shown below, with 'oracle.ugbu.ss.mobile.browser\_2.1.0.1.ear' selected and highlighted with a yellow box. Other files include 'oracle.ugbu.ss.mobile.browser.base\_2.1.0.1.war', 'oracle.ugbu.ss.mobile.browser.custom\_2.1.0.1.war', 'oracle.ugbu.ss.mobile.browser.skin\_2.1.0.1.iar', and 'OUCSS\_Extension.war'. At the bottom, there are buttons for 'Back', 'Next', 'Finish', and 'Cancel'.

- 8 On the next page select the option **Install this deployment as an application** and click on the **Next** button.

The screenshot shows the 'Install Application Assistant' dialog box. At the top, there are buttons for 'Back', 'Next', 'Finish', and 'Cancel'. The main heading is 'Choose targeting style'. Below this, a text box explains: 'Targets are the servers, clusters, and virtual hosts on which this deployment will run. There are several ways you can target an application.' Two options are listed: 'Install this deployment as an application' (selected and highlighted with a yellow box) and 'Install this deployment as a library'. The first option has a description: 'The application and its components will be targeted to the same locations. This is the most common usage.' The second option has a description: 'Application libraries are deployments that are available for other deployments to share. Libraries should be available on all of the targets running their referencing applications.' At the bottom, there are buttons for 'Back', 'Next', 'Finish', and 'Cancel'.

- 9 In the next page add the **Name** as *oracle.ugbu.ss.mobile.browser\_2.1.0.1* and click on the **Finish** button

**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:** oracle.ugbu.ss.mobile.browser\_2

**Archive Version:** v2.1.0.1

**Deployment Plan Version:**

**Specification Version:** 11.1.1

**Implementation Version:** 2.1.0.1

- 10 Click on the **Save** button on the next page

**Settings for oracle.ugbu.ss.mobile.browser\_2.1.0.1(v2.1.0.1)**

Overview Deployment Plan Configuration Security Targets Control Testing Monitoring Notes

Save

Use this page to view the general configuration of an Enterprise application, such as its name, the physical path to the application files, the associated deployment plan, and name of the module to view and update its configuration.

<b>Name:</b>	oracle.ugbu.ss.mobile.browser_2.1.0.1
<b>Archive Version:</b>	v2.1.0.1
<b>Path:</b>	C:\spl\SS\tools\product_home\2.1.0.1\Install\application_hudson_mob\oracle.ugbu.ss.mobile.browser_2.1.0.1.ear

- 11 On successful deployment of the *oracle.ugbu.ss.mobile.browser\_2.1.0.1.ear* the Outage map menu link will point to the custom taskflow.