Building Maps for Oracle Business Intelligence Analyses and Dashboards

Overview

Purpose

This tutorial covers using Oracle Map Builder and Oracle Map Viewer to build and embed maps for use in Oracle Business Intelligence analyses and dashboards.

Time to Complete

Approximately 90 minutes

Introduction

In this Oracle by Example (OBE) tutorial you learn how to use Oracle Map Builder to build a map, use Oracle Map Viewer to bring the map online for integration with Oracle Business Intelligence (OBI), and then embed the map into a Map view in an OBI analysis. Please note that this tutorial provides only a basic introduction to Oracle Map Builder and Oracle Map Viewer for the purposes of building a map and then integrating the map into OBI. For more detailed information about Map Builder and Map Viewer, please refer to the Resources section at the end of this OBE.

Prerequisites

This tutorial uses a sample map data schema, a pre-built OBI schema, and a pre-built OBI repository. All instructions for accessing and importing the schemas are provided in this tutorial. This tutorial does not provide instructions for uploading the pre-built OBI repository. It is assumed that you know how use Enterprise Manager 11g Fusion Middleware Control to upload an OBI repository. Please note that this tutorial was built using a Windows environment with all required components installed on a single machine. As a result you may need to modify some steps in this tutorial to match your environment. Before starting this tutorial, you should:

- Have access to or have Installed Oracle Business Intelligence 11g.
- Use Enterprise Manager 11g Fusion Middleware Control to upload the OBIEEMAP repository (obieemap.rpd) located here. The repository password is welcome1. Please note that this repository will not be ready for building analyses in OBI Presentation Services until after you complete the first topic in this OBE: Importing Schemas to Your Database.

Importing Schemas to Your Database

To import the required schemas for this OBE into your Oracle database, perform the following steps. In this tutorial you use a Map Viewer demo schema, *mvdemo*, and an OBI schema, *obieemap*. All instructions for accessing and importing these schemas are provided in this tutorial.

1. Sign in to SQL*Plus as a system user and create a database user named **mvdemo**. Use the following script for reference: CREATE USER mvdemo IDENTIFIED BY mvdemo DEFAULT TABLESPACE USERS;



3. Copy mvdemo.dmp to a location on your machine. In this example mvdemo.dmp is copied to D: \mvdemo11R1. This is a database dump file exported from an Oracle database. You can import it into an Oracle 10g or 11g database.



Grant succeeded.

4. Open a command window, change the directory to the location of mvdemo.dmp, and use the following command to import the data into user mvdemo: imp mvdemo/mvdemo file=mvdemo.dmp full=y ignore=y



If the above command fails due to character set related issues (such as IMP-00016 imp: charset conversion error), you may need to set the NLS_LANG environment variable to American_America.WE8ISO8859P1 temporarily. For instance, on Windows you can type the following in the DOS window before issuing the above imp command again:

set NLS_LANG=American_America.WE8IS08859P1

You can ignore all other warnings from the imp command, including one that says "Unexpected end of export file encountered". The imported data is ready to be used.

5. Verify the import. Connect as mvdemo and use the following script as a reference:

select table_name from user_tables;

🐼 SQL Plus
SQL> conn_mvdemo/mvdemo; Connected. SQL> select_table_name_from_user_tables; TABLE_NAME
CITIES COUNTIES EMPLOYEES INTERSTATES MAPS STATES STYLES TERRITORIES TERRITORIES TERR_COUNTIES THEMES
10 rows selected.

6. Verify if the script mcsdefinition.sql has been run in your database. If not, run the script mcsdefinition.sql.

Explanation: If your database has never run this script before, you will need to run it as DBA role. To verify if this script has been run, you can log into the database (as any user), and execute the following query:

select name from user_sdo_cached_maps;

🛋 SQL Plus
SQL> select name from user_sdo_cached_maps;
no rows selected

If the query produces an error that says "table or view does not exist" then this script has never been run on the database. If it does not return such an error (even if no rows were selected as shown in the screenshot), then you do not need to run the script mcsdefinition.sql.

If you do need to run this script, simply log on as a DBA, and execute the script. It will create the view USER_SDO_CACHED_MAPS for all users. This view is used to hold the map tile layer definitions and is required by Map Viewer.

7. Unzip mvdemosql.7z and then copy mvdemo.sql to a location on your machine. In this example mvdemo.sql is copied to D: \mvdemo\mvdemol1R1. Run
http://www.oracle.com/webfolder/technetwork/tutorials/obe/fmw/bi/bi1116/obiee_maps/obiee_maps.html

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mvdemo.sql. Inis script populates all the necessary spatial metadata, copies the predetined styles, themes, and base maps into the proper user views, and creates spatial indexes for the imported tables. It also creates several (cached) map tile layer definitions in the view USER_SDO_CACHED_MAPS so that all the Oracle Maps tutorials will work. Here is how to run the script from a SQL*Plus session while logged in as user mvdemo: SQL> @D:/mvdemo/mvdemo11R1/mvdemo.sql

SQL> @D:/mvdemo/mvdemo11R1/mvdemo.sql;_

8. To verify that the script has run successfully, run the SQL command select count (*) from user sdo maps and confirm that four rows are returned.

💽 SQ	L Plus			
SQL>	select	count(*)	from	user_sdo_maps;
COL	JNT (*)			
	4			

9. Sign in to SQL*Plus as a system user and create a database user named **obieemap**. Use the following script for reference: CREATE USER obieemap IDENTIFIED BY obieemap DEFAULT TABLESPACE USERS;

🔍 SQ	L Plus								
SQL>	create	user	obieemap	identified	by	obieemap	default	tablespace	users;
User	created	1.							

10. Grant privileges to the obieemap user. Use the following script for reference: GRANT CONNECT, RESOURCE, CREATE VIEW TO obieemap IDENTIFIED BY obieemap;



11. Copy object to D: \object object of D: \object

Address 🛅 D:\obieemap			
Name 🔺			
🖻 obieemap.dmp			

12. Open a command window, change the directory to the location of obieemap.dmp, and use the following command to import the OBI data into user obieemap:

imp obieemap/obieemap file=obieemap.dmp full=y ignore=y

D:\WINNT\system32\cmd.exe

D:∖obieemap>imp obieemap∕obieemap file=obieemap.dmp full=y ignore=y
[mport: Release 11.2.0.1.0 - Production on Thu Oct 11 19:08:11 2012
Copyright (c) 1982, 2009, Oracle and/or its affiliates. All rights reserve
Connected to: Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - (Production Vith the Partitioning, OLAP, Data Mining and Real Application Testing optic
Export file created by EXPORT:V11.02.00 via conventional path import done in WE8MSWIN1252 character set and AL16UTF16 NCHAR character set . importing OBLEEMAP's objects into OBLEEMAP
importing table

13. Verify the import. Connect as **obieemap** with password **obieemap** and use the following script as a reference: select table_name from user_tables;

🖏 SQL Plus
SQL> select table_name from user_tables;
TABLE_NAME
D1_CUSTOMER2 D1_ORDERS2

Creating a Map Viewer Data Source

To create a Map Viewer data source, make sure your Oracle database is up and then perform the following steps.

1. Open a browser and enter the following URL to connect to Map Viewer: http://host:port/mapviewer. For example: http://localhost:7001/mapviewer.



2. Click the Admin link in the upper right corner to open the Login screen.



3. On the Login screen, enter your OBIEE administrative username and password. In this example the username is weblogic.

Ma	pViewer 6
Login	
User Name	weblogic
Password	•••••
Log In Cancel	

4. Click Log In to open the Map Viewer Administration screen.



5. Select Management > Configuration to open the Map Viewer XML configuration file inside a text area.

File locat	ion: D:\bi\Oracle_BI1\bifoundation\jee\mapviewer.ear\web.war\WEB-INF\conf\	.map∨iewerConfig.xml
Config:	xml version="1.0" ? This is the configuration file for Oracle9iAS <u MapViewer> Note: All paths are resolved relative to this directory (where<br this config file is located), unless specified as an absolute path name. >	

6. Scroll all the way down to the end of the file to find the sample Map Viewer data source definition: map_data_source name=.

</th
<map_data_source <="" name="mydemo" td=""></map_data_source>
jdbc_host="db1.my_corp.com"
<u>idbc_sid="orcl"</u>
jdbc_port="1521"
jdbc_user="scott"
jdbc_password="!tiger"
jdbc_mode="thin"
number_of_mappers="3"
allow_jdbc_theme_based_foj="false"
allow_jdbc_theme_based_foi="false"

/> -->

7. By default map_data_source name= should point to "mvdemo". If not, change it to map_data_source name="mvdemo". Uncomment the data source definition by removing the XML comment tags, and then modify the database connection and login information to reflect your mvdemo schema. Use the screenshot as a reference. Make sure you have an exclamation point "!" in front of the supplied login password value. Then next time you restart Map Viewer it will automatically obfuscate this password.

<map_data_source name="mydemo" jdbc_host="localhost" jdbc_sid="orc!" jdbc_port="1521" jdbc_user="mydemo" jdbc_password="!mydemo" jdbc_mode="thin" number_of_mappers="3" allow_jdbc_theme_based_foi="false" />

8. Click on the Save & Restart button underneath the text area. Map Viewer will restart, reload this configuration file, and the mvdemo data source will be created (make sure the database and its listener are both up!).

Save	Save & Restart	Cancel

9. At the top of the page, in the Information section, verify that mapViewerConfig.xml has been saved and Map Viewer has been restarted.



10. Select Datasources. In the top panel under Existing Data Sources it should list the mvdemo data source.

Existing data sources						
Select a data source and Edit Delete Purge cached metadata						
Select	Name	User	OC4J DS	JDBC Url		
0	mvdemo	mvdemo		thin:@localhost:1521:orcl		

Installing and Configuring Map Builder

To install and configure Map Builder, perform the following steps:

1. Copymapbuilder.jar to a location on your machine. In this tutorial the file is copied to D:\MapBuilder.

Address 🛅 D:\MapBuilder
Name 🔺
🔊 mapbuilder.jar

2. Double-click mapbuilder.jar to open the Oracle Map Builder user interface.

🕌 Ora	icle N	1ap Bui	lder					
<u>F</u> ile	<u>E</u> dit	⊻iew	<u>T</u> ools	<u>W</u> indow	<u>H</u> elp			
8 , 6	ŧ		t					
🛃 Cor	nnecti	ion: [•			
65 [
Commentation Metadata								
🕀 🖳 Styles								
÷ 🚞	🕀 💼 Themes							
	Base Maps							
	Tile Layers							
	Truetype Fonts							
i 🗊	Dele	ted Items	8					

3. Expand the Connection drop-down list and select Load/Add/Remove to open the Load/Add/Remove Database Connections dialog box.

Load/Add/Remove Database Connections	×
	Load Add Remove Edit Details
Help Cancel	

4. Click Add in the Load/Add/Remove Database Connections dialog box to open the Add Connection dialog box.

🛃 Add Co	nnection		×
Data	base cor	inection paramete	rs
Conne	ction Name:		
	User:		
	Password:		
		Save Password	
Bas	ic Advan	ced	
Hos	t: localhost		
Por	t: 1521		
SIE):		
	[Test Connection	
Help			<u>Ok</u> <u>C</u> ancel

5. Enter the connection information for your environment. Use the screenshot for reference. For the environment used to build this tutorial, the information is:

Connection Name: **mvdemo** User: **mvdemo** Password: **mvdemo** Host: **localhost** Post: **1521** SID: **orcl**

🕌 Add Con	nection		×
Datab	oase cor	inection parameters	
Connec	tion Name:	mvdemo	
	User:	mvdemo	
F	Password:	•••••	
		Save Password	
Basic	: Advan	ced	
Host:	localhost		
Port:	1521		
SID:	orcl		
		Tool Connection	
	l	Test Connection	
<u>H</u> elp			Ok Cancel

6. Click Test Connection. You should receive the message "Connection mvdemo is valid".





- 7. Click OK to close the Information message.
- 8. Click OK to close the Add Connection dialog box. You should receive the following message in the Map Builder Messages pane:

🖹 Messages										
mvdemo 🗙										
Aug 31, 2012 INFO: Preferen Aug 31, 2012 INFO: End of u	12:47:30 PM oracle. hoes file saved: d:\w 12:47:30 PM oracle. iser styles loading.	napviewer.buik /innt\Profiles\Ac napviewer.buik	der.prefere Iministrator der.style.St	nces.Ma¢ \oasmapk :yleMana <u>c</u>	oBuilderf builder.xi ger loads	Preferer ml Styles	ICES SE	ivePre	ere	nces

Creating a Color Style

In this set of steps you use Map Builder to create a color style for rendering the States table. Styles are used to render and label spatial features. Color styles can be used to render area, linear and point features.

1. Expand Styles > Colors in the Metadata Navigator tree. Notice that Oracle Map Builder is now populated with the mvdemo metadata. Although you could use this pre-built metadata to build your map, in the remainder of this OBE you create new metadata to become familiar with using Oracle Map Builder.



2. Right-click the Colors node and select Create Color Style to open an editor panel for Color Style on the right.

C.New_C	olor_Style 🗙
Name:	C.New_Color_Style
Description:	a Color Style
Style Opt	Preview Background
Editor	1

3. Select the Fill option under Style Options. The fill attribute defines how the geometry will be filled.

Style Options	Fill Color: Hex: #000000 Opacity: 100%

4. Define the fill color by clicking on the color icon to open a dialog with colors, or by entering the hexadecimal value. In this example we enter the hexadecimal value **#F2EFE9**, which is a light gray color.

C.New_Color_Style ×
Name: C.New_Color_Style Description: a Color Style Preview Background Style Options Image: Stroke Image: Opacity: 100% Image: Stroke
Editor XML

5. Select the Stroke option. The stroke defines how the outline (border) will be rendered. In this example enter #0033FF in the Hex box to set the stroke color to Blue.

Style Options	
Fill	Stroke
Stroke	Color: Hex: #0033FF
	Operatur 100%

http://www.oracle.com/webfolder/technetwork/tutorials/obe/fmw/bi/bi1116/obiee_maps/obiee_maps.html



6. Click the **Preview** button to display the current color style representation.



7. Enter C.STATES in the Name text field. Leave the optional description text field as it is.

ſ	C.New_Color_Style				
	Name:	C.STATES			
	Description:	a Color Style			

8. Click the Save icon on the application tool bar to store the color style definition on the USER_SDO_STYLES database view.

🕌 Oracle Map Builder							
<u> </u>							
8	G <mark>r</mark>	🔮 🖻	R	;]			
Connection: mvdemo Save							

9. Expand the Colors node in the Metadata Navigation tree and confirm that the tree is updated with this new C.STATES color style.



Creating a Marker Style

In this set of steps you use Oracle Map Builder to create a marker style for rendering cities. Marker styles can be used to render point features, and to label linear and point features. The base marker can be associated with an image, with a vector representation, or with a true type font.

1. Copy cities_8X8.png to a location on your machine. In this tutorial the file is copied to D:\mvdemo\images.

🕌 Oracle Map Builder		
<u>Eile E</u> dit <u>V</u> iew <u>T</u> ools <u>W</u> indow <u>H</u> elp		
🛃 Connection: mvdemo 💌		
🔁 Metadata		
🖨 🗁 Styles		
🕀 🛅 Areas		
🕀 🛅 Colors		
🕀 💼 Lines		
⊞ <mark>È</mark> Markers		
🕀 🛅 Texts		
🗄 🛅 Advanced		
🕀 💼 Base Maps		
⊞ ⊡ Tile Layers		
Truetype Fonts		
Deleted Items		

2. Expand Styles > Markers in the Metadata Navigator tree.



3. Right-click the Markers node and select Create Marker Style to open an editor panel for Marker Style on the right.

M.New_Marker_Style X	
Name: M.New_Marker_Style Description: a Marker Style	*
Style Options Marker Type: Image	Preview Background
O TTF Symbol Marker Text Marker Size	Fill Parameters Color: Hex: #FF0000 Opacity: 100%
	✓ Stroke Parameters Width: 1 Color: Hex: #000000
•	

Editor	I XMI	
Laitor		

4. Under Style Options, select the Marker Type option and click on the Image radio button.

Style Options Marker Type: Image Vector TTF Symbol Marker Text	Define Image Marker One Image Marker Load Image	e
Marker Size	O Image URL	
	Image Format: gif	
	URL href: http://	
	O URL Column:	

5. Click Load Image, navigate to the directory where file cities_8x8.png is located, and select it. In this OBE image file is located in D:\mvdemo\images.

🕌 Select		×
Location:	🔁 images 🔹 👻	🖻 🛕 🌁 🔡 🖿
cities	s.png	
cities	s_8X8.png	
cust	omers.png	
media and	um_cities.png	•
small	I_cities.png	
File <u>N</u> ame:	cities_8X8.png	
File <u>T</u> ype:	Just Images	•
		Select Cancel

6. Click the **Preview** button to display the current marker style representation.

M.New_Marker_Style ×	
Name: M.New_Marker_Style Description: a Marker Style -Style Options	Preview Background
Marker Type: Image Vector TTF Symbol Marker Text Marker Size	Define Image Marker • Load Image • Image URL
	Image Format: gif Image Format: http:// URL href: http:// URL Column:

7. Enter **M.CITIES** in the Name text field. Leave the optional description text field as it is.

M.New_Marker_Style ×	
Name: M.CITIES Description: a Marker Style	
Style Options Marker Type: Image Vector TTF Symbol Marker Text Marker Size	Preview Background
	OURL Column:

8. Click the Save icon on the application tool bar to store the marker style definition on the USER_SDO_STYLES database view.



🖾 Connection: mvdemo Save

•

9. Expand the Markers node in the Metadata Navigation tree and confirm that the tree is updated with this new M.CITIES marker style.



Creating a Text Style

In this set of steps you use Oracle Map Builder to create two text styles, one for displaying city names and the other for state abbreviations.

1. Expand Styles > Texts in the Metadata Navigator tree.



2. Right-click the Texts node and select Create Text Style to open an editor panel for Text Style on the right.

T T.New_Text_Style X	
Name: T.New_Text_Style	Hallo World!
Description: a Text Style	
	Preview Background
Style Options	
Text	Font Color Decoration Offset
Halo	Font: Serif Select
Sticky	Si 12 px -
Multiline	Minimum Size:
Oriented Point	Style: 🗌 Italic
Path Labeling	Bold
	Extra letter spacing:

3. Under Style Options, select the **Text** style option.

T.New_Text_Style X	
Name: T.New_Text_Style	Hello World!
Description: a Text Style	
	Preview Background
Style Options	Text Font Color Decoration Offset Font: Serif Select Si 12 px Minimum Size:
Oriented Point	Style: 🗌 Italic
Path Labeling	Bold Extra letter spacing:

4. Change the font to **Dialog**, font size to **12**, and style to **Bold**.

Text	
Font Color De	coration Offset
Font:	Dialog
Size	12 px -
Minimum Size:	
Style:	talic
	✓ Bold
Extra letter spacing:	0

5. Select the Color tab and change the fill color to #0000FF (RGB: 0, 0, 255, blue). Leave Background color unchecked.

Text	
Font Color Decoration	n Offset
Fill Color	
Color:	Hex: #0000FF
Opacity: 100%	
Background Color —	
Color:	Hex: #FF0000
Opacity: 100% 💌	$-\!\!-\!$

6. Click on the Halo option and set width to 2 and Color to #FFFFFF (white).

T T.New_Text_Style	
Name: T.New_Text_Style	
Description: a Text Style	Hello World!
	Preview Background
Style Options	
	Halo
Text	Width: 2 px -
Halo	Color: Hex: #FFFFFF
Sticky	Opacity: 100% 👻
Multiline	
Oriented Point	
Path Labeling	

7. Click the **Preview** button to see the current text style representation.

Hello World!		
Preview	Background	

8. Enter T.STATE_ABBRV in the Name text field.

T.New_Text_Style					
Name:	T.STATE_ABBRV				
Description:	a Text Style				

9. Click the Save icon on the application tool bar to store the text style definition in USER_SDO_STYLES database view.

🛓 0	🛃 Oracle Map Builder				
Eile	<u>E</u> dit	⊻iew	<u>T</u> ools	Window	<u>H</u> elp
2	0je	🔮 🖻	R	;]	
Connection: mvdemo Save					

10. Repeat the steps to create and save a text style named T.CITIES. Set the font to Dialog, size 11, and color to #000000 (black). Select the Halo option and set width to 2 and color to #FFFFFF (white).

T T.CITIES X						
Name: T.CITIES						
Description: a Text Style		Hello World!				
		Preview Background				
Style Options						
Text	Halo Width: 2 px	-				
✓ Halo	Color: Hex: #FFF	FFF				
Sticky	Opacity: 100% 🔻					
Multiline						
Oriented Point						
Path Labeling						

Creating a States Theme

In this set of steps you use Oracle Map Builder to create a geometry theme based on the STATES table. A theme is a visual representation of a particular data layer. Typically, a theme is associated with a spatial geometry layer, that is, with a column of type SDO_GEOMETRY in a table or view. In this example, a geometry theme named THEME_STATES is associated with a spatial column named GEOM in the STATES table in the mvdemo schema.

1. If necessary, click the **Show Data** button at the bottom of the screen to display the Data Navigator.



2. Click the Tables tab.



3. Expand Spatial Tables > Geometry Tables > MVDEMO.



4. Right-click the STATES node and select Create Geometry Theme to open the Define a Geometry Theme wizard. Click Next to continue.



5. Notice that the Theme Parameters page is already populated with information obtained from the STATES table. Define the theme name as **THEME_STATES** and keep the other field values. Press **Next** to continue.
| 🕌 Define a Geometry Theme - Step 1 of 4 - Theme Parameters | | | |
|--|-----------------|----------------------------|---|
| | | | |
| | Name: | THEME_STATES | |
| | Description: | | |
| 11 1 1 | Table Owner: | MVDEMO 🗸 | |
| | Base Table: | STATES | |
| 635 | Spatial Column: | GEOM | |
| | | | |
| | | | |
| | | | |
| | | | _ |
| Help | | < Back Next > Einish Cance | |

6. On the Feature Style page, keep the style type as **Color**, and type **C.STATES** in the render style field or click the **Select** button to choose the **C.STATES** style. Recall that you created the C.STATES style earlier in this OBE. Click **Next** to continue.

Sefine a Geometry Theme - Step 2 of 4 - Feature Style					
	Style Type:	Color	•		
	Render style:	C.STATES		Select	
	Attributes (for a	idvanced styles)			
		Style	Attribute		
Help		<	Back Next > Eir	ish Cancel	

7. In the Style Picker Dialog, you define the label parameters. Check the Label Style box to enable the fields. Define T.STATE_ABBRV as the text style and select STATE_ABRV as the label column. Click Next to continue.

8. Define query conditions to be applied. In this case, leave it blank, which means that all features within the current map extent will be selected. Press Next to continue.

🕌 Define a Geometry The	eme - Step 4 of 4 - Query Con	dition	×
	Query Condition:	Edit	
	Do not apply spatial filter	Table Alias:	
Help		< <u>B</u> ack <u>N</u> ext > <u>Fi</u> nish Ca	ancel

9. This last page contains the summary information for the theme that will be stored in USER_SDO_THEMES database view.

🕌 Define a Geometry The	eme - Completed	×
	Summary	
	Record contents to be stored into USER_SDO_THEMES NAME: THEME_STATES DESCRIPTON: BASE_TABLE: CITIES GEOMETRY_COLUMN: LOCATION STYLING_RULES: xml version="1.0" standalone="yes"? <styling_rules> <rule> <rule> <features style="C.STATES"></features> <label column="STATE_ABRV" style="T.STATE_ABBRV"> 1 </label> </rule> </rule></styling_rules>	
Help	< <u>B</u> ack Next > Finish Cancel	

10. Press **Finish** to end the wizard. The theme editor page open on the right side of the application.

5 THEME_S	TATES X				
Name:	THEME_STATES				
Description:					
Theme O	ptions				
Regio	Geometry Theme Basic Info				
		Base Table:	STATES		
Styling	Rules	Geometry Column:	GEOM		
Advan	iced				
Custor	n Tags				

11. Click Advanced under Theme Options to open the Advanced Parameters screen on the right.

Theme Options			
Resis Information	Advanced Parame	eters	
	Key Column:	ROVVID	
Styling Rules	Caching:	NORMAL	•
Advanced	Table Alias:		
Custom Tags	Highlight Style:		Select
	Fetch Size:	100	
	Translation Class:		
	Info Columns:	Column	Name

12. Click the Edit button (pencil icon) to open the Edit Info Columns dialog. You may need to scroll down to see the Edit button.

4	Edit Info Columns				×
	/ =	<u>K.</u>			T
	Colum	ז ו		Name	
		Clea	ir All		
	Help			Qk	Cancel

13. Click the **Add a new row** button (green plus sign) to add a new table row.

🛓 Edit Info Columns	×
Column	Name
AGE0_17	
Cle	ear All

http://www.oracle.com/webfolder/technetwork/tutorials/obe/fmw/bi/bi1116/obiee_maps/obiee_maps.html

Help	<u>O</u> k	Cancel

14. In the Column field, select STATE_ABRV and then enter STATE_ABRV in the Name field. The column must be exact, but the name is arbitrary and can be any value.

🛓 Edit Info Columns	×
*	
Column	Name
STATE_ABRV	STATE_ABRV
Cle	ear All
Help	<u>Ok</u> <u>C</u> ancel

15. Click OK to close the Edit Info Columns dialog. The column/name pair is added to the THEME_STATES geometry theme. This is the most critical step for OBI integration. You defined the unique key column in the map data (STATE_ABRV) that will align with an OBI presentation attribute. Later in this OBE you complete this integration using the OBI Presentation Services Administration page.

	TATES 🗙			
Name:	THEME STATES			
		·		
I				
Description:				
Theme Or	otions			
		-Advanced Paramet	ters	
Basic I	nformation			
			E STATE	
		Key Column:	ROVVID	
Styling	Rules	On altinum	Normal	
		Caching:	NORMAL	·
Advan	ced	Toble Alies:		
		Table Allas.		
			[
Custon	n Tags	Highlight Style:		Select
<u>'</u>				
		Fetch Size:	100	
		Translation Class:		
		Info Columns:	Column	Name
			STATE ABRV	STATE ABRV
				ett the_theref

16. Select the **Preview** tab at the bottom of the page and click the **green arrow** to display data for this theme. Your results should look similar to the screenshot. If desired, use zoom controls to adjust the preview.

THEME_STATES X	
cx: -118.229064 cy: 44.971321 height: - 94.746489 🕨 🍄 🔍 🙊	i, <mark>P</mark>
mi km	15
AK	
OR ID WY SD NV UT CO KS AZ NM TX	3
100 A	-94

17. Click the **Save** button to save THEME_STATES.



Creating a Cities Theme

In this set of stone, you use Oracle Man Builder to create a geometry theme based on the CITIES table http://www.oracle.com/webfolder/technetwork/tutorials/obe/fmw/bi/bi1116/obiee_maps/obiee_maps.html

10/7/2015

Building Maps for Oracle Business Intelligence Analyses and Dashboards

In this set of steps you use Oracle wap builder to create a geometry theme based on the OrnES table.

1. If necessary, click the **Show Data** button at the bottom of the screen to display the Data Navigator.



2. Click the Tables tab.



3. Expand Spatial Tables > Geometry Tables > MVDEMO.



4. Right-click the **CITIES** node and select **Create Geometry Theme** to open the Define a Geometry Theme wizard. Click **Next** to continue.

🕌 Define a Geometry T	heme 🗙
	Creating Geometry Theme This wizard will help you to create a Predefined Geometry Theme.
	Press Next to continue
	Skip this Page Next Time
Help	< <u>B</u> ack <u>N</u> ext > Einish Cancel

5. Notice that this Theme Parameters page is already populated with information obtained from the CITIES table. Define the theme name as **THEME_CITIES** and keep the other field values. Press **Next** to continue.

🕌 Define a Geometry Theme - Step 1 of 4 - Theme Parameters				
	Name:	THEME_CITIES		
	Description:			
	Table Owner:	MVDEMO 💌		
	Base Table:			
685	Spatial Column:			
Help		< Back Next > Finish Cance		

6. On the Feature Style page, set the style type as Marker and M.CITIES as the render style. Recall that you created the M.CITIES style earlier in this OBE. Click Next to continue.

🛃 Define a Geometry Theme - Step 2 of 4 - Feature Style					
	Style Type:	Marker	•		
	Render style:	M.CITIES		Select	
	Attributes (for a	idvanced styles)			
		Style	Attribute		
Help		<	Back Next > Ein	ish Cancel	

7. In the Style dialog, check the Label Style box to enable the fields. Define T.CITIES as the text style and leave the attribute as CITY. Click Next.

🕌 Define a Geometry The	eme - Step 3 of 4	- Style:		×
	— 🔽 Label Style –			
	Style Type:	Text	•	
130	Style Name:	T.CITIES		Select
	Label Function:	1]
	Attributes			
		Style	Attribute	
	T.CITIES		CITY	
000				
Help		<	Back Next > Fin	ish Cancel

8. In the Query Condition dialog box leave the query condition blank and click Next to continue.

🛃 Define a Geometry The	eme - Step 4 of 4 - Query Con	dition	×
	Query Condition:	Edit	
	Do not apply spatial filter	Table Alias:	
Help		< Back Next > Finish	Cancel

9. This last page contains the summary information for the theme that will be stored in USER_SDO_THEMES database view. Review the XML definition of the theme so far.

🛃 Define a Geometry Th	neme - Completed 🛛 🔀
	Summary
	Record contents to be stored into USER_SDO_THEMES NAME: THEME_CITIES DESCRIPTON: BASE_TABLE: CITIES GEOMETRY_COLUMN: LOCATION STYLING_RULES: xml version="1.0" standalone="yes"? <styling_rules> <rule> <reatures style="M.CITIES"> <label column="CITY" style="T.CITIES"> 1 </label> </reatures></rule> </styling_rules>
Help	< <u>B</u> ack Next > <u>F</u>inish Cancel

10. Press **Finish** to end the wizard. The theme editor page open on the right side of the application.

Name: THEME_CITIES		
Description:		
Theme Options		
	Geometry Theme Basic Info	
Basic Information	Base Table: CITIES	
Styling Rules		
Advanced		
Custom Tags		

11. Click **Advanced** under Theme Options.

Theme Options			
	Advanced Parame	eters	
Basic Information			
	Key Column:	ROWID	
Styling Rules	Caching:	NORMAL	-
Advanced	Table Alias:		
Custom Tags	Highlight Style:		Select
	Fetch Size:	100	
	Translation Class:		
	Info Columns:	Column	Name

12. Click the Edit Info Columns button (pencil icon) to open the Edit Info Columns dialog.

<u>¢</u>	Edit Info Columns					×
	∕ ± ≚					
	Column			Name	,	
		Clea	ir All			
	Help			Qk	Cancel	

13. Click the **Add a new row button** (green plus sign) to add a new row.

🛓 Edit Info Columns	×
Column	Name
СТҮ	
Clea	ar All

http://www.oracle.com/webfolder/technetwork/tutorials/obe/fmw/bi/bi1116/obiee_maps/obiee_maps.html

Help	Qk	Cancel

14. In the Column field, select CITY and then enter City in the Name field.

E	dit Info Columns				×
	/ 📩 😕				
	Column			Name	
CI	тү		City		
		Clea	ar All		
	Help			<u>Ok</u> <u>C</u> ancel	

15. Click **OK** to close the Edit Info Columns dialog. The column/name pair is added to the THEME_CITIES geometry theme. Again, this is the most critical step for OBI integration. You defined the unique key column in the map data (CITY) that will align with an OBI presentation attribute. Later in this OBE you complete this integration using the OBI Presentation Services Administration page.

THEME_CITIES X							
Theme Options							
	Advanced Parame	ters					
Basic Information	Key Column:	ROWID					
Styling Rules	Caching:	NORMAL	•				
Advanced	Table Alias:						
Custom Tags	Highlight Style:		Select				
	Fetch Size:	100					
	Translation Class:						
	Info Columns:	Column	Name				
		СІТҮ	City				

16. Select the **Preview** tab (at the bottom) and click the green arrow to render the cities with labels. Your results should look similar to the screenshot. If desired, use zoom controls to adjust the preview.



17. Click the Save button on the Toolbar to save the theme definition.



Creating a Base Map

In this set of steps you use Oracle Map Builder to create a base map. Base map definitions are stored in USER_SDO_MAPS and consist of one or more themes to be used in rendering a map. You use a wizard to create base maps in Map Builder.

1. Right-click the **Base Maps** node in the Metadata Navigator and then select **Create Base Map** to open the Define a Base Map Wizard. Click **Next** to continue.





2. Enter OBIEE_BASE_MAP as the base map name. Click Next to continue.

🕌 Define a Base Map - St	ep 1 of 2 - Bas	e Map Parameters			×
	Name: Description:	OBIEE_BASE_MAP			
Help			< <u>B</u> ack <u>N</u> ext >	Einish	

3. In the Base Map Themes dialog, use the Add button to select **THEME_CITIES** and **THEME_STATES** from the table to add them to the base map.

🕌 Define a Base Map - Step 2 of 2 - Base Map Themes					×	
			Theme Names			
		THEME_DEMO_HIGHV	VAYS			
		THEME_DEMO_HIGHV	VAYS_LINE			
		THEME_DEMO_STATE	ES			
		THEME_DEMO_STATE	ES_LINE		33	
		THEME_STATES	THEME_STATES			
		Theme blows	Min Conto	Mary Carola	Carla Maria	
			Min Scale	Max Scale	Scale Mode	
THEME_S		STATES			RATIO	
		<u> </u>			_	
Help			< <u>B</u> ack	<u>N</u> ext >	Einish	cel

4. Enter the following scale ranges for the themes:

THEME_CITIES: Min Scale: **75,000,000** Max Scale: **0** THEME_STATES: Min Scale: **150,000,000** Max Scale: **0**

🛃 Define a Base Map - Step 2 of 2 - Base Map Themes 🔹 💈 💈 👔					×
		Theme Names			
	THEME_DEMO_HIGH	WAYS		-	
1000	THEME_DEMO_HIGH	WAYS_LINE			
	THEME_DEMO_STAT	TES			
	THEME_DEMO_STA	TES_LINE		100 C	
	THEME_STATES			-	
	Thoma Noma	Min Soole	May Coola	Scele Mode	
		75 000 000			
		4 50,000,000	0		
635	INDIVIC_STATES	150,000,000	0	RAHO	
	+_ X-			~	1
Help		< <u>B</u> ack	Next >	Einish Cano	cel

5. Click Next to open the Summary page.



6. Click Finish to store the Base Map definition and display the editor page.

OBIEE_BASE_MAP X					
Base Map Para	ameters				
Map Name:	OBIEE_BASE	_MAP			
Description:					
Custom Tags					
Theme N	Name			Theme Properties	
THEME CITIES		Minimum Scale:	75,000,000		Scale Mode: RATIO
		Maximum Scale:	0		More
THEME STATES		Minimum Scale:	150,000,000		Scale Mode: RATIO
THEME_STATES		Maximum Scale:	0		More

7. Select the Preview tab and click the green button to display the map. Note at the bottom of Map Builder application the scale values for current visualization. The resulting map should contain just the themes that are in the scale range. Play with the zoom in and zoom out options to see the map results. The screenshot shows the map zoomed in to California.



Creating a Tile Layer

In this set of steps you use Oracle Map Builder to create a tile layer. A tile layer is a map definition to be used in an Oracle Maps application. Each tile layer is associated with a base map. Please note that the steps for creating a tile layer can also be performed using the Map Viewer Admin interface. However, that method is not presented in this tutorial.

1. Right-click the Tile Layers node in the Metadata Navigator and then select Create Map Tile Layer to open the Select Base Map dialog.

🕌 Select Base	🛃 Select Base Map 🛛 🗙					
Base Map:	CUSTOMER_MAP					
Help	Ok Cancel					

2. Select OBIEE_BASE_MAP as the base map.

🕌 Select Base Map 🛛 🗙						
Dese Merry						
Base Map:	OBIEE_BASE_MAP					
Help	Ok Cancel					

3. Click OK to open the Define a Map Cache Instance wizard. The wizard helps you create a new tiled layer to be used in Oracle Maps.



4. Click Next to open the Tile Layer Definition dialog.

🛓 Define a Map Cache Instance - Step 1 of 4 - Tile Layer Definition 🛛 🔀				
	Tile Layer	Definition		
	Name:	newTileLayer		
	Description:			
65	Base Map:	OBIEE_BASE_MAP		
Help		< <u>B</u> ack <u>N</u> ext > Einish Cance		

5. Name the tile layer OBIEE_TILE_LAYER.

🕌 Define a Map Cache In	stance - Step	1 of 4 - Tile Layer Definition	×
	Tile Layer	r Definition	
	Name:	OBIEE_TILE_LAYER	
	Description:		
63-	Base Map:	OBIEE_BASE_MAP	
Help		< Back Next > Einish Cance	el

6. Click Next to open the Tile Layer Boundary and Zoom Levels dialog.

🕌 Define a Map Cache Inst	ance - Step 2 of 4 - Tile Layer Boundary and Zoom Levels 🛛 🛛 🔀
	Preview cx: cy: scale:
	Press the green arrow to start previewing. For large data volume, you may wish to specify the
6	Tile Layer Bounds
	SRID: Select
	Xmin:
	Ymin:
	Xmax:
	Bounds Zoom Levels
Help	< <u>B</u> ack <u>N</u> ext > Einish Cancel

7. Click the green arrow to preview the map.



8. Use the zoom buttons to zoom in on the map until it looks similar to the screenshot:



9. The Bounds tab should be selected by default. If not, select it. Click the Update from Map button to import tile layer bounds from OBIEE_BASE_MAP as it appears in the Preview pane. Your results will vary, but they should look similar to the screen shot.



10. Click the **Zoom Levels** tab.

Tile Layer Zoom	Levels					
Minimum Scale:		From Map				
Maximum Scale:		From Map				
# Zoom Levels:	10	Generate				
	Level	Scale				
	Carls From March - Fronting					
Bounds , Zoom Levels						

11. Click the **From Map** button for *Minimum Scale* to import the tile layer zoom level from OBIEE_BASE_MAP as it appears in the Preview pane.
Tile Layer Zoom	Levels	
Minimum Scale:	63,912,154	From Map
Maximum Scale:		From Map
# Zoom Levels:	10	Generate
	Level	Scale
	Scale From Map Preview	Add Level Remove Level
Bounds Zoom	Levels	

12. Use the zoom buttons to zoom in on the preview map to the desired maximum scale. Use the screenshot as a reference.

Preview		
ave 115 04111 ave 22 74555 and a 722 520		Ontione
CX110.94114 Cy. 32.74555 Scale. • 722,630	80 / 🔳	options
	mi	10
🗛 🖉 San Diana 🏺 WALMART		
GENESEE PLAZA	km 10	20
🛉 SAN CARLOS CENTER		
MESA PLAZA		
BAZAAR DEL MUNDO 🧛 🦞 🥰 🦉		
HORTON PLAZA		
FERRY LANDING MARKETPLACE		
🛉 SOUTH BAY PLAZA		
O Chula Vieta		
Ciriua vista		

13. Click the **From Map** button for *Maximum Scale* to import the tile layer zoom level from OBIEE_BASE_MAP as it appears in the Preview pane.

Tile Layer Zoom Levels					
Minimum Scale:	63,912,154	From Map			
Maximum Scale:	722,630	From Map			
# Zoom Levels:	10	Generate			
	Level	Scale			
	Scale From Map Preview	Add Level Remove Level			
Bounds Zoom Levels					

14. Leave # Zoom Levels set to the default (10) and click the Generate button to generate the zoom levels.

-Tile Layer Zoom	Levels		
Minimum Scale:	63,912,154		From Map
Maximum Scale:	722,630		From Map
# Zoom Levels:	10		Generate
	Level	Scale	
	level0		63,912,154 📥
	level1		38,840,701 🔛
	level2		23,604,275
	level3		14,344,793 💌
	Scale From Map Preview	Add Level	Remove Level
Bounds Zoom I	evels		

15. Click **Next** to open the Tile Properties dialog.

🕌 Define a Map Cache In	stance - Step 3	of 4 - Tiles Properties	×
	Tile Prope	erties	
	Tile Storage:	Aemp	
	Tile Width:	256	
	Tile Height:	256	
000	Tile Format:	PNG	
Help		< <u>B</u> ack <u>N</u> ext > Einish Canc	el

16. Leave the default properties as they are and click **Next** to open the Tile Rendering Hints dialog.

🕌 Define a Map Cache Ins	stance - Step 4 of 4 - Tile Rendering Hints	×
	Tile Rendering Hints Transparent background Background Color: #ffffff Antialiasing	
Help	< <u>B</u> ack <u>N</u> ext > Einish Can	cel

17. Leave the default properties as they are and click **Next** to open the Summary page.

Summary
Tile Layer contents:
NAME OBIEL THE LAVER
DESCRIPTION:
BASE MAP OBJEE BASE MAP
DEFINITION:
<pre><map_tile_layer concurrent_fetching_thr<br="" http_header_expires="168.0" image_format="PNG" name="OBIEE_TILE_LAYER"><internal_map_source base_map="OBIEE_BASE_MAP" bgcolor="#fffffff" data_source="mvdemo"></internal_map_source> <tile_storage_root_path="#emp"></tile_storage_root_path="#emp"></map_tile_layer></pre>
<pre><coordinate maxx="-46.261" maxy="52.248" minx="-137.209" miny="23.15" srid="8307" system=""></coordinate></pre>
<tile height="256" image="" width="256"></tile>
<pre><zoom_levels levels="10" max_scale="6.3912154E7" mi<="" min_scale="722629.0" min_tile_width="0.43936231884057975" th=""></zoom_levels></pre>
<pre><zoom_level <="" description="" level="1" name="level1" scale="3.8840701E7" tile_heigh="" tile_width="22.737000000000002" zoom_level=""></zoom_level></pre>
<zoom_level description="" level="2" name="level2" scale="2.3604275E7" tile_heigh<br="" tile_width="12.992571428571429"></zoom_level>
<zoom_level description="" level="3" name="level3" scale="1.4344793E7" tile_height="8.268" tile_width="8.268"> </zoom_level>
<pre></pre> <zoom_level="4" name="level4" description="" scale="8717619.0" tile_width="5.05266666666666666667" tile_height="5 </pre>
<pre> </pre>

18. Click **Finish** to open the Tile Layer Definition page.

D - finiti - n		
Definition		
<map_tile_layer <="" image_format="PNG" name="C</td><td>DBIEE_TILE_LAYER" td=""><td></td></map_tile_layer>		
http_header_expires="1	58.0" concurrent_fetching_threads="3">	
<internal_map_source< td=""><td>e data_source="mvdemo" E_MAD" bacolor="#######</td><td>222</td></internal_map_source<>	e data_source="mvdemo" E_MAD" bacolor="#######	222
stile_storage_root_pa	L_WAF Sycolor Ann 72	
<coordinate system:<="" td=""><td>srid="8307" minX="-137.209" minY="23.15"</td><td>'maxX="-46.261"</td></coordinate>	srid="8307" minX="-137.209" minY="23.15"	'maxX="-46.261"
maxY="52.248"/>		
<tile_image height="256" width="25</td><td>56"></tile_image>		
<zoom_levels levels="</td"><td>"10" min_scale="722629.0" max_scale="6.</td><td>3912154E7"</td></zoom_levels>	"10" min_scale="722629.0" max_scale="6.	3912154E7"
min_tile_width="0.43936	231884057975" min_tile_height="30.31600	000000003">
<zoom_level level="</td"><td>"0" name="level0" description="" scale="6</td><td>.3912154E7"</td></zoom_level>	"0" name="level0" description="" scale="6	.3912154E7"
tile_width="30.31600000	0000003" tile_height="30.3160000000000	J3">
<700m_level>	"4" name="level4" description="" scale="3	8840704F7"
	Hame- cosciption- scale- a	
tile width="22.73700000	0000002" tile_height="22.7370000000000)2">
tile_width="22.73700000 	0000002" tile_height="22.7370000000000000000000000000000000000)2">
tile_width="22.73700000 <zoom_level level="</td"><td>0000002" tile_height="22.73700000000000 "2" name="level2" description="" scale="2</td><td>.3604275E7"</td></zoom_level>	0000002" tile_height="22.73700000000000 "2" name="level2" description="" scale="2	.3604275E7"
tile_width="22.73700000 <zoom_level level="</td"><td>0000002" tile_height="22.73700000000000 "2" name="level2" description="" scale="2</td><td>)2"> .3604275E7"</td></zoom_level>	0000002" tile_height="22.73700000000000 "2" name="level2" description="" scale="2)2"> .3604275E7"
tile_width="22.73700000 <zoom_level level="<br">MapViewer Server:</zoom_level>	0000002" tile_height="22.73700000000000 "2" name="level2" description="" scale="2 http://localhost:7001/mapviewer	02"> .3604275E7"
tile_width="22.73700000 <zoom_level level="<br">MapViewer Server: MapViewer Data Source</zoom_level>	0000002" tile_height="22.73700000000000" "2" name="level2" description="" scale="2 http://localhost:7001/mapviewer mvdemo	02"> .3604275E7" Manage Tiles Get Data Sources
tile_width="22.73700000 <zoom_level level="<br">MapViewer Server: MapViewer Data Source</zoom_level>	0000002" tile_height="22.73700000000000" "2" name="level2" description="" scale="2 http://localhost:7001/mapviewer mvdemo	02"> .3604275E7" ▼ Manage Tiles Get Data Sources
tile_width=" 22.73700000 <zoom_level level="<br">Map∀iewer Server: Map∀iewer Data Source Center X:</zoom_level>	0000002" tile_height="22.73700000000000" "2" name="level2" description="" scale="2" http://localhost:7001/mapviewer mvdemo	02"> .3604275E7" ▼ Manage Tiles Get Data Sources
tile_width="22.73700000 <zoom_level level="<br">Map∀iewer Server: Map∀iewer Data Source Center X: Center Y:</zoom_level>	0000002" tile_height="22.7370000000000 "2" name="level2" description="" scale="2 http://localhost:7001/mapviewer mvdemo ▼ -91.735 37.699	02"> .3604275E7" ▼ Manage Tiles Get Data Sources
tile_width="22.73700000 <zoom_level level="<br">MapViewer Server: MapViewer Data Source Center X: Center Y: SRID:</zoom_level>	0000002" tile_height="22.73700000000000 "2" name="level2" description="" scale="2 http://localhost:7001/mapviewer mvdemo ▼ -91.735 37.699 8,307	02"> .3604275E7" ▼ Manage Tiles Get Data Sources
tile_width="22.73700000 <zoom_level level="<br">MapViewer Server: MapViewer Data Source Center X: Center Y: SRID: Zoom Level:</zoom_level>	0000002" tile_height="22.7370000000000000000000000000000000000	2"> .3604275E7" Manage Tiles Get Data Sources

19. Click **OK** to close the Tile Layer Definition page. The **OBIEE_TILE_LAYER** object is added to the navigator.



Integrating a Map with OBIEE

In this set of steps you integrate the map you created in Map Builder with Oracle Business Intelligence, so that you can display a map visualization within an OBI analysis. Before beginning this topic make sure you have uploaded the **OBIEEMAP repository** as described in the Prerequisites section.

1. Return to Map Viewer, which should still be open. If Map Viewer is not open, open a browser and enter the following URL to connect to Map Viewer: http://host:port/mapviewer. For example, enter http://localhost:7001/mapviewer. Click the Admin link and sign in.



It provides powerful geospatial data visualization services.

2. Click Manage Map Tile Layers > Manage.

Manage Map∀iewer ∣ Manage Map Tile Layers				
• <u>Create</u>	Managing Map Tile Layers			
Manage				
	Refresh			
	Existing map tile layers			
	Select	t a map tile layer and 🗍	Edit / View details	View map / Manage tiles
	Select	Name	Data Source	Base map
	CUSTOMER_MAP MVDEMO CUSTOME			CUSTOMER_MAP
	0	DEMO_MAP	MVDEMO	DEMO_MAP
	0	OBIEE_TILE_LAYER	MVDEMO	OBIEE_BASE_MAP

3. Select OBIEE_TILE_LAYER and click Bring online to expose this map to the Map Viewer application and make the map available for consumption through Oracle BI.

ļ	Existing map tile layers					
Select a map tile layer and (Edit / View details) View map / Manag			View map / Manage tiles	Bring online		
	Select	Name	Data Source	Base map	Z ⁽⁾ m levels	
	0	CUSTOMER_MAP	MVDEMO	CUSTOMER_MAP	10	
	0	DEMO_MAP	MVDEMO	DEMO_MAP	10	
	۲	OBIEE_TILE_LAYER	MVDEMO	OBIEE_BASE_MAP	10	

4. You should receive the following message:

Map tile layer brought online successfully [MVDEMO,OBIEE_TILE_LAYER].

Manage Map Tile Layers
① Information
Map tile layer brought online successfully [MVDEMO,OBIEE_TILE_LAYER].

5. Sign in to Oracle BI Presentation Services as an administrative user.

Sign In	
Enter your user id and password.	
User ID	
weblogic	
Password	
•••••	
Sign In	
C Accessibility Mode	
English	•

6. Click the Administration link.



7. On the Administration page, click Manage Map Data.

Map Data Management	
Manage Map Data Manage law h, background maps and images.	

8. On the Manage Map Data page select the Layers tab.

Layers Background Maps Images				
Name 🔶	Description	Location		
OBIEE_STATE2		obiee_navteq/OBIEE_STATE2		

9. Click the Import Layers icon to open the Import Layers dialog.



10. Use CRTL + Click to select the **THEME_CITIES** and **THEME_STATES** themes you created in Map Builder. Select **OBIEE_TILE_LAYER** in the Preview Map drop down list.

Import Laye	rs	
Look in Available Layers	mvdemo THEME_CUSTOMERS THEME_DEMO_BIGCITIES THEME_DEMO_CUITIES THEME_DEMO_COUNTIES THEME_DEMO_COUNTY_POPDE THEME_DEMO_HIGHWAYS THEME_DEMO_STATES THEME_DEMO_STATES_LINE THEME_STATES	Previewing THEME_STATES Aléxandria Bichmond Norfolk Virginia Beach Raleigh Savannah Jacksonville Tampa Orlando Hialeah Miami Preview Map
Help		OK Cancel

11. Click OK to import the layers.

Layers Background Maps Images			
Name 🔶	Description	Location	
THEME_CITIES		mvdemo/THEME_CITIES	
THEME_STATES		mvdemo/THEME_STATES	

12. Select the **THEME_STATES** layer and click the **Edit Layers** button to open the Edit Layer dialog.

	Layers Backg	round Maps I	mages 😭 🗙	<u>h</u>	
	Name 🔶	Description	Location	Edit I	ayers
	THEME_CITIES		mvdemo/THEME_CITIES		
	THEME_STATES		mvdemo/THEME_STATES	▾	
•					

13. In the Edit Layer dialog, under BI Associations, notice that the layer key is set to **STATE_ABRV**, which is the column attribute you set earlier when you created the theme in Man Builder. Click the **BI Key Columns icon** (green plus sign). http://www.oracle.com/webfolder/technetwork/tutorials/obe/fmw/bi/bi1116/obiee_maps/obiee_maps.html Gealed are arente in way bander. Once are **biney bolannis icon** (green plus sign).

BI Associations		
Associate map layers	to BI columns to enable their display on maps.	
Layer Key ST	ATE_ABRV 💽 Sample Data: AL	
BI Key Delimiter		
Geometry Type Po	lygon 💌	
BI Key Columns	₽ × ∕	
BI Key Subje	ct Areas	7
	BI Key Columns	

14. Select the OBIEEMAP subject area.



15. In the Select BI Key Columns dialog, expand Geo and select State as the corresponding key column from the BI repository.

Select BI Key Columns				
Available 🛖	1	Selected		
E 🕅 OBIEEMAP		Column	Folder	Subject Area
Geo		"State"	"Geo"	"OBIEEMAP"
∃ … State	Nove			
	Move All			
	Kemove			

aa			
Remove All			

16. Click OK to close the Select BI Key Columns dialog. Confirm that Sample Data is visible for the STATE_ABRV Layer Key. There need not be any direct relation between the column used in the spatial schema and the column mapped in Oracle BI. You just need to ensure that the attributes match. In this case, the State column comes from the OBIEEMAP schema and the STATE_ABRV column (layer key) comes from STATES table in the mvdemo schema.

BI Associations					
Associate map layers to BI columns to enab	ble their display on maps.				
Layer Key STATE_ABRV 💌 Sample Data: AL					
Geometry Type Polygon 💌	pe Polygon -				
BI Key Columns	+ ≈ ∕				
ВІ Кеу	Subject Areas				
"State" Sample Data:	"OBIEEMAP"				

17. Confirm that Geometry Type is set to **Polygon**.

BI Associations						
Associate map layers to BI columns to enab	ble their display on maps.					
Layer Key STATE_ABRV 💌 Samp	le Data: AL					
BI Key Delimiter						
Geometry Type Polygon 💌	eometry Type Polygon 💌					
BI Key Columns	₽ ×⁄					
BI Key	Subject Areas					
"State" <u>Sample Data:</u>	"OBIEEMAP"					

18. Click Sample Data for "State" and confirm that sample data is returned.

BI Associations						
Associate map layers to BI columns to enab	ble their display on maps.					
Layer Key STATE_ABRV 💌 Sample Data: AL						
BI Key Delimiter						
Geometry Type Polygon 💌	try Type Polygon 💌					
BI Key Columns	+× ∕					
ВІ Кеу	Subject Areas					
"State"	"Obieemap"					

- **19.** Click **OK** to close the Edit Layer dialog.
- 20. Select the THEME_CITIES layer and click the Edit Layers button to open the Edit Layer dialog. Notice that the layer key is set to CITY, which is the column attribute you set earlier when you created the theme in Map Builder. Confirm that Sample Data is visible for the Layer Key.

BI Associations
Associate map layers to BI columns to enable their display on maps.
Layer Key CITY 🚽 Sample Data: New York
BI Key Delimiter
Geometry Type Polygon 💌
BI Key Columns 🗧 🕂 🖉
BI Key Subject Areas

21. Set Geometry Type to **Point**.

BI Association	5
Associate map lay	vers to BI columns to enable their display on maps.
Layer Key	CITY - Sample Data: New York
BI Key Delimiter	
Geometry Type	Point 💌

22. Click the BI Key Columns icon and select the OBIEEMAP subject area.

Select Subject Area		
OBIEEMAP Analyze Sales and S	5hipment Data	

23. Expand Geo and move City to the Selected pane.



24. Click OK to close the Select BI Key Columns dialog.

http://www.oracle.com/webfolder/technetwork/tutorials/obe/fmw/bi/bi1116/obiee_maps/obiee_maps.html

BI Associations	
Associate map layers to BI columns to enat	ole their display on maps.
Layer Key CITY 💌 Sample Data:	New York
BI Key Delimiter	
Geometry Type Point	
BI Key Columns	+ ≈ /
BI Key	Subject Areas
"City" <u>Sample Data:</u>	"Obieemap"

J

25. Click Sample Data for "City" and confirm that sample data is returned.

BI Associations	
Associate map layers to BI columns to enal	ble their display on maps.
Layer Key CITY 💽 Sample Data:	New York
BI Key Delimiter	
Geometry Type Point	
BI Key Columns	🕂 🗙 🥖
BI Key	Subject Areas
"City" <u>Sample Data:</u> Salt Lake City	"OBIEEMAP"

26. Click OK to close the Edit Layer dialog.

THEME_CITIES mvdemo/THEME_CITIES

THEME_STATES

mvdemo/THEME_STATES

27. Click the Background Maps tab.

Layers	Back	cground Maps	Images	
Name		Description	Location 🛆	Associated Subject Areas

28. Click Import Background Maps to open the Import Background Maps dialog.



29. Select OBIEE_TILE_LAYER in the Import Background Maps dialog.

Import Back	ground Maps	X
Look in Available Maps	mvdemo CUSTOMER_MAP DEMO_MAP OBIEE_TILE_LAYER	Previewing OBIEE_TILE_LAYER
Help		OK Cancel

30. Click **OK** to import the OBIEE_TILE_LAYER background map.

Layers Background Maps Images		ages		
Name	A	Description	Location 🔶	Associated Subject Areas
OBIEE_TIL	E_LAYER		mvdemo/OBIEE_TILE_LAYER	

31. Select OBIEE_TILE_LAYER and click the Edit Background Map icon.



32. In the Edit Background Map dialog, arrange the layers from top to bottom: **THEME_CITIES**, **THEME_STATES**, and select the zoom levels at which each layer can be displayed. Your results should look similar to the screenshot.

Name OBIEE_TILE_LAYER Location mvdemo/OBIEE_TILE_LAYER Description	Edit Background Map - OBIEE_TILE_LAYER			
Name OBIEE_TILE_LAYER Location mvdemo/OBIEE_TILE_LAYER Description				
Location mvdemo/OBIEE_TILE_LAYER Location Description Interactive BI Layers and Non-BI Layers For each layer, select the zoom levels at which it can be displayed. Layers that are not associated with BI data will be grouped at the bottom of the table.				
Description Interactive BI Layers and Non-BI Layers For each layer, select the zoom levels at which it can be displayed. Layers that are not associated with BI data will be grouped at the bottom of the table.				
Interactive BI Layers and Non-BI Layers For each layer, select the zoom levels at which it can be displayed. Layers that are not associated with BI data will be grouped at the bottom of the table.	Taco			
Interactive BI Layers and Non-BI Layers For each layer, select the zoom levels at which it can be displayed. Layers that are not associated with BI data will be grouped at the bottom of the table.	orta gen			
Bottom of the table.				
	S			
😑 Zoom Level 🐵	has			
0 1 2 3 4 5 6 7 8 9 Dousanc	knar			
	Oce			
STHEME_STATES				

33. Click OK to close the Edit Background Map dialog. Confirm that the expected subject area is associated with the background map. In this example the OBIEEMAP subject area is associated with the OBIEE_TILE_LAYER background map.

Layers Background Maps Images			
Name 🔶	Description	Location 🔶	Associated Subject Areas
OBIEE_TILE_LAYER		mvdemo/OBIEE_TILE_LAYER	OBIEEMAP

Creating an Oracle BI Analysis with a Map View

In this set of steps you create an Oracle BI analysis with a map view.

1. Select New > Analysis and select the OBIEEMAP subject area.



2. Create the following analysis:





3. Click Results.

Compound Layout			
	Title		×
	Table		×
	State	Dollars	
	AZ	518,476	
	CA	16,448,806	
	CT	5,479,727	
	DC	2,562,647	
	FL	1,412,607	
	GA	279,206	
	ID	601,308	
	IL	1,285,932	
	IN	1,000,799	
	KY	1,061,703	
	LA	843,693	
	MA	3,112,879	
	MD	126,707	
	ME	42,819	

4. Select New View > Map.



5. Confirm that a Map view is added to the compound layout.



6. Confirm that the expected theme, **THEME_STATES**, is visible in the BI Data Layer. Notice that by default the Dollars data is divided into four quartiles, which are distinguished as shades of gray for use in the map.



7. Hover the mouse over different states to view a data pop up. The screenshot shows data for Texas.

http://www.oracle.com/webfolder/technetwork/tutorials/obe/fmw/bi/bi1116/obiee_maps/obiee_maps.html



8. Return to the Table view and drill down on CA (California) to view City data.

State	City	Dollars
CA	Livermore	864,823
	Los Angeles	1,877,540
	San Diego	3,528,344
	San Francisco	6,376,678
	San Jose	21
	San Mateo	3,801,400

9. Return to the Map view and notice that BI Data Layers now includes THEME_CITIES and the Map view has changed to display City data.



10. Hover the mouse over different cities to view a data pop up. The screenshot shows data for San Francisco.



- 11. Save your analysis.
- **12.** Use the OBIEEMAP subject area to create the following new analysis with two measures:

Geo > State Sales > Dollars Sales > Units Ordered

Geo	Sales
📒 State 🗮	📙 Dollars 🗮 📙 Units Ordered 🗮

13. Click **Results** to display a Table view in a Compound Layout.

State	Dollars	Units Ordered
AZ	518,476	22,327
CA	16,448,806	684,452
CT	5,479,727	285,217
DC	2,562,647	103,564
FL	1,412,607	53,924
GA	279,206	9,345
ID	601,308	20,568

14. Select New View > Map View to display a Map view in the Compound Layout.





16. Click the Edit icon for the Dollars measure to open the Color Fill dialog.



17. In the Color Fill dialog select the **Style** drop down to change the style color.

Color Fill (THE	ME_STAT	ES)		×
Name	Dollars Vame /	Automatically		
ToolTips	State;Doll	ars		
Vary Color By	Dollars		•	
Bin Type	Percentile	Binning	•	
Bins	Quartile (4)	•	
Style				
	Minimum Maximum	0 % 25 % 50 % 75 % 100 %	Label First Quartile Second Quartile Third Quartile Fourth Quartile to Edit Thresholds	
Transparency	25 👻 🤇	%		
Help				OK Cancel

18. Click **OK** to close the Color Fill dialog and observe the changes to the map and the legend.



19. Click the Add new map formats icon to open the formats drop down list.



20. Select Image from the list.



21. Select **THEME_STATES** to open the Image dialog.

🗆 BI Data Layers	View 🗸 🖓 🗸		
Automatically cre	THEME_STATES		
THEME_STATES	THEME_CITIES		
🔽 🖃 Dollars (Color Fill)			
📕 First Quartile			
Second Quartile			
Third Quartile			
Eourth Quartile			

22. In the Image dialog change Vary Image By to Units Ordered.

Image (THEME	_STATES)	×
Name		
ToolTips	State;Units Ordered	
Vary Image By	Units Ordered	
Bin Type	Percentile Binning	
Bins	3	
	Minimum Label Image	
	33 %	
	66 %	
	Maximum 100 %	
Help	OK Can	cel

23. Click the image for the First Third label to open the Select Image dialog.

Image (THEME_STATES)				
Name	Units Ordered			
	🔽 Name Automatical	У		
ToolTips	State;Units Ordered			
Vary Image By	Units Ordered			
Bin Type	Percentile Binning			
Bins	3			
	Minimum	Label Image		
	33 %	First Third		
	66 %	Second Third		
	Maximum 100 %	Last Third		
Help		OK Cancel		

24. In the Select Image dialog, select the small red bar image.

Select Image		×
Standard Imag	es	
•	[]	
•		
۳ ₄		
Help	OK Cance	1

25. Click OK to return to the Image dialog. Repeat the steps to select the small yellow bar for the Second Third label and the small green bar for the Last Third label.

Image (THEME	_STATES))		X
Name	Units Ordered			
	🔽 Name /	Automatically		
ToolTips	State;Unit	s Ordered		
Vary Image By	Units Ordered			
Bin Type	Percentile	Binning	•	
Bins	3		•	
	Minimum	0%	Label	Image
		33 %	First Third	
		66 %	Second Third	
	Maximum	100 %	Last Third	
	Maximum			
Help				OK Cancel

26. Click OK to close the Image dialog. The Map View and legend now render two measures.



http://www.oracle.com/webfolder/technetwork/tutorials/obe/fmw/bi/bi1116/obiee_maps/obiee_maps.html

Building Maps for Oracle Business Intelligence Analyses and Dashboards



27. Click **Done** to return to the Compound Layout and verify your work in the Map view.



28. Hover the mouse over a new bar image and confirm that you see data for the Units Ordered measure. The screenshot shows the results for Texas.



29. Navigate to the Table view and click CA (California) to drill down to the city level.

State	City	Dollars	Units Ordered
CA	Livermore	864,823	37,353
	Los Angeles	1,877,540	84,138
	San Diego	3,528,344	138,079

http://www.oracle.com/webfolder/technetwork/tutorials/obe/fmw/bi/bi1116/obiee_maps/obiee_maps.html

	-,,- · ·	,
San Francisco	6,376,678	256,678
San Jose	21	0
San Mateo	3,801,400	168,204

30. Return to the Map view and observe that both measures are rendered at the city level.



31. Uncheck Dollars (Bubble) under THEME_CITIES to view only the Units Ordered measure on the map.



32. Save your analysis.

Summary

This tutorial showed you how to use Oracle Map Builder and Oracle Map Viewer to build and embed maps for use in Oracle Business Intelligence analyses and dashboards.

In this tutorial, you have learned how to:

- Use Oracle Map Builder to build maps
- Use Oracle Map Viewer to bring maps online for integration with Oracle Business Intelligence
- Embed a map into a Map view in an Oracle Business Intelligence analysis

Resources

Please refer to the following resources for more information about the topics covered in this OBE:

- The mvdemo database schema, Map Viewer installer, and Map Builder installer used for this OBE, as well as additional information about these products, can be found on the Oracle Fusion Middleware Map Viewer web site.
- Oracle by Example Business Intelligence Enterprise Edition
- Oracle Business Intelligence Documentation
- Oracle Technical Network (OTN) Oracle Business Intelligence
- Oracle University
- Oracle Learning Library

Credits

• Lead Curriculum Developer: Jim Sarokin