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Chapter

Managing Your Data

This chapter explains how to manage data using the Map Definition Manager. Additionally, this chapter covers how to save Map Definitions to a remote database.

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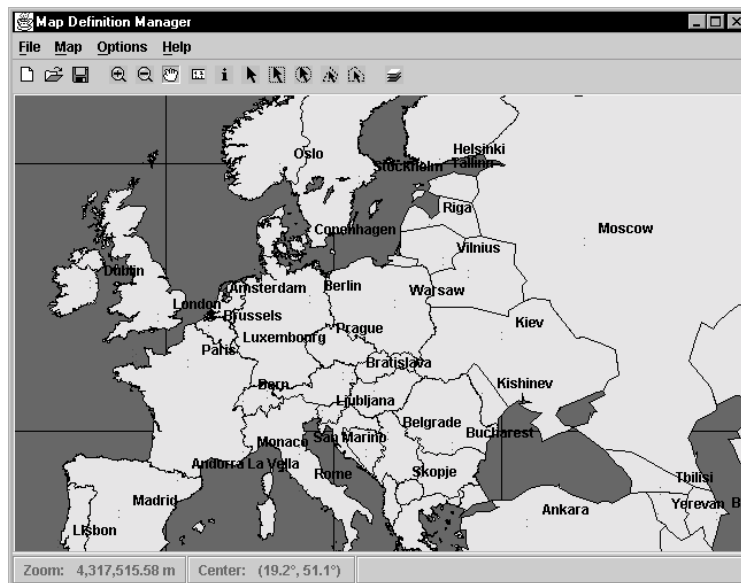


Map Definition Manager

MapXtreme Java provides a Map Definition Manager to allow you to create and manage a collection of map layers and their settings. Each Map Definition describes which maps to load and which settings to use. Map Definitions help you to avoid the time consuming task of opening and displaying layers individually each time you want to work with them.

Computer maps are organized into layers. Think of layers as transparencies that are stacked on top of one another. Each layer contains different aspects of the entire map.

Use Map Definition Manager to create the appropriate base maps that will be used in your mapping application. For example, you might want a layer of regional boundaries, a layer of streets and a layer of store locations.



To begin building your map set, start by opening a pre-defined geoset (collection of MapInfo .tab files) such as the sample data provided in MapXtreme Java. Appendix G provides a description of the sample geosets and .tab files.

To start with custom data, you can create your layers from a table or query. Your data must first be mappable, that is, each record that describes the data contains spatial information so it can be spotted on a map. For information on products that can turn your custom data into mappable data, see Appendix D: Geocoding Resources.

Ideally each layer contains the same type of map objects, either regions, points, or lines. For example, one layer may contain state boundaries, a second layer may have symbols that represent capitals, a third layer might consist of lines representing highways. By stacking these layers on top of the other, you begin to build a complete map.

Once you have created your Map Definition of layers, you can customize the way in which layers display, add or delete layers, or re-order them. Customization is easy using the Map Definition Manager. When you are satisfied with your layers' display characteristics, you can save them as a Map Definition for loading into your application whenever necessary.

Map Data: Geosets and Map Definitions

Geosets

MapXtreme Java's sample data set are MapInfo .tab format files that are grouped into geosets (extension .gst), similar in concept to a workspace. For example, there is the world.tab in the sample data and there is a world.gst. World.gst is a type of metadata file that describes a collection of .tab files that include world.tab and others.

Geosets are one type of file that you can load into Map Definition Manager. Note, however, they are limited to MapInfo tab format and cannot be stored in a remote database. Additionally, renditions cannot be changed for geosets.

Map Definitions

To work around the limitations of geosets, MapXtreme Java supports XML-based Map Definitions, which are text files that describe the map features and settings. Map Definitions can be saved as a file (extension .mdf) or stored as a record within an RDBMS. We strongly recommend that you save your map settings as Map Definitions rather than geosets.

The XML-based format for Map Definitions is new to MapXtreme Java. Previously, they were stored as serialized Java objects in a binary format. This change provides better forward compatibility and allows you to manually edit a Map Definition in a text editor.

With this change to XML-based Map Definitions, those created in previous versions of MapXtreme will not work with this release. You must create new Map Definitions either by using the Map Definition Manager or programmatically through the new MapDefContainer interface, (see page 239). Check our website at www.mapxtreme.com for a utility that will convert 2.x Map Definitions to 3.0 format.

To get familiar with maps and MapXtreme, start by opening a sample geoset in Map Definition Manager using the command Map > Load Geoset. Experiment with different layer settings (discussed later in this chapter). When you are ready to save your work, save it as a Map Definition file (extension .mdf) or as a record in an RDBMS table. The next several sections provide instructions.

Running Map Definition Manager

To start the Map Definition Manager on Windows, use the shortcut from the Program menu.

For other platforms, at the command line in the directory where the MapXtreme jar files reside, type:

```
java com.mapinfo.mapdefman.MapDefManager
```

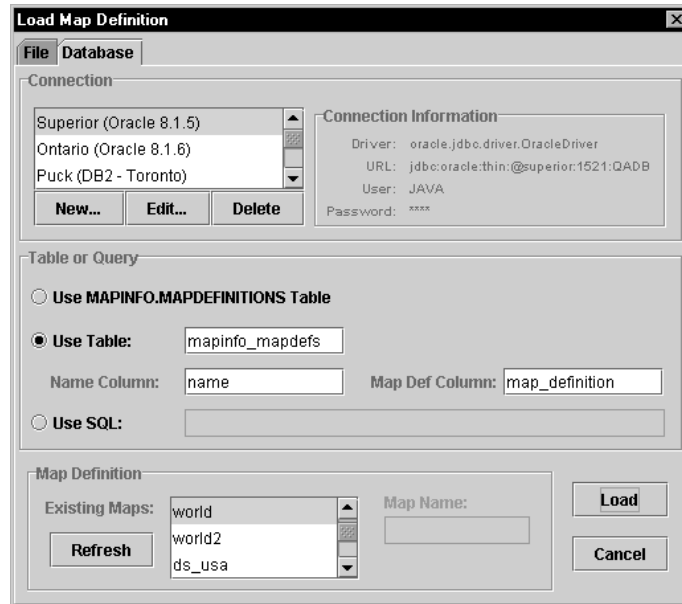
Be sure that your CLASSPATH contains all the MapXtreme jar files: mxtj30.jar, dpext30.jar (for JDBC), mistyles30.jar, xml4j_1_1_16.jar, mxloc30.jar (for non-U.S. locations), and if you are connecting to an RDBMS, the appropriate drivers (e.g., Oracle's drivers are in classes12.zip).

The Map Definition Manager displays and automatically presents the Load Map Definition dialog. You are ready to open a Map Definition. If you wish to open a geoset instead, cancel out of the Load Map Definition dialog and choose File > Load Geoset.

Opening an Existing Map Definition

To display an existing Map Definition:

1. Choose File > Load Map Definition. The Load Map Definition dialog displays.
2. If you are loading a Map Definition stored as a file, click the File tab and navigate to the location of the .mdf. Click Load.
3. If you are loading the Map Definition from an RDBMS, click the Database tab.



4. In the Connection box, choose the connection from the list of previously saved connections (if any) or click New to create a connection. Fill out the New Connection dialog. Click OK to return to the Load Map Definition dialog.

The connections are saved in an **miconnections.properties** file. See Chapter 10 for more information on connections.

5. In the Table or Query group, choose from:
 - Use MAPINFO.MAPDEFINITIONS¹ table (default)
 - Use Table: provide name of table, name column and Map Def column
 - Use SQL: provide your own SQL query statement
6. In the Map Definitions group click the Refresh button to display a list of existing Map Definitions. Choose a Map Definition file and click Load. A Map Definition displays.

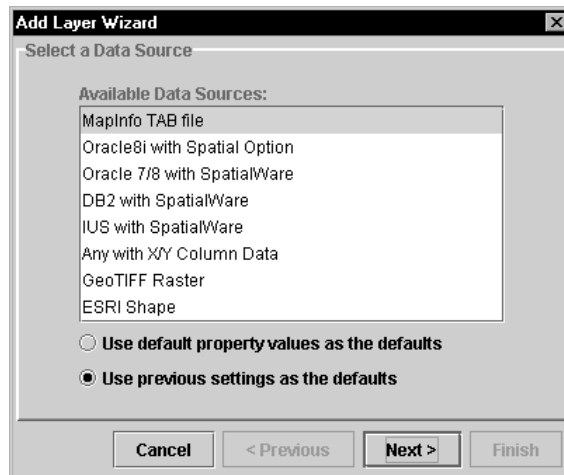
Creating a Map Definition

You can also create new Map Definitions, either by adding new layers or by saving existing Map Definitions or geosets with new settings and new names. The procedure below describes adding new layers from file-based data sources or JDBC data sources. (To create a new Map Definition from an existing one or from a geoset use the appropriate Save As... option.)

To create a new Map Definition by adding layers:

1. Choose File > New Map Definition. The Layer Control dialog displays.
2. Click Add. The Add Layer Wizard dialog appears.

Listed in the dialog are supported data sources. You will build your Map Definition one layer at a time via the Add Layer Wizard. Begin by choosing your data source and following steps 3-5 for file-based map data or steps 6-10 for JDBC data.



1. See page 239 for more information on MAPDEFINITIONS table and the MAP DEF column.

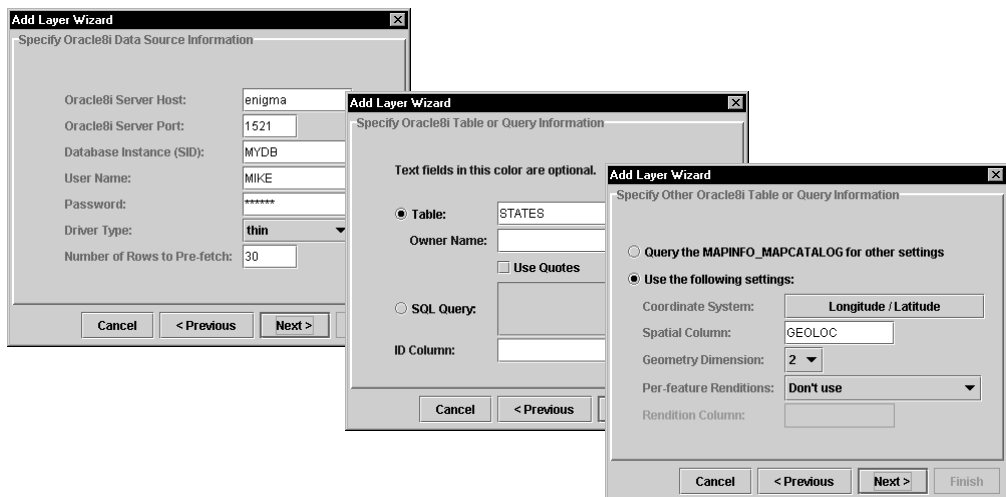
Adding MapInfo TAB Files and other File-based Map Data

3. If you are adding a MapInfo .tab format layer, choose MapInfoTAB from the list provided in the Select a Data Source dialog. Click Next.
4. At the Locate MapInfoTAB file dialog, specify the path to the MapInfo file or navigation to its location. Click Open to return to the Add Layer Wizard, then click Next to continue.
5. In the Specify How the Layer Will Be Accessed tab, choose local or remote via MapXtremeServlet (requires you to specify the URL to MapXtremeServlet). Click Finish. You are returned to the Layer Control. It displays your .tab file in the Layer/Theme list. Click OK to view the layer in the map.

Note: The above steps apply similarly to adding **GeoTIFF Raster** or **ESRI Shapefiles**. Follow the dialogs in that display. To add a **MapInfo Grid** file, choose the TAB data source and open the .tab file that is associated with the Grid file you want to add.

Adding JDBC Map Data

6. Continuing from step 2, above, if you are adding a layer from a remote JDBC data source, select the data source, such as Oracle8i, from the list. Choose to use default property values or previous settings as the default. Click Next. Enter the connection information for your data source.



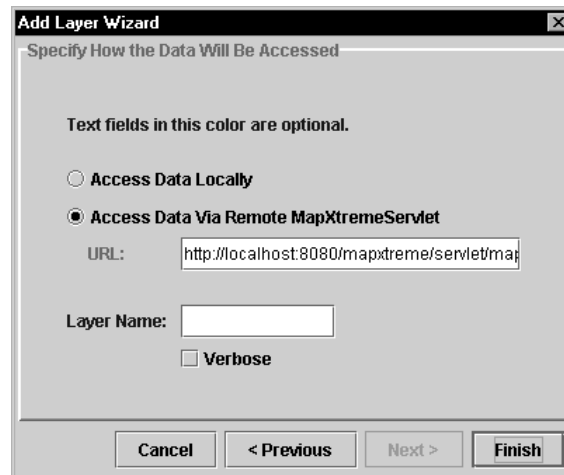
7. In the Specify Table or Query dialog, choose to add a table, or you can query your database. Click Next.

8. Specify whether MapXtreme Java should query the MAPINFO_MAPCATALOG² for some settings or specify your own. Click Next.

If you have feature-level rendition information stored in your table, specify how the information is stored and the name of the Rendition column from the MAPCATALOG that it is stored in. Default behavior is not to use per-feature renditions. Click Next.

9. At the Specify How the Data Will Be Accessed dialog, choose whether the data will be accessed locally or via an instance of MapXtremeServlet. If you choose the latter option, specify the URL for MapXtremeServlet. If you are adding a layer from a remote database based on a query, specify the name of the layer.

Note: If you plan to deploy this Map Definition via an applet, you should choose Access Data Via Remote MapXtremeServlet.



10. Click Finish. You are returned to the Layer Control dialog showing the layer you added.

2. See Appendix C for more information on MAPCATALOG.

11. Repeat steps 3-5 to add additional file-based map data or steps 6-10 for JDBC data.
12. Customize the layers by setting display and label properties, re-ordering the way in which layers display, removing or adding additional layers, and setting whether layers are visible, or contain automatic labels. See the description of Layer Control later in this chapter for more information.
13. Click OK to leave the Layer Control dialog when you are satisfied with the settings. Your newly created Map Definition displays. Return to the Layer Control dialog, if necessary, to change display settings.

When you have finished creating your Map Definition you'll need to save it.

Saving a Map Definition

14. To save your Map Definition, choose File > Save Map Definition. The Save Map Definition dialog displays.
15. If you are saving to a file, click the File tab and provide the filename and location where you want it stored. It is stored in .mdf format.
16. If you are saving the Map Definition to a remote database, click the Database tab.

Save Map Definition

File Database

Connection

Phoenix
Champagne
Cygnus

New... Edit... Delete

Connection Information

Driver: oracle.jdbc.driver.OracleDriver
URL: jdbc:oracle:thin:@champagne:1521:..
User: oracle
Password: *****

Table or Query

☒ Use MAPINFO.MAPDEFINITIONS Table

☐ Use Table:

Name Column: Map Def Column:

☐ Use SQL:

Map Definition

Existing Maps:

Map Name:

Refresh Save Cancel

17. In the Connection box, choose the connection from the list of previously saved connections (if any) or click New to create a connection. Fill out the New Connection dialog as appropriate. Click OK to return to the Save Map Definition dialog.

The connections are saved in an **miconnections.properties** file. See Chapter 10 for more information on connections.

18. In the Table or Query group, choose from:

Use MAPINFO.MAPDEFINITIONS³ table (default)

Use Table: provide name of table, name column and Map Def column

Use SQL: provide your own SQL statement

19. In the Map Definitions group specify a map name and click Save. The information is now saved as a Map Definition in XML format in the database.

3. See page 239 for more information on MAPDEFINITIONS table and the MAP DEF column.

Map Definition Manager Menu

Map Definition Manager provides a wealth of tools and controls so you can construct the map in a way that fits your needs. This section describes the user interface.

File Menu

This menu allows you to create Map Definitions, load and save Map Definitions and geosets, and print the map display. Additionally the File menu provides a most recently used list so you can pick up where you left off easily. Follow the procedures described above for loading and creating Map Definitions via the Map Definition Manager File commands.

Map Menu

The Map Definition Manager's Map Menu provides a number of tools and options for manipulating your map, including:

- Tools for changing the map view
- Tools for selecting map objects
- Layer Control dialog for adding and removing layers and controlling their display
- Map Options for setting map distance units and coordinate system.

These tools are further discussed in the section "Manipulating Your Layers with the Map Menu," below.

Options Menu

This menu contains the Preferences command where you can set the default maps directory. Specify the maps directory that you want Map Definition Manager to default to when the Load/Save Map Definition or the Load/Save Geoset dialogs are invoked.

Manipulating Your Layers with the Map Menu Tools

Once you have your map layers open in Map Definitions Manager, you will want to customize their display for your own needs. Use the options available from the Map menu or the Map toolbar to control how your map displays.

The following tools are discussed: Zoom In, Zoom Out, Pan, Ruler, Info, Selection tools, and Layer Control. The Map Options command is also presented.

These tools can be activated by choosing its command from the Map menu, by clicking on its button in the Toolbar, or by clicking the secondary mouse button and choosing the tool from the shortcut list.



Zoom In Command

Use the Zoom In command to get a closer area view of a map or a layer.

To use the Zoom In tool, choose the tool by your preferred method and click the Zoom In cursor on the center of the area you want to zoom in on. This magnifies the area by a linear factor of two. This point will be at the center of the map in the zoomed-in view. Repeat this procedure until you have the appropriate level of enlargement.

To zoom in on a rectangular area draw a marquee in the map or layout by diagonally dragging the Zoom In mouse cursor. The area within the marquee is enlarged.



Zoom Out Command

Use the Zoom Out command to get a wider area view of a map or a layer.

To use the Zoom Out tool, choose the tool by your preferred method and click the Zoom Out cursor on the center of the area you want to zoom out on. This enlarges the area by a linear factor of two. This point will be at the center of the map in the zoomed-out view.



Pan Command

Use the Pan command to reposition a map within its window.

To move or adjust the map display, choose the tool by your preferred method. Click an area of the map and while holding down the mouse button, drag the map in the appropriate direction. When you release the mouse button, Map Definition Manager redraws the map in its new location.



Ruler

Use the Ruler tool to measure distance between points and total distance among multiple points.

To use the Ruler tool, choose the tool by your preferred method. Click on the starting point on the map. Double-click on the ending point. The Ruler window shows the distance between the two points.

To show the distance of intermediate points along a route, click on a starting point and continue to click on additional points. The Ruler window will show the last segment distance and the total distance. To end the operation, double-click on the last point you wish to measure or click the Esc key.



Info Tool

The Info tool provides a view of the attributes that are associated with map objects that exist at a given point.

To use the Info tool, choose the tool by your preferred method. The Info tool window displays.

If the objects for only one layer are selected, the Info tool window displays the attributes associated with the map object at that point. Every attribute column for that record is viewable. You may need to enlarge the window to see the complete list.

If the map contains multiple layers, the Info tool window displays the list of layers. Highlight a layer and double-click to view the layer level attribute information. Click the List button to return to the list of layers.

Selection Tools

A new feature in MapXtreme Java is the ability to select individual or multiple features in a map layer in order to perform additional operations on them. Map Definition Manager provides five selection tools. The Selection tool allows you to select individual features. The other four tools provide different confining areas (rectangle, radius, polygon, boundary) within which features are selected.

A behavior common to the five selection tools is the ability to add selected features by using the Shift key. For example, click with the Select tool to select a feature, shift-click to select another feature that you want included with the first selection.

All features are selected from the topmost selectable layer in the map.

Once your features are selected, you can save them to a SelectionTheme. See Chapter 13: Theme Mapping and Analysis for more information on Selection themes.



Select

To use the Select tool choose the Select tool by your preferred method and click on the feature you want to select. Shift-click to select additional features.



Select Within Rectangle

To use the Select Within Rectangle tool, choose the tool and click and drag the mouse to form a rectangle around the objects you wish to select. Shift-click and drag the mouse again to select features in another rectangle that you wish included with the first selection.



Select Within Radius

To use the Select Within Radius tool, choose the tool and click and drag to form a circle around the objects you wish to select. Shift-click to create an additional circle that will add the selected features to the first selection.



Select Within Polygon

To use the Select Within Polygon tool, choose the tool and click on the map to start creating the polygon that will enclose the features you wish to select. Continue to click at additional points to form the polygon. Complete the polygon by clicking close the starting point or by double-clicking. Be sure that the polygon has at least three nodes.



Select Within Boundary

To use the Select Within Boundary tool, choose the tool and click on a boundary object to select all features within that boundary. Shift-click in another boundary to add those selected features to the collection.

Map Options

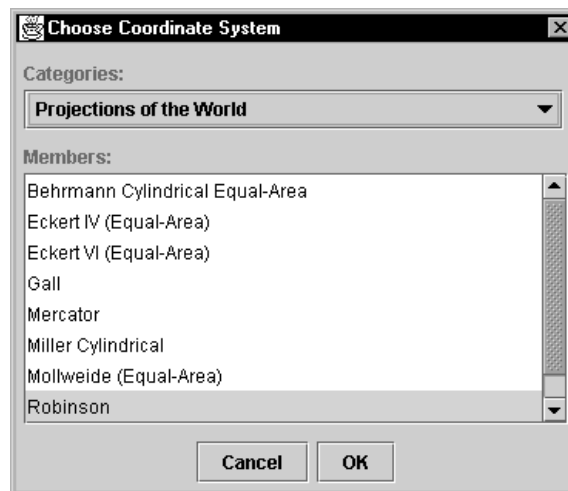
The Map menu also provides a way to set the map distance units and choose the appropriate coordinate system for your map. To change these settings, choose Map > Map Options.



Choose the distance unit from the drop-down list of the Map Options dialog.

To change the coordinate system, click the CoordSys drop-down list to display the Choose Coordinate System dialog.

Coordinate system data is stored in a projection file called **mapinfo.prj** that must be found in the \server directory in order to display the list of coordinate systems in the dialog. The PRJ file lists hundreds of supported coordinate systems and the parameters that define them.



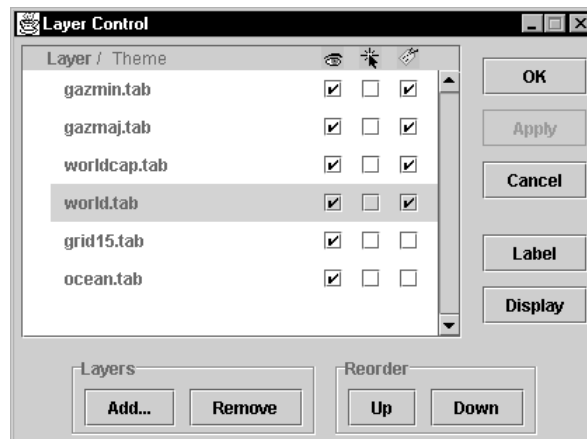
Layer Control Command



The real power in controlling the display of your map lies in the Layer Control dialog. The options in Layer Control enable you to display, remove, add, select, zoom layer, and label your layers. You can also set or change the order of map layers and themes.

You can access the Layer Control dialog four ways:

- Choose Map > Layer Control
- Click the Layer Control button on the Map Toolbar
- Click on the secondary mouse button to display a shortcut menu
- When creating a new Map Definition and you choose File > New Map Definition.



The Layer Control dialog shows all the layers that make up the current map and the status of the layer attributes. These attributes are: Visible, Selectable, and Autolabel. The icons above each check box column represent the attributes. It is easy to change a layer's, or multiple layers', attributes using the check boxes.

You also have options available to change the Display and Label settings, and to reorder, add, or remove layers. When you save the Map Definition, these settings are maintained.

The following sections discuss the features that comprise the Layer Control dialog.

Layer Visibility

The Visible attribute in Layer Control controls whether a layer is visible on the map. For example, to make a layer invisible, clear the layer's Visible check box. The layer will no longer display in the map. When your map re-displays, the selected layers will no longer be visible. This feature is especially useful when you want to focus on only one or two layers of a multi-layered map.

Layer Selectability

New to this release of MapXtreme Java is the ability to select map objects for further manipulation and analysis. The Selectable check boxes allow you to control whether a layer's map objects can be selected.

By default, layers that are added to the map are not selectable.

This feature is useful when you wish to select objects from a lower layer. Turn off the selectable status of all the layers that are above the layer you wish to select from.

Autolabeling

Any layer that has a check in the Autolabel checkbox will display labels, provided the zoom level settings for the label are appropriate. Clear the check box for any layer that you do not wish to display labels.

By default, layers that are added to the map are not autolabeled.

See page 237 for details on setting and controlling the display of labels.

Re-ordering Layers

Map layers display in the order that they are listed in the Layer Control dialog, with the bottom layer drawn first and the top layer drawn last. It is important to order your layers correctly.

For example, you have a layer of customer points and a layer of census tracts. If the layers are incorrectly ordered in the map, your application might draw the customer points first and then display the census tract layer second. Your customer points would be obscured by the census tract layer.

To re-order how layers are displayed in a map use the Reorder buttons. Select the layer(s) you want to re-order and choose either the Up or Down button to move the layer(s) to a position above or below its current position.

Ordering Objects in a Layer

MapXtreme does not allow you to control the front-to-back ordering of objects within a single map layer. If you need to control the ordering of objects (e.g., you need to make sure that your lines display on top of your regions), put the different object types in separate layers. Put your line objects in one layer, and put your region objects in another layer. Then use the Layer Control dialog to order the layers.

Adding and Removing Layers

Using the Add Layer Wizard, it is very easy to add additional map layers. To add a layer to the map, click the Add button. The Add Layer Wizard dialog appears. Select the data source for your table. Click Next and enter the appropriate information for your data source. Click Next and choose whether the data will be accessed locally or from a remote MapXtremeServlet. If it is being accessed from a remote servlet, you must specify the URL of MapXtremeServlet. Click Finish. The layer is added to the Layer list. Repeat to add more layers. (Note: This is the same procedure to follow for creating a new Map Definition. See steps on page 224.)

The data source information comes from a properties file from which the Wizard initializes. The list of data sources can be modified through the settings in the **addlayerwizard.properties** file. This file also contains default values for certain controls in the wizard. It also saves all of the values that you have entered for a specific data source and offers the option of using those values the next time through.

The **addlayerwizard.properties** file is located in the directory of the MapXtreme jar files after installation. You can modify it as needed to change the configuration of the Add Layer Wizard that best suits your needs. See Appendix A: Customizing the Add Layer Wizard Via the **addlayerwizard.properties** file.

To remove layers, select the layer you want to remove and click the Remove button. The selected layers are removed from the Layer list. Click OK or Apply in the Layer Control dialog to redisplay the map.

Display Options

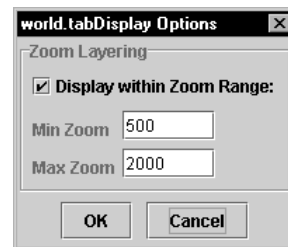
The Display Options dialog enables you to customize the display for each layer in a map. In Layer Control, select a layer and click on the Display button to bring up the Display Options dialog. You can set the zoom at which a layer displays in this dialog.

Sometimes you want a map layer to display only at certain zoom levels. Zoom Layering controls the display of a map layer so that it displays only when the map's zoom level falls within a preset distance.

For example, you have a layer of streets and a layer of postal code boundaries. When you zoom out past 30 or so kilometers, the streets look like a black smudge in the window. This is because the zoom (window width) is too wide to show detailed street maps.

Use Zoom Layering to tell MapXtreme to display the street layer only when the zoom is set to a distance that allows you to see the street detail properly, for instance, less than 8 km.

Different layers in the same map can be displayed at different zoom levels. For example, you have a layer of streets, a layer of county boundaries, and a layer of state boundaries. You want the streets layer to be visible only when the zoom level is less than eight miles. You want the county boundary layer to display when the zoom level falls between 20 miles and 200 miles. You want the states boundary layer to be visible only when the zoom level is greater than 100 miles.



Labeling Options

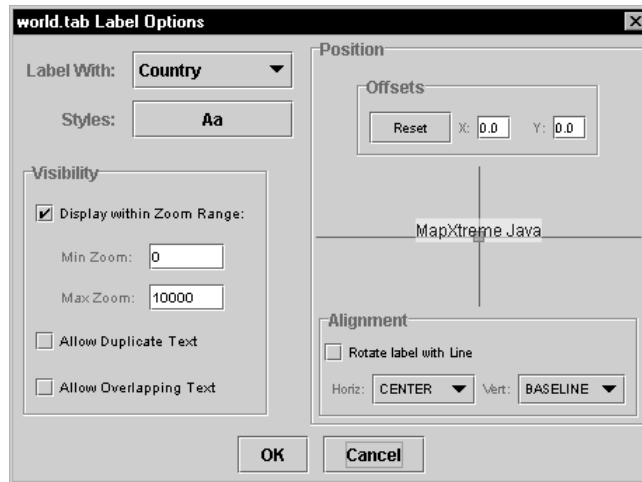
MapXtreme Java offers a wide variety of label properties to give your maps a distinctive look. To turn labeling on for a layer, highlight the layer and check the box in the Layer Control dialog for the layer you want to label. When you return to your map, the map will be labeled automatically.

To keep from creating a cluttered map when using autolabeling for all layers, set the label zoom at different values so that as you zoom in or out, the appropriate labels display. For example, set the zoom for the world layer at 0 minimum and 2000 maximum. Set the capital city layer to display labels between 200 and 500. Set the city layer to display labels only when zoomed in below 50.

To change the label properties for a layer, select the layer and click the Label button to display the Label Options dialog.

The Label Options dialog allows you to specify:

- Column name
- Label style
- Zoom control
- Duplicate/overlapping text
- Label position (offset from anchor point, horizontal and vertical alignment)



To set the column for labeling, select it from the list. This list defaults to the first column of the table will be used for labeling.

To change the style of the label, click the Styles box to display the Font options dialog. Choose from an assortment of style enhancements including: font name, size, color, backgrounds (halo or box), outlines, bold, underline, and italic.

You can configure labels to display only within a specific zoom range, the same way that you display map layers within a certain zoom range. To specify a zoom range for labels, check the Display within Zoom Range box. Then, set the maximum zoom and minimum zoom at which the labels will display.

Check or clear the boxes to control whether you have duplicate or overlapping labels. Choose Allow Duplicates if you need to label a map object in more than one location with the same label. If you do not allow duplicate or overlapping labels, MapXtreme

Java will only label objects to label that do not violate this setting. Keep in mind that a map with a lot of overlapping or duplicate labels will be hard to read.

New to MapXtreme Java is the ability to control the label position. In the Label Options dialog you can set the offset distance that a label will be from the anchor point of the map object. You may also set the horizontal and vertical alignment for the label.

For offset, enter the screen coordinates (pixels) in the X and Y boxes that you want used for the new label position. For alignment, choose to align the label to be horizontally left, center, or right of the map centroid and/or vertically at the baseline, top, bottom or center of the centroid.

You can also set the label to rotate with the line. In the Label dialog, the mini-panel will update to show placement of the new settings relative to an anchor point.

Saving Map Definitions to a Database

Once you've created the map layers and customized their settings, you will want to save them to use in your mapping application. For JDBC layers, save them as a XML-based Map Definition in the RDBMS using the Map Definition Manager. Follow the procedure on page 224. To save the Map Definition programmatically, use the MapDefContainer interface. Both ways allow you to save the Map Definition as a table or a record in a database.

You may save Map Definitions to a remote database using any of these options:

- save to the default MAPINFO.MAPDEFINITIONS table
- specify a table in the database
- specify an insert/update statement when saving

Storing Map Definitions in a Database Table

MapXtreme Java v 3.0 supports storing your Map Definitions in a table in a remote database. The Map Definitions are stored as long text strings (in XML format) in any CLOB type field of any table in your remote database. (It was not possible for us to store these Map Definitions in the more traditional CHAR or VARCHAR type columns, as these have a limit of either 2,000 or 4,000 bytes on most databases. CLOB columns can hold up to 2 or 4Gb of data, depending on the database. All of the major databases have a CLOB type, or something very similar.)

MapXtreme Java requires that any table that will hold Map Definitions have at least the following:

1. A CHAR, VARCHAR, or similar type column in which the Name of the Map Definition may be stored.
2. A CLOB column in which the actual XML text may be stored.

It may, of course, have any number of other columns in addition to those listed above.

Here is an example CREATE TABLE statement that will create a table called MAPDEFINITIONS (with the current user as the owner of the table):

```
CREATE TABLE MAPDEFINITIONS (NAME VARCHAR(40), MAPDEF
                                CLOB)
```

Executing this statement will create a MAPDEFINITIONS table in your remote database. This statement specifies that the NAME column will store strings up to 40 characters, and the MAPDEF column will store CLOB (large text) values.

The MapXtreme Java installer installs sample SQL scripts that may be used to create a MAPDEFINITIONS table in your remote database, with an owner of MAPINFO. These scripts execute a CREATE TABLE statement very similar to the one described above, but create a MAPDEFINITIONS table with the following recommended structure.

Column	Type
NAME	VARCHAR(40)
MAPDEF	CLOB

SQL Option

This options gives power users the option of specifying a custom SQL insert or update statement that will save the map. Note for Oracle, you will also be prompted for the access query SQL.

Saving Map Definitions Programmatically

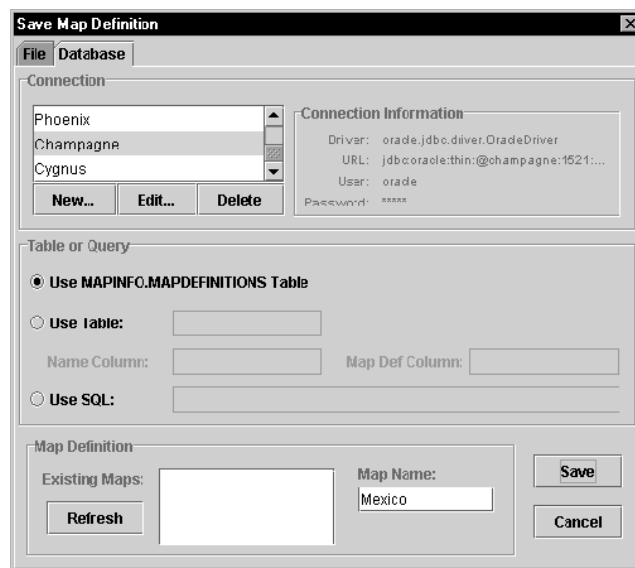
Storing Map Definitions programmatically calls on the MapDefContainer interface which provides two container implementations, depending on how the information will be stored. FileMapDefContainer is for storing Map Definitions to a file and JDBCMapDefContainer is for saving to a database. Additionally, there are two database-specific implementations for JDBCMapDefContainer:

OraSoMapDefContainer for Oracle and IUSMapDefContainer for Informix. All other JDBC databases should use JDBCMapDefContainer.

The Map Definitions Manager application uses a MapDefChooser dialog to obtain the information from you to build a FileMapDefContainer or JDBCMapDefContainer.

To write an XML Map Definition to a MapDefContainer, use **saveMapDefinition()** in the MapJ class. Specify the name of the container the Map Definition should be saved to and the name of the map you are saving.

The illustration below shows the Database tab of the MapDefChooser wher information about how you wish to save a Map Definition to a database is collected.



To programmatically save a Map Definition to a previously created MAPDEFINITIONS table, follow the code example below:

```
String driverName = "oracle.jdbc.driver.OracleDriver";

String dbUrl      =
    "jdbc:oracle:thin:@machinename:####(portnumber):SID";

String usrName    = "username";

String pwd        = "password";

OraSoMapDefContainer mdc = new
    OraSoMapDefContainer(driverName, dbUrl, usrName, pwd);

map = new MapJ();

map.loadGeoset("c:\\maps\\asia.gst", "c:\\maps", null);

map.saveMapDefinition(mdc, "Asia");
```