

## Lesson 10- Shapefile Theme and External Theme Plug-ins

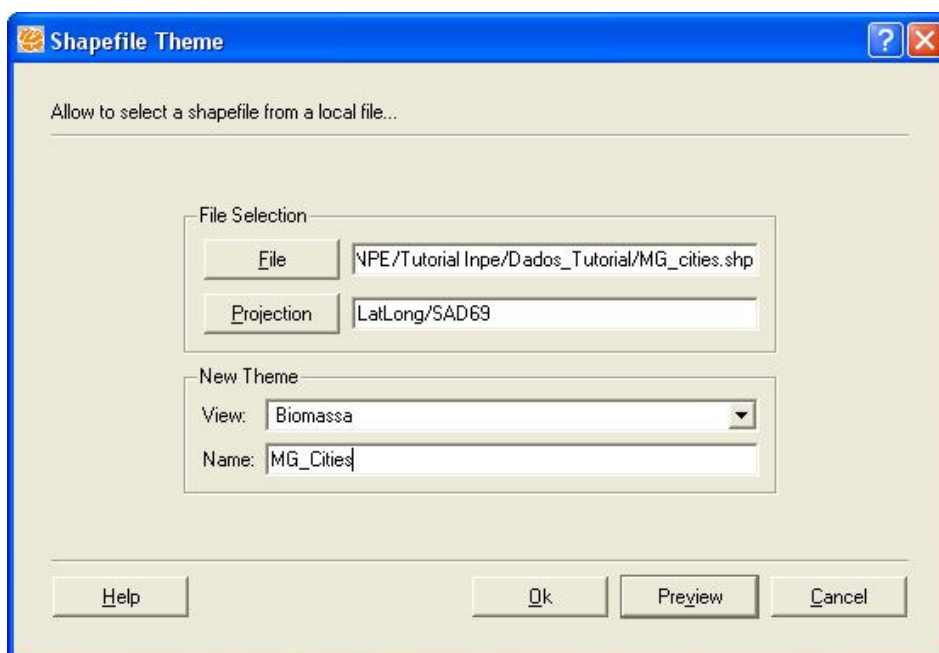
This lesson presents two TerraView plug-ins that allow access to data sources **external** to the connected database and display them as Themes. These data sources are: files with vector data in the *shapefile* format and vector or raster layers in other TerraLib databases.

To use the plug-ins, a database with at least one view, which must be selected, has to be used.

### 10.1 Shapefile Theme Plug-in

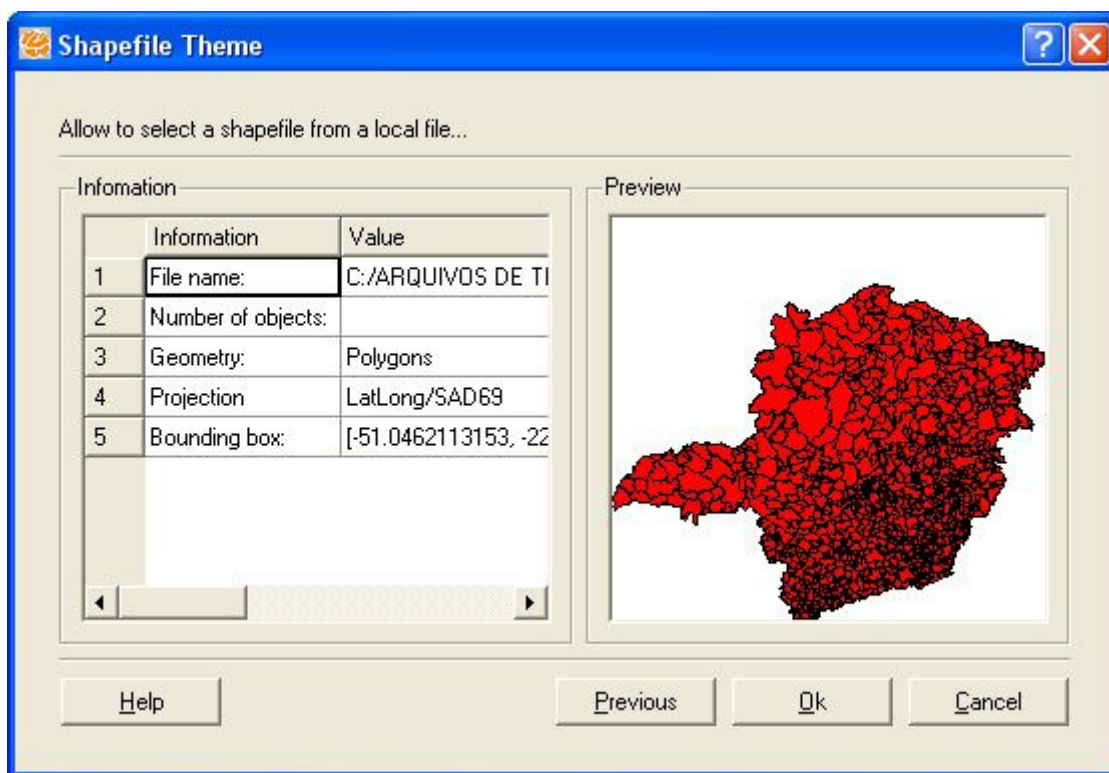
The *Shapefile Theme plug-in* allows the user to create a theme from a shapefile with vector data without importing the file into a database. The theme created by this procedure has limited functionalities.

1. To create a shapefile theme, select a view and activate the menu **Plugins** → **File Themes**.
2. A window similar to the one presented in Figure 10.1 will be displayed. Select the shapefile through the file select window, the cartographic projection, the view with the new theme, and the name of the shapefile theme.



**Figure 10.1 - Creation of shapefile theme.**

3. If you want to visualize the data, click on **Preview** button. A window similar to the one presented in Figure 10.2 will be shown.



**Figure 10.2 - Visualization of a shapefile before the theme is created.**

4. Use **Ok** button to confirm the theme creation, which will be displayed in the current view, as shown in Figure 10.3. Note that the icon of shapefiles themes is the letter **T** followed by letter **F**.

Once the operation is confirmed, the theme is created and it is drawn in the current view, as shown in Figure 10.3. Notice that the icon of shapefiles themes is the letter **T** followed by the letter **F**.



**Figure 10.3 - View with a shapefile theme.**

To query attributes of objects presented in a shapefile theme, use the information cursor (icon (i) in the toolbar) and click on a object. A table with the attribute values of the pointed object will be displayed, as shown in Figure 10.4.

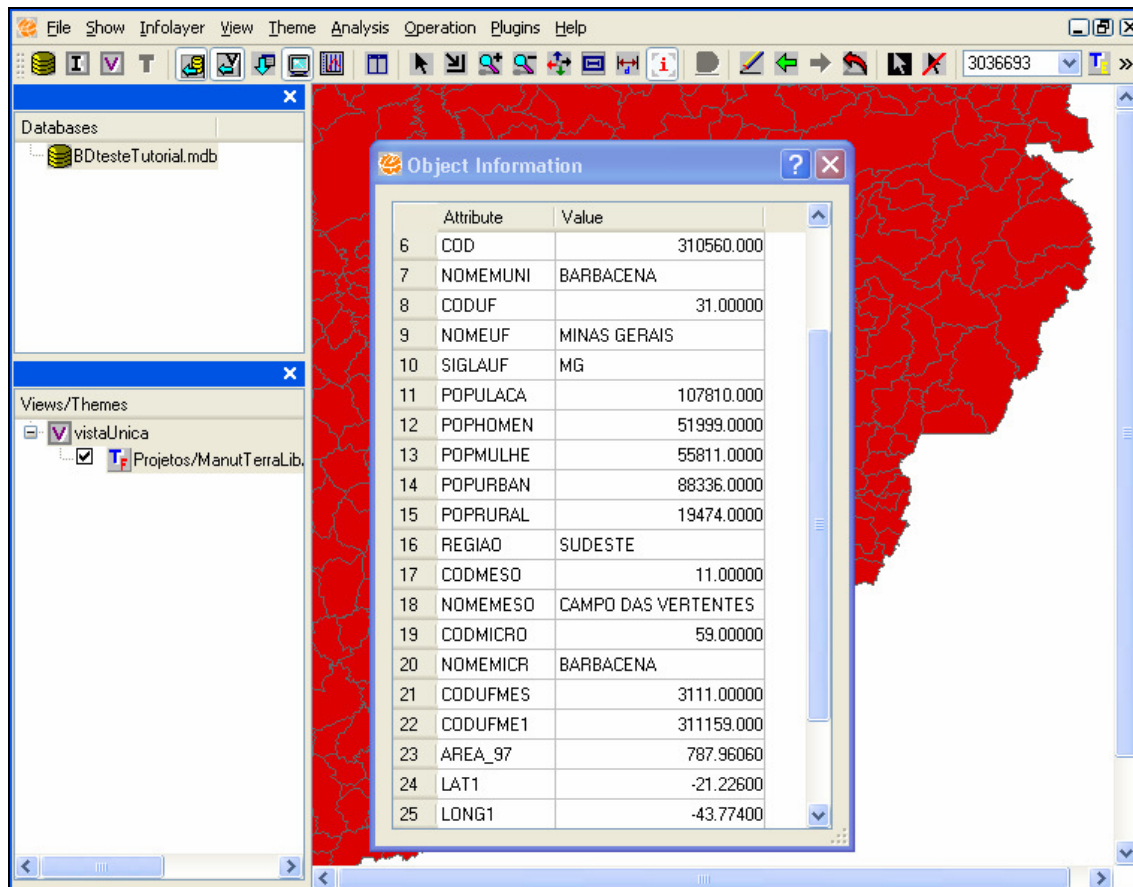


Figure 10.4 - Attributes of a shapefile theme object

## 10.2 External Theme Plug-in

The *External Theme* plug-in allows information layers from another TerraLib database (*remote*) to be accessed by a local database through the creation of *External Themes*. Actually, an external theme is just a reference to a theme stored in another TerraLib database. The operations select on grid, select by pointing, attribute query, spatial query, and grouping can also be executed on external themes.

1. To create an external theme, select a view and activate the menu **Plugins** → **External Theme**.

2. A window similar to the one presented in Figure 10.5. TerraView stores parameters of connections with the remote databases that are being used and presents this list for the user to be able to select the database of interest. If the user is satisfied, click **Next** button.
3. If the database of interest is not presented in the list, click on **Create New One** button. Following this, the window presented in Figure 10.6 will be displayed.

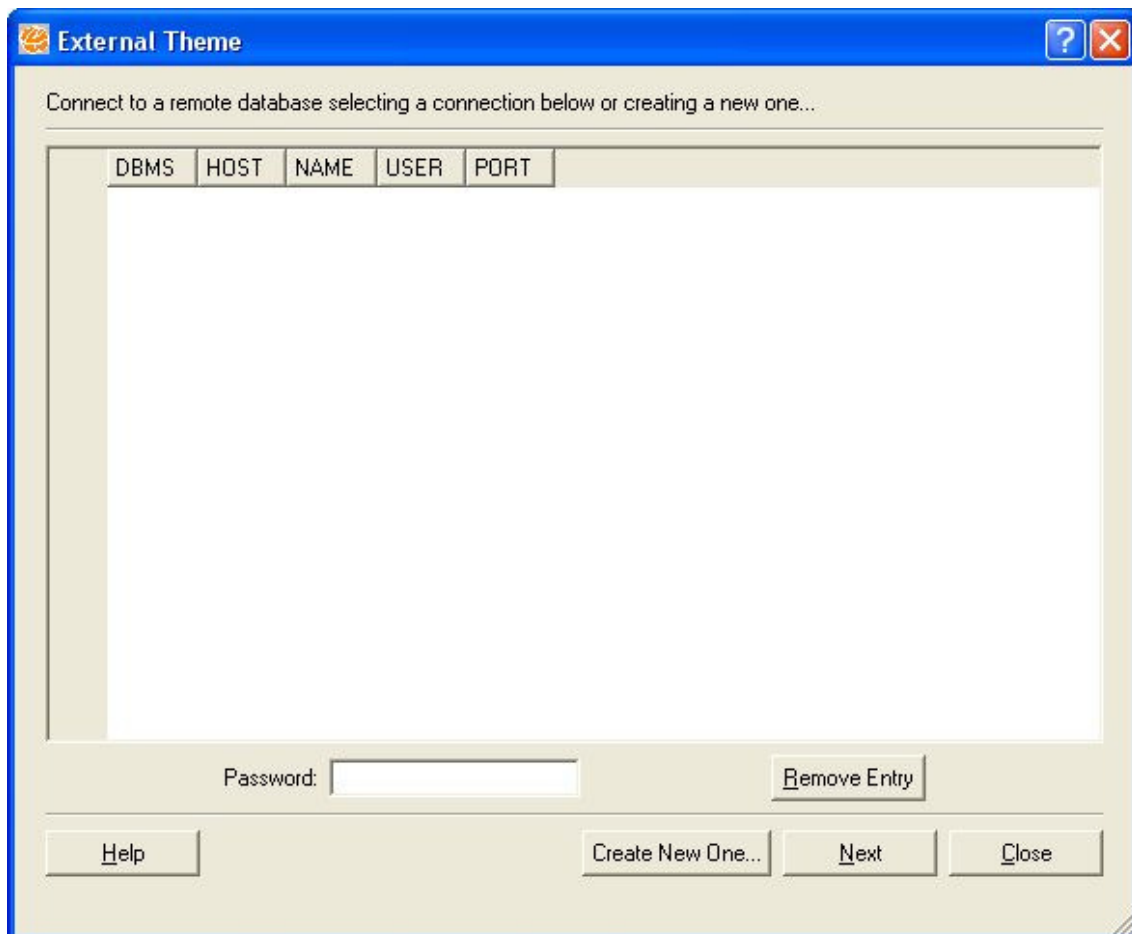
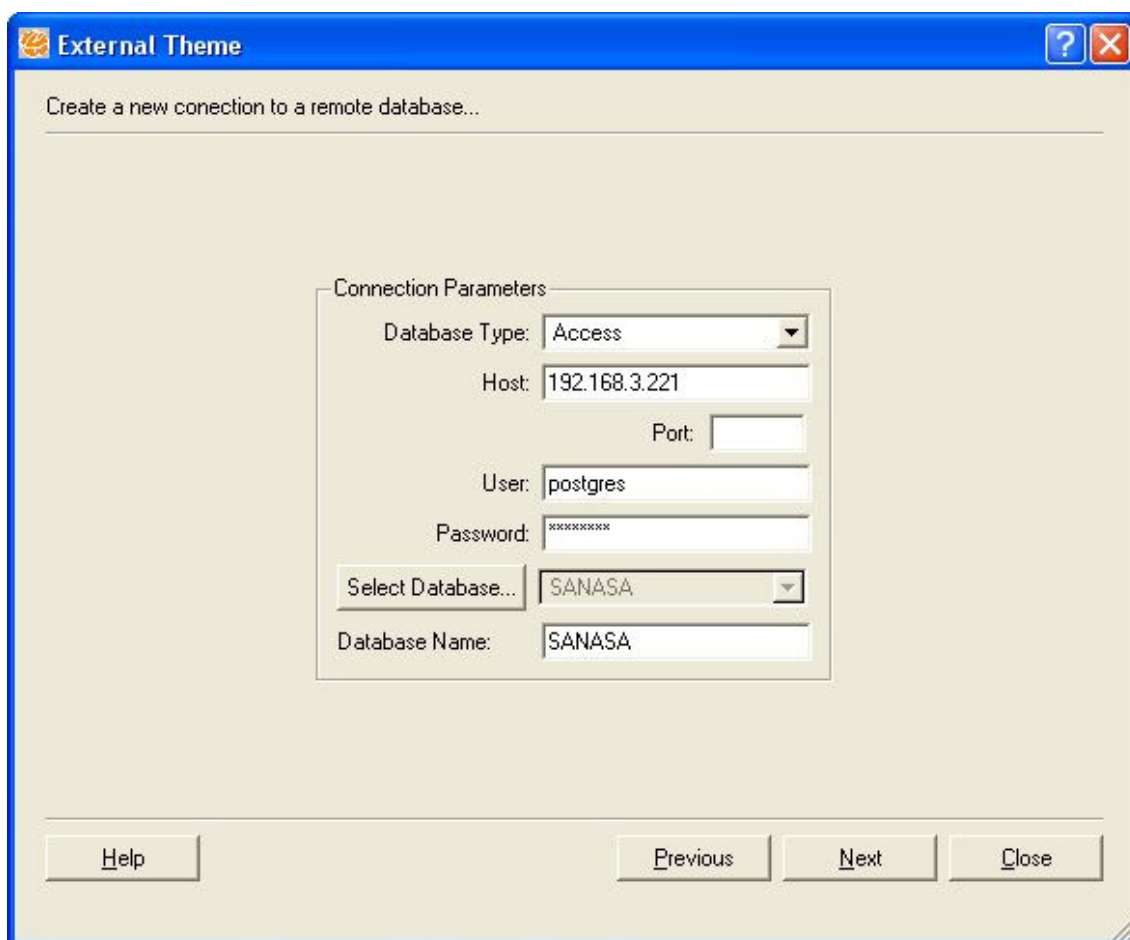
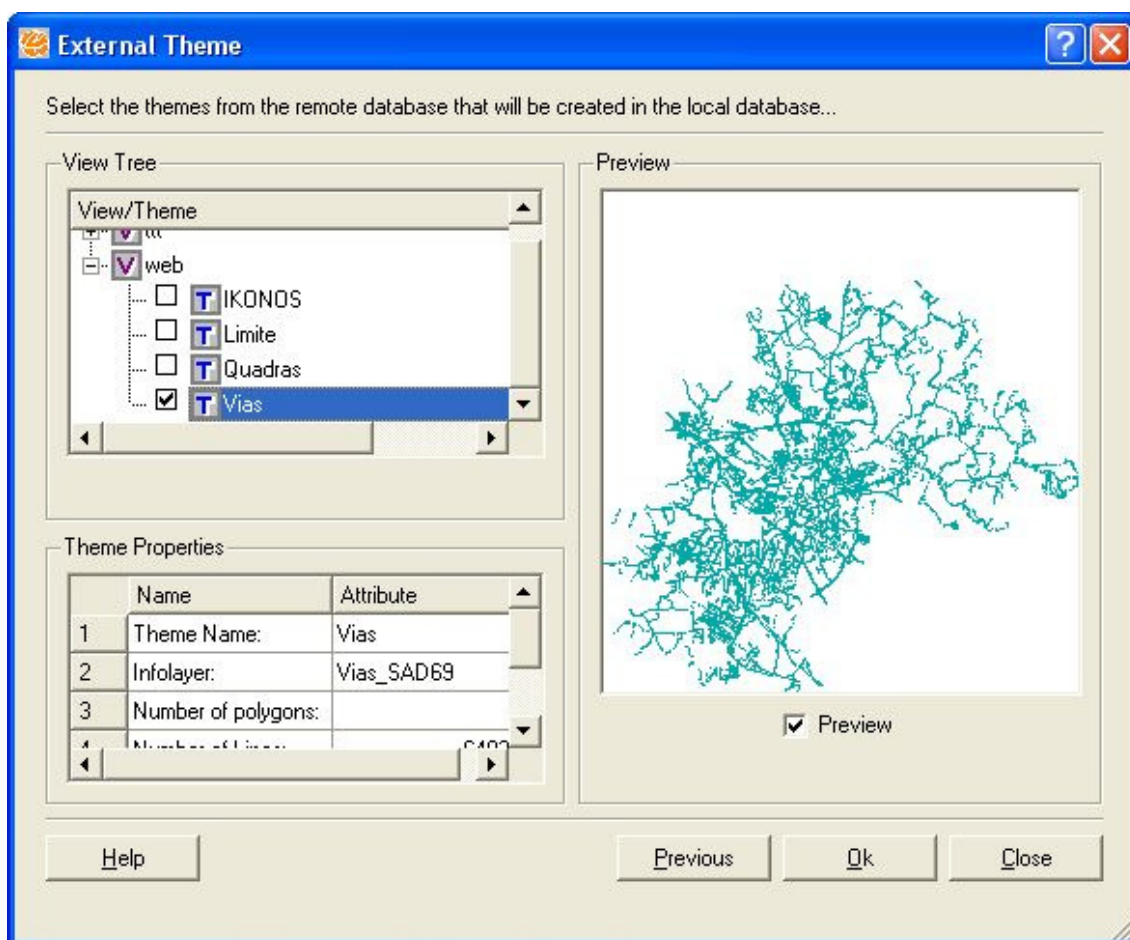


Figure 10.5 - Creation of external theme (connection 1).



**Figure 10.6 - Creation of external theme (connection 2).**

4. Fill in the information for the connection with a TerraLib database in a similar way to a connection with an active database, and click on **Next** button. Following this the window presented in Figure 10.7 will be shown.
5. Choose in the tree of views the view and the themes of interest; as they are selected they are drawn in the preview on the right. After the themes are selected, click **OK** button to continue.



**Figure 10.7 - Selection of external theme.**

A list with the selected themes will be displayed, as shown in Figure 10.8. When the operation is confirmed, the themes are created and will appear in the current view, as shown in Figure 10.9. Notice that the icon of external themes is the letter **T** followed by the letter **E**.



**Figure 10.8 - Confirming that themes will be imported.**



**Figure 10.9 - Created external theme.**

When a database is opened by TerraView, all themes are loaded in the views and themes tree. If a connection to a remote database is not available and it corresponds to an external theme, this theme will be tagged as invalid using a different icon, as shown in Figure 10.10 for the MG\_cities external theme.



**Figure 10.10 - Invalid external theme.**