GL Map Tile Package

Data Preparation

Data production is the first step in using GL Map tiles, and the tool used is SuperMap iDesktop 9D (currently, only 9D version is supported).

1.1 Data Structure

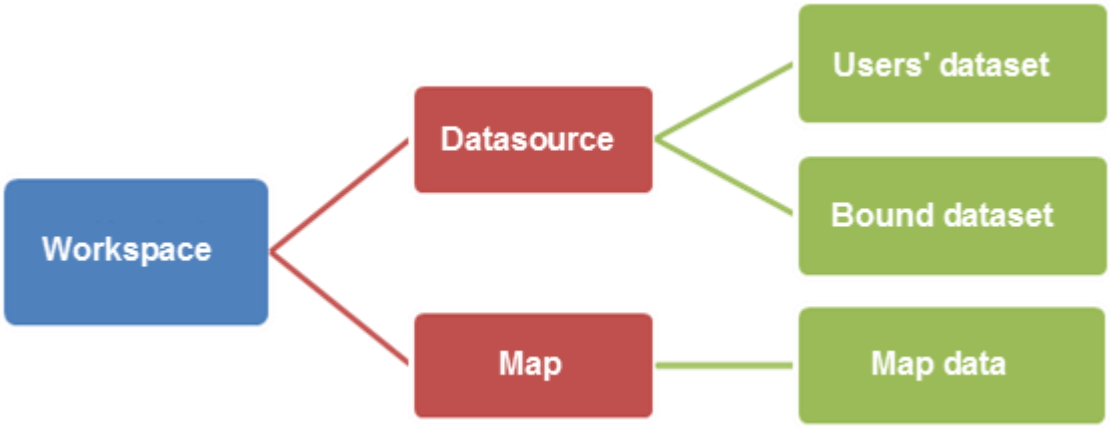

Figure 1 Original data structure

- User dataset: A variety of source datasets, including points, lines, polygons, and so on, used by users to make maps.

- Bounds dataset: A region data set used to define tile bounds. When data is produced, you can determine the tiling scope according to the dataset. The dataset must and only contain one polygon object. To correctly produce GL Map tile data, this dataset must be included.

- Map data: Map data containing maps of a variety of styles. As the tile data, the map data should contain at least one map.

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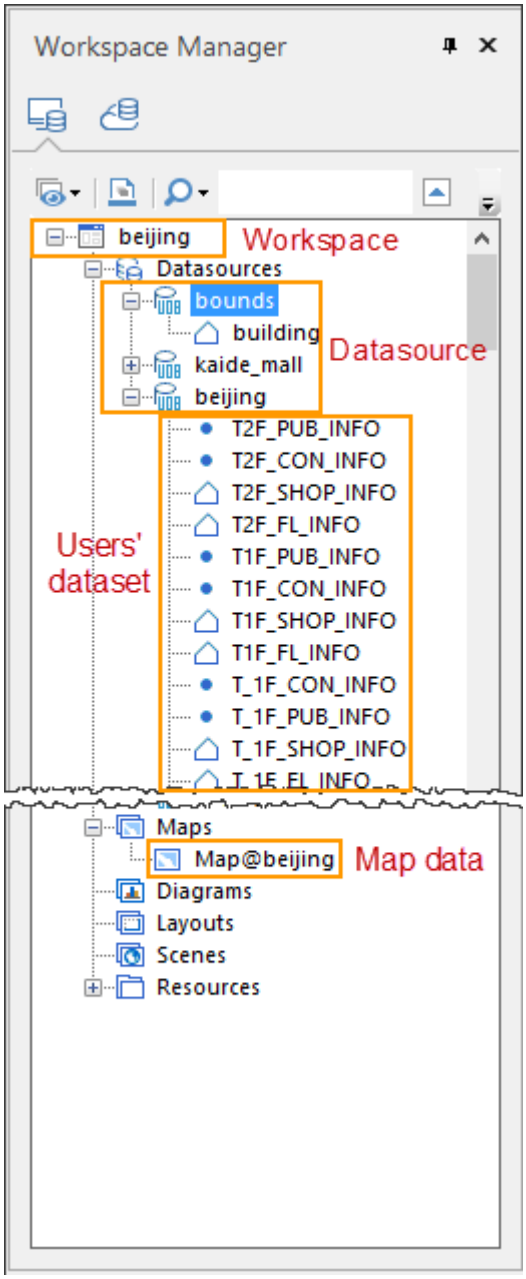

1.2 Data Preparation

After the map has been configured in iDesktop, please close the workspace before the data is created. After you close the workspace, select Data--Vector Tiles to open the dialog box as shown below.

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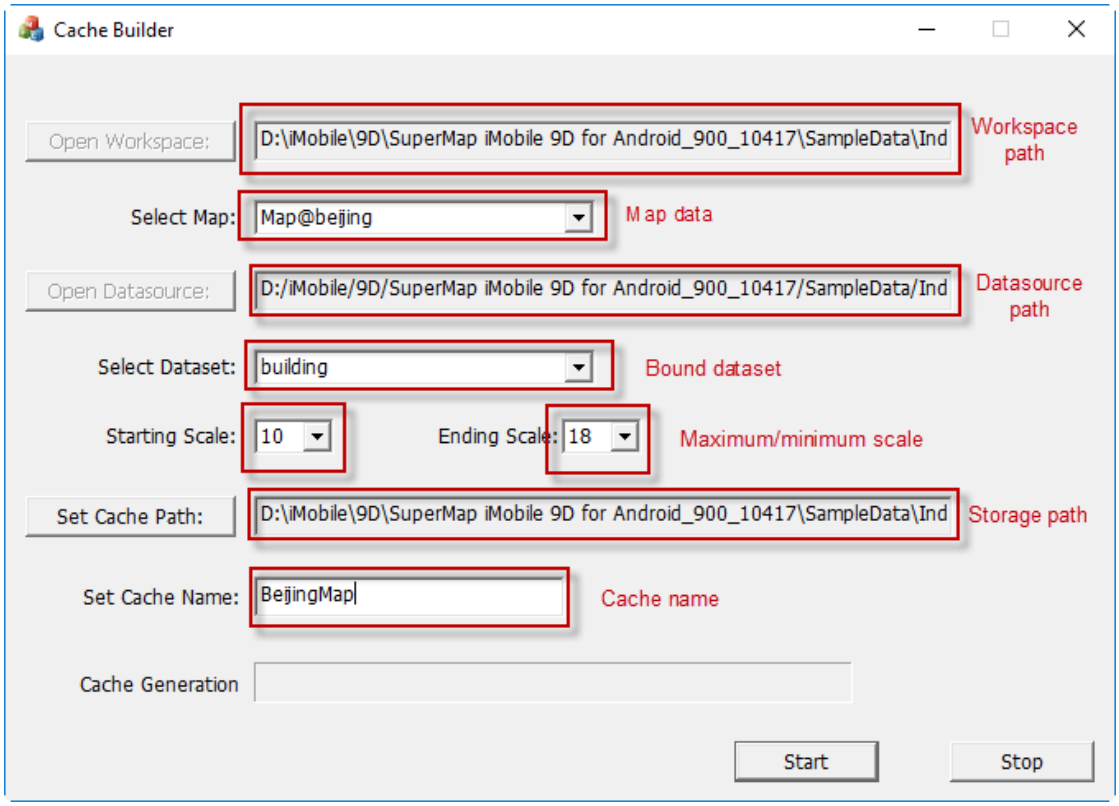

Figure 3 GL map tile creation

According to the above prompts, select the appropriate content, click the "Start" button, patiently wait for the tling to complete.

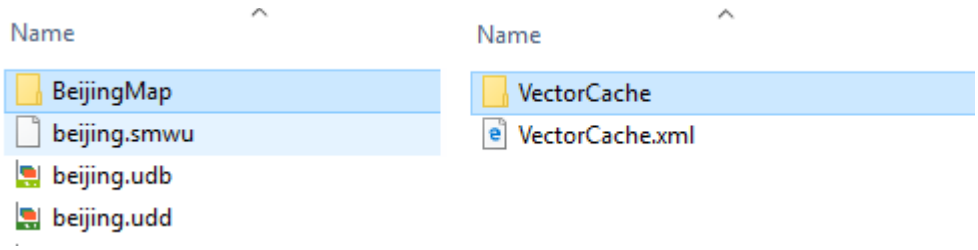

Figure 4 Tiling results example (left: 1st level of catalog; right: 2nd level of catalog)

iMobile supports the combination use of a number of GL Map tile data besides independent GL Map tile data loading and display. iMobile can display map content in the tile package according to map location and scale. For the national map (level 1-10), if you add data for Beijing, Tianjin (level 11-18), iMobile will display content from the national map to the city of Beijing, Tianjin and other detailed content as you zoom into the map.

Following aspects need to be paid attention to if you need to realize combined usage of multiple GL map tile data.

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1. The storage path must be the same

2. Differentiate data contents according to region names.

3. Tile data name must be the same.

1.3 Data Configuration

After the completion of producing the GL Map tile data, you need to add it to the workspace. In the process of adding the data to a workspace, note that the symbol library resource needs to be imported into the workspace if a special symbol library is used.

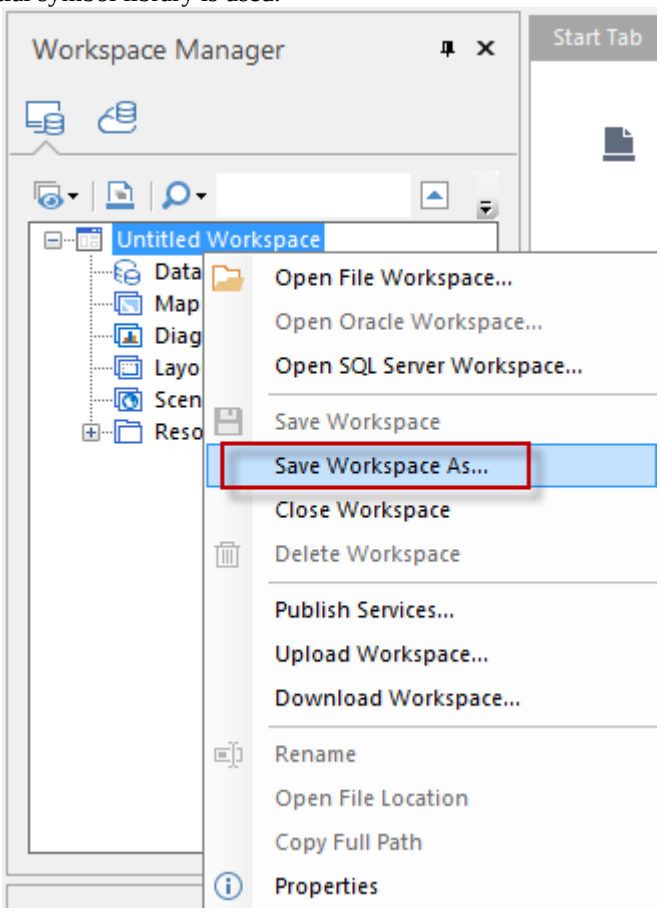

Figure 5 Create a workspace

Till now, you have finished creating GL map tile data. The structure of the file is as follows:

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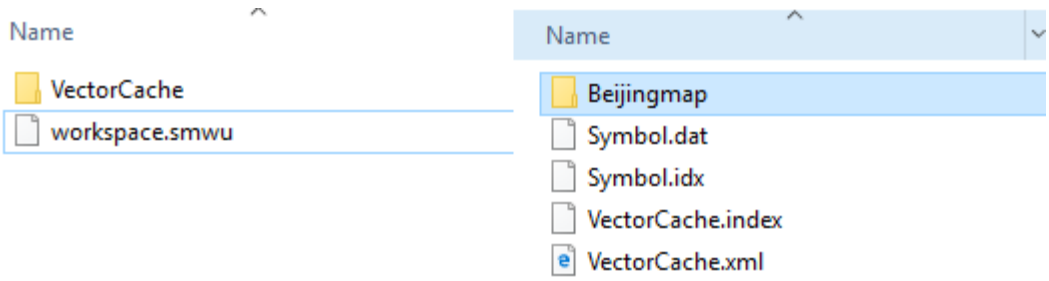

Figure 6 Single GL map tile structure (left: 1st level; right: 2nd level)

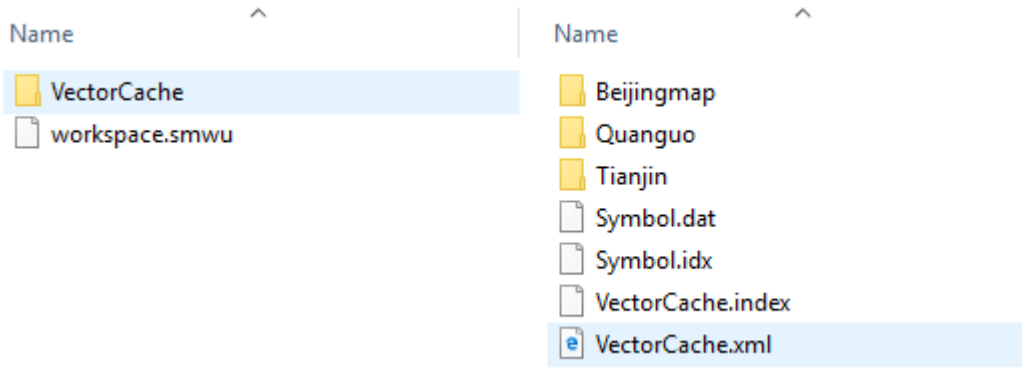

Figure 7 Multiple GL map tile structure (left: 1st level; right: 2nd level)

Function Implementation

The message bus module offered by SuperMap iMobile for Android&iOS supports AMQP, MQTT, STOMP protocols. This chapter will introduced how to implement message communication via the three protocols.

2.1 Offine Application

Before building offline applications, you need to connect computers and mobile devices, and copy data (workspace +GL map tiles) to mobile devices. Because there are many files, direct copy will be slow. It is suggested that you create a compressed package for the GL Map tile data, and then copy it to the device. The data can be used after decompression in the device.

The jar packages that need to be used to realize the GL map tile functions include com.supermap.data_v900.jar, com.supermap.mapping_v900.jar. You can acquire them in the libs folder

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under iMobile, and add armeabi under libs to the application. Refer to the following code to achieve the open and browsing operations of GL map tile on mobile devices.

```
import com.supermap.data.*;
import com.supermap.mapping.*;
public class MainActivity extends Activity {

    private MapControl m_mapControl = null;
    private Workspace m_wokspace = null;
    private MapView m_mapView = null;

    @Override
   protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        //Component functions must be called after the initialization of Environment
         Environment.initialization(this);

         setContentView(R.layout.activity_main);

        //Set license file path
         String sdcard =
android.os.Environment.getExternalStorageDirectory().getAbsolutePath().toString();
         Environment.setLicensePath(sdcard + "/SuperMap/license/");

        //Open workspace
        m_wokspace = new Workspace();
         WorkspaceConnectionInfo info = new WorkspaceConnectionInfo();
      info.setServer(sdcard+"/SuperMap/Demos/Data/MapCache/workspace.smwu");
         info.setType(WorkspaceType.SMWU);
        boolean bOpen = m_wokspace.open(info);
        if(!bOpen)
         {
              System.out.print("Failed to Open Workspace !");
              return;
         }

        //Associate the map display control and the workspace
        m_mapView = (MapView)findViewById(R.id.Map_view);
        m_mapControl =  m_mapView.getMapControl();
        m_mapControl.getMap().setWorkspace(m_wokspace);

        //Open  OpenGLCache  datasource engine
         DatasourceConnectionInfo dsInfo = new DatasourceConnectionInfo();
         dsInfo.setServer(sdcard + "/SuperMap/Demos/Data/MapCache/VectorCache/VectorCache.xml");
         dsInfo.setEngineType(EngineType.OpenGLCache);
         dsInfo.setAlias("beijing");
         Datasource ds = m_wokspace.getDatasources().open(dsInfo);
        if (ds == null) {
              System.out.print("Failed to Open Datasource !");
              return;
         }
        //  Add OpenGLCache dataset to the map
        m_mapControl.getMap().getLayers().add(ds.getDatasets().get(0),true);
        m_mapControl.getMap().setScale(1/144447.92746805);
        m_mapControl.getMap().setCenter(m_mapControl.getMap().getCenter());
    }
}
```


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