DbMAP Pocket Application Tutorial

How to read this document

In order to test the DbMAP pocket capabilities it is possible to use a prepared dataset that can be found in the *$DbMAP_Pocket_Dir/tutorial/ExportedProject* directory.

However there are three ways to follow the tutorial:

- First way (use predefined dataset, suggested for users that has never used DbMAP ASJ):
  - Install the application
  - Copy the dataset on the HandHeld
  - work
  - Import data back to the Database
- Second way (don't care about descriptors data, suggested for DbMAP ASJ users):
  - Install the application
  - Start from the import of Shapefiles inside a database using DataManager,
  - make a DbMAP ASJ Viewer project
  - export the project for DbMAP Pocket Application
  - Copy the dataset on the HandHeld
  - work
  - Import data back to the Database
- Third way (Advanced Tutorial):
  - Install the application
  - Start from the import of Shapefiles inside a database using DataManager
  - Add a new empty table
  - Create a descriptors table for the added table (or, also, for the other layer)
  - make a DbMAP ASJ Viewer project
  - export the project for DbMAP Pocket Application
  - Copy the dataset on the HandHeld
  - work
  - Import data back to the database

First to proceed with the tutorial, take a moment to read descriptions about tutorial data and purpose of this sample.

Purpose and Tutorial data

Purpose of this sample dataset is to simulate the census of Green areas inside a city. One of the layers shown in the project is empty and it represents the green areas that the operators should take a census of.

Tutorial data are composed by an export of DbMAP ASJ Viewer project with a descriptors table (the DbMAP ASJ project sample could be find inside *$DbMAP_Pocket_Dir/tutorial)*. Layers defined into the project are:

- Sheets
- Parcels
- Buildings
- Green Areas
- Photo
- Centroids

In the case you want to create the central database, you need the Tutorial files that can be found in the Tutorial/sample_data directory of DbMAP ASJ Developer Kit setup (**required only for second and third ways of reading this tutorial**).

The Green Areas layer is empty (the one that it is let supposed to be the one that the operators must fill with data) and attributes of this layer are described in the descriptors table.

Green Areas Layer has been exported by a database table with the following fields:

- id
- descr
- data_lav
- area_type
- shape

Just to understand what a descriptors table contains, we can say that when the operator will insert an object on the Green Areas layer, the area_type field will be shown as a list of predefined value that the operator must use to select the value of the object that he's going to edit.

Install the application

Follow the install details on DbMAP Pocket User's Guide.

If you are working with a Trial Version of the application remember that it allows only one editing for session. It means that if you have used one of the drawing functions, to use one other again, you have to shutdown the application and run it again.

It is not strictly necessary to take care of GPS device settings to follow the tutorial. If you like to test GPS capabilities look again at DbMAP Pocket User's Guide.

Working steps

Using DbMAP ASJ DataManager

Follow the tutorial instructions of the DbMAP ASJ package, in the part regarding DbMAP ASJ DataManager (from step 1 to step 6).

Using DbMAP ASJ Viewer/Author

Follow the tutorial instructions of the DbMAP ASJ package, in the part regarding DbMAP ASJ Viewer/Author (from step 7). Remember that not all the features of a DbMAP ASJ project are supported on the DbMAP pocket (look at general documentation of DbMAP Pocket User's Guide about this argument). A sample project can be found inside the *$DbMAP_Pocket_Dir/tutorial* directory. The project.xml in this directory, works with a servlet configured as described in the DbMAP ASJ Tutorial.

NOTE: If you are following the 3rd ways of development, remember to add to the DbMAP ASJ project a layer that gets data from the Green_areas table.

Export to DbMAP Pocket

Follow the instructions reported by the DbMAP ASJ Viewer/Author documentation about this function.

Copy the exported data to the HandHeld

If DbMAP Pocket data are available they must be copied to the handheld PC. Copy them inside a new folder under the directory configured as projects archive. The project archive path is set using the configuration application as reported by DbMAP Pocket User's Guide documentation (look in particular at "data base path" property).

To copy the exported data to the handheld use ActiveSync or similar software.

If you are following the first way of Tutorial, use the sample dataset that can be found in the *$DbMAP_Pocket_Dir/tutorial/ExportedProject*. Else, create a your own dataset as reported by "Export to Pocket DbMAP".

Work

The application is very intuitive and it is enough to follow the DbMAP Pocket User's Guide to use it.

Import data back to the database

To import the data, inserted using the DbMAP Pocket application, back to the database, DataManager must be used. If no descriptors was applied to the exported data, it is suggested to check data after the import. If descriptors has been used, data should be corrected. In both the cases, it could be necessary to import them to a temporary table (look at the Final Consideration section to understand why).

Following 1st way descriptors have been inserted in the pre-exported data.
Following 2nd way no descriptors should have been applied.
Following 3rd way descriptors should have been inserted.

To import data through Data Manager copy back the exported data from the Handheld pc to the Desktop pc, using ActiveSync or similar software. The directory where are the exported (and now, modified data) is the one used here.

However in all the cases, import the layer about green_areas (this should be emptied during the export from DbMAP ASJ Viewer/Author and now, after editing, should be filled with some data).

NOTE: to read graphic data after the import to the database it is necessary to have a DbMAP ASJ architecture or GIS tools that allows to read the data of the same format they of those written with Data Manager to the database (e.g. Oracle Spatial/Locator).

Add a new table

The adding of a new table is not strictly necessary. The application allows to modify or insert new data also for the other layers, not only for the one that will be described by the following table. It is only a way to test the technology in all its parts.

The following table is created to store data about green areas:

green_areas table

id numeric field
descr String field
data_lav Date field
area_type numeric field (this field will be shown as a list of predefined values)
shape geometric field (or **the_geom** if PostGIS version)

N.B. If the database is a spatial one (Oracle Spatial, PostGIS), use the geometry field for the shape field (Oracle Spatial: mdsys.sdo_geometry – PostGIS: geometry). After creating the table, if working under Oracle spatial, remember to create the spatial index.

Define an additional table to get the predefined values for area_type field:

area_types table

area_type numeric field
descr String field;

Add some lines to the area_types table to allow creation of a predefined values list on the application. For example:

	Area_type	descr
1	1	Generic Green
2	2	Private park
3	3	Sport Green
4	4	Traffic green

NOTE: you can find 2 SQL files (one for Oracle and one for PostGIS) with some SQL statement to create the descripted table.

Creation of the descriptors table

Descriptors table is necessary to describe field types and predefined values to use during the data entry on the handheld.

Look at the DbMAP Pocket Data Management Guide for details about its structure.

Going on with this sample, now, add the following rows to the descriptors table:

	table_name	Field_name	prompt	Edit_type	Values_select	View_on_edit	View_on_tooltip
1	Green_areas	Area_type	Area type	S	SELECT descr from area_types	Y	Y
2	Green_areas	descr	Note	S		Y	N
3	Green_areas	Data_lav	Upg Date	M		Y	Y
4	Green_areas	ID	ID	C		Y	Y

In this case the descriptors table describe the fields “area_type”,”descr”, “data_lav” and “ID” of the green_areas table. In the mask for data entry of this table only these fields will be visible.

- For the first one there will be the possibility of insert a value taking it from a predefined list generated by “values_select”.
- For the second it is possible a free text input
- The third one will be automatically update by the application after each editing operation on an object.
- The fourth one will be automatically incremented (it takes the value of max(id)+1).

NOTE: you can find 2 SQL files (one for Oracle and one for PostGIS) with some SQL statement to create the descripted table.

Final consideration

Once having used the application copy the files Green_areas*.*, from the dbmap projects folder on the Pocket PC,to the PC and use DataManager to import them into the central database.

DataManager gives different possibilities to import data to the central database: creating a new table, by empty the existing table, adding new records. The third option can be used if who is importing has fixed rules on how to handle the new data according to the existing (e.g. I overwrite the existing data according to the same ID and the most recent Date) and in this case can check the import through the using of a Trigger on the table.

In the other two cases it is suggested to create temporary table on the database and use a dedicated application to check the data before put them in the official table. A dedicated application can be DbMAP ASJ Viewer along with the using of a SQL tools, else can be an application made using the DbMAP OCX or again, in the case the database is an Oracle Spatial/locator or PostGIS, a GIS application that work on that database type.