Working with GeODinQGIS

GeODinQGIS is a plugin to connect QGIS with the software GeODin. This allows to use GeODin databases inside of QGIS. Please keep your version of GeODin up to date. It is important to have the 32-bit version of QGIS installed otherwise no databases can be load.

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1 Overview

After installing the plugin in QGIS the plugin buttons are added to the toolbar.

These are from left to right:

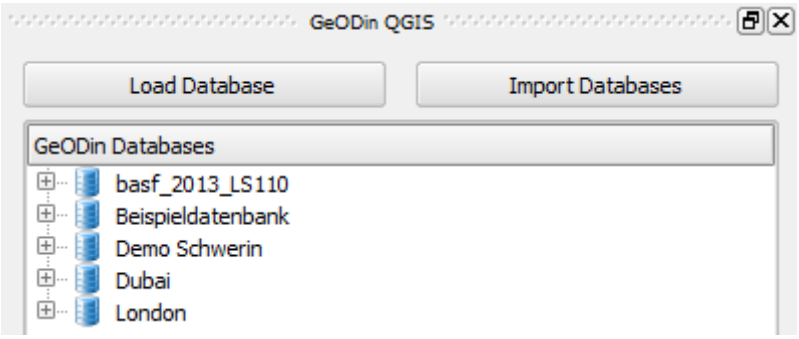
1. the interface of GeODinQGIS
2. the options menu
3. the refresh button to reload QGIS layers
4. the help.

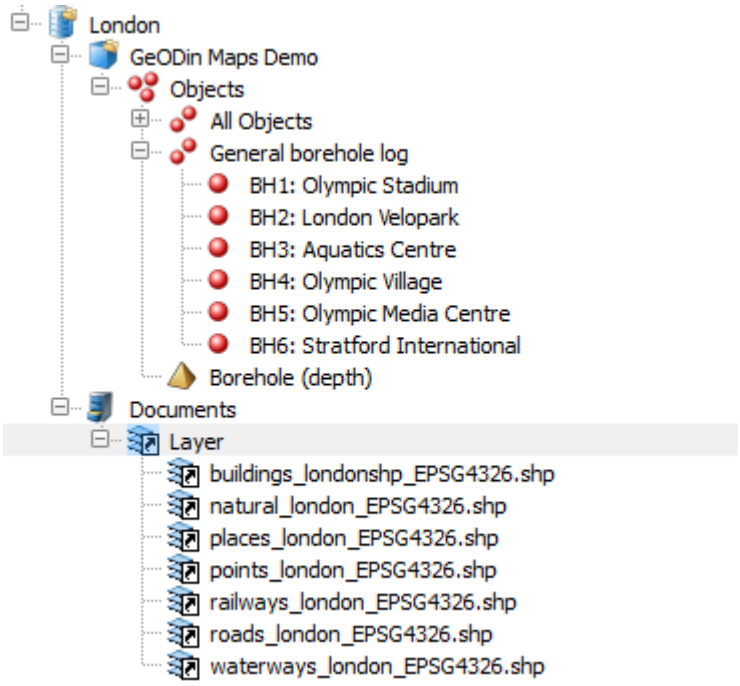
The flag shows the current plugin operating language and is free to choose. Preliminary only the languages english and german are available.

A right docked window opens with a click on the GeODin button in the toolbar.

A click on the button "Load Database" allows to load a database from the computer's file system.

The button "Import Databases" reads the windows registry and loads the registered databases.

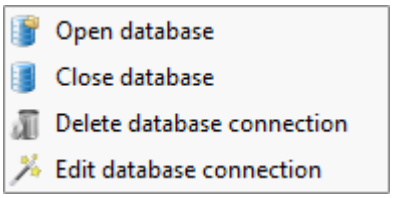




This method only shows databases, which were created with GeODin earlier. Other databases, which might were added by manipulation of the geodin.ini file, receive no consideration due to the fact that they are not listed in the windows registry. A database is not loaded in QGIS, if the database was deleted from the file system. However there might be a reference in the windows registry, if the database connection was not deleted in GeODin.

The view copies the visualisation of the GeODin object manager.

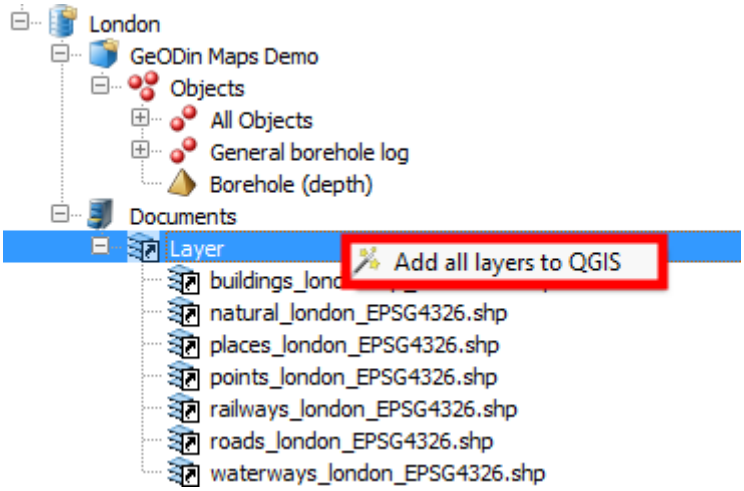
2 First Steps



Use the right click menu on the database level to call database management options.
This menu allows the edition or deletion of a database connection. This works only for the connection to QGIS, the database itself and the connection to GeODin are not touched.

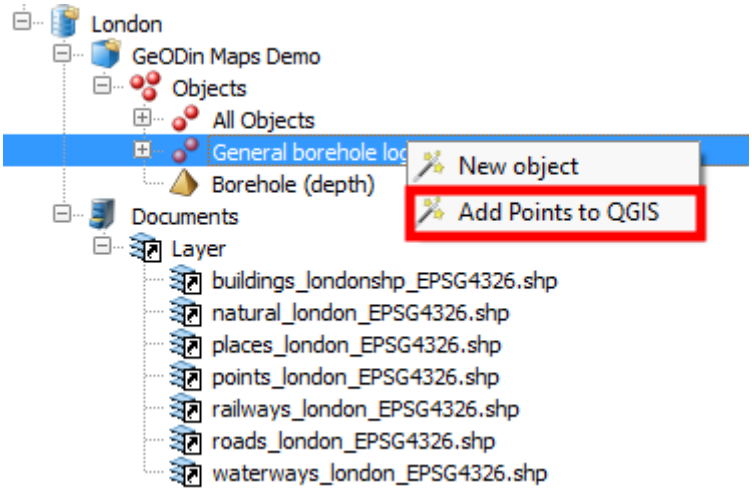
3 Visualisation in QGIS

In addition to the database objects the database shape files are imported to QGIS, if they were properly stored in the GeODin folder "Documents". As they are vector files they can easily added to the QGIS map canvas.



The right click menu is called to add the proper group or file to the map. The shape file already has a geospatial reference, so no dialog is needed to choose the correct coordinate system.

In the same way all objects of a project or objects of one object type can be added to the map. Therefore the right click menu is called below the level "All Objects".



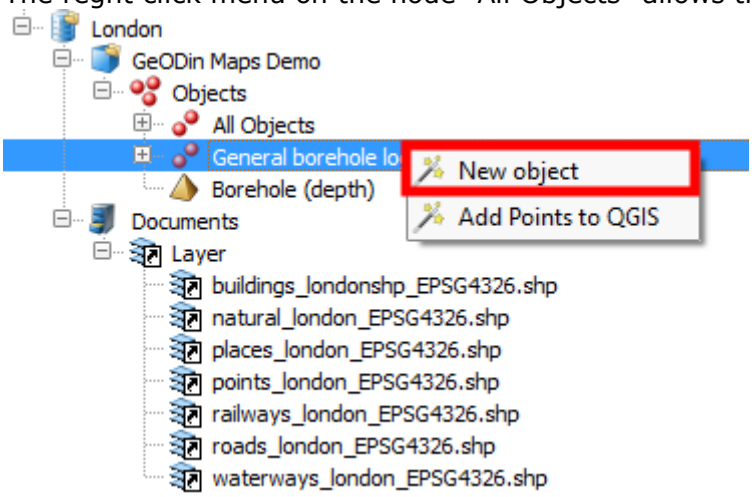
These points are stored in a temporary vector file. A dialog opens afterwards to define the proper projections of the vector file.

Note: Cancelling the dialog for the selection of a coordinate system will use the default coordinate system for spatial reference (usually WGS84). This is an internal function of QGIS and can be changed in the QGIS settings. Cancelling this process does not mean that adding the points to map is interrupted.

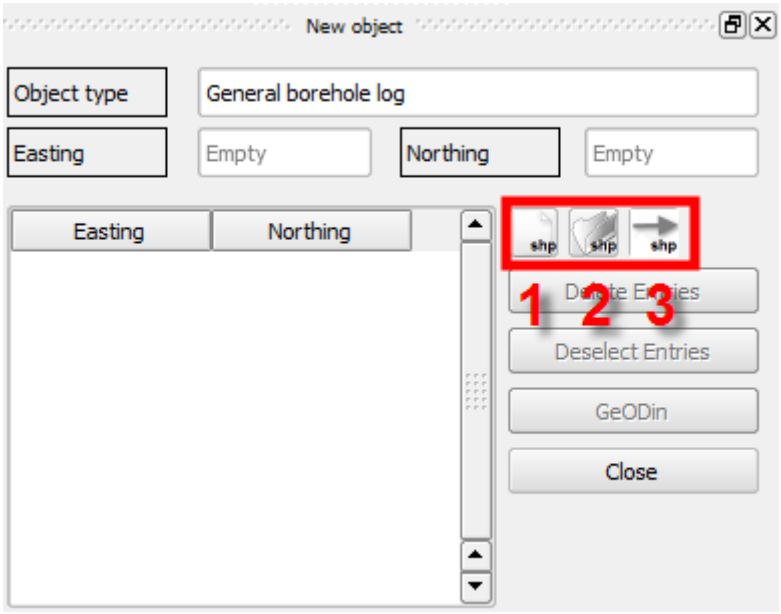
If objects were added to map canvas and changes have been made to the database, this changes can be synchronised with the vector file in QGIS. To do so the "refresh" button in the upper toolbar is used. This will read changes in the database and transfer them to the vector file. If the vector file was changed independently from the database, any changes will be lost.

4 New Object

The reght click menu on the node "All Objects" allows the creation of new objects.



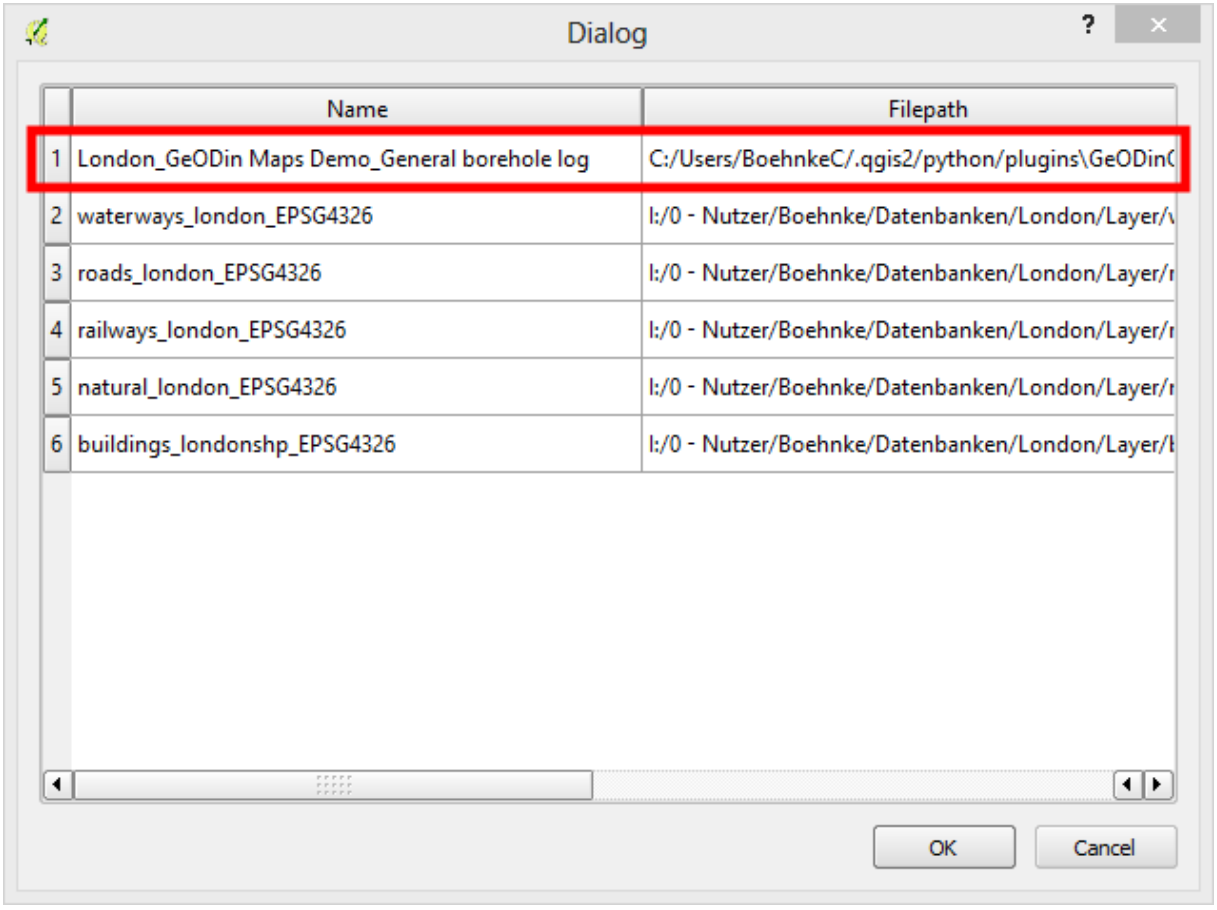
A right docked window opens.



Adding a vector file

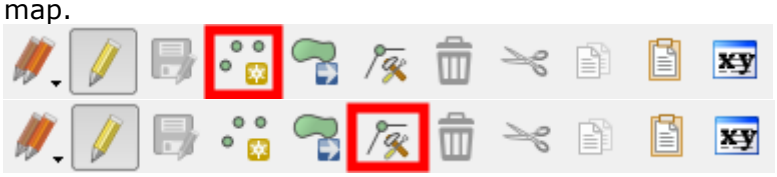
New objects will be stored in a vector file as points. There are three possibilities:

1. The user can create a new vector file in the file system. Two dialogs will open to specify the coordinate system and the path of the file. If successful, the new vector file will be loaded and displayed in the QGIS layer list.
2. The user can load an already existing vector file from the file system. If successful, the new vector file will be loaded and displayed in the QGIS layer list.
3. The user can use an already loaded vector file. To do so the vector file must be "visible" in the QGIS layer list. A dialog opens to select the file from the layer list. The file must exist in the file system, volatile files are not permitted, because they are loaded to the memory of the PC. The structure of the attribute table must correspond to the plugin's specifications. This means, that the vector file had to be created in the past by the usage of this plugin.



The cases 2 and 3 will fill the table of the method "New Objects" with the coordinates of the points, if the vector file is not empty.

Adding a new object
To add a new object the editing mode of QGIS is used. To do so the vector file is selected in the layer list and the editing mode is toggled on. Now new points can be created in the map.



Also the points can be moved by using the node tool.

The method "New Object" also allows entering exact coordinated, for this the edting mode must be toggled on. A double click on the proper cell allows to make an entry.

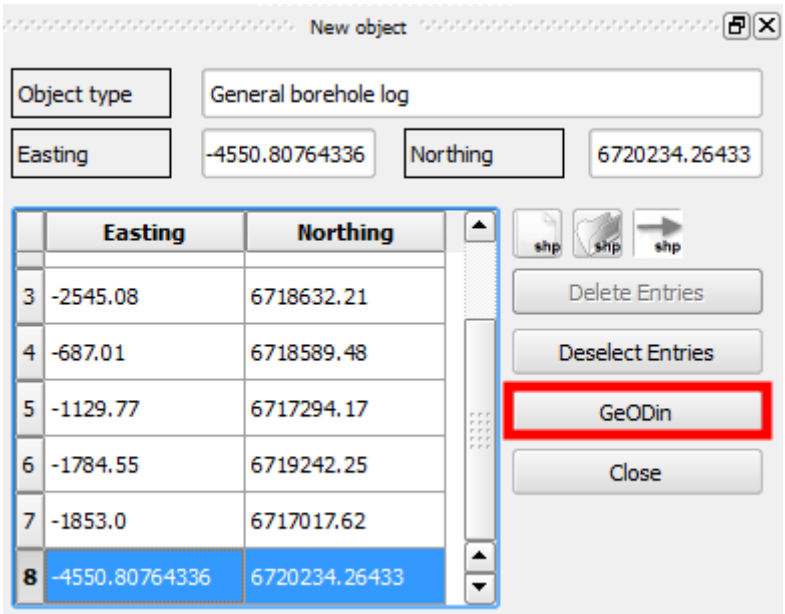
To delete entries from the table the edting mode must be toggled on. The entry will be deleted from the vector file and is no longer part of the map or the tables.

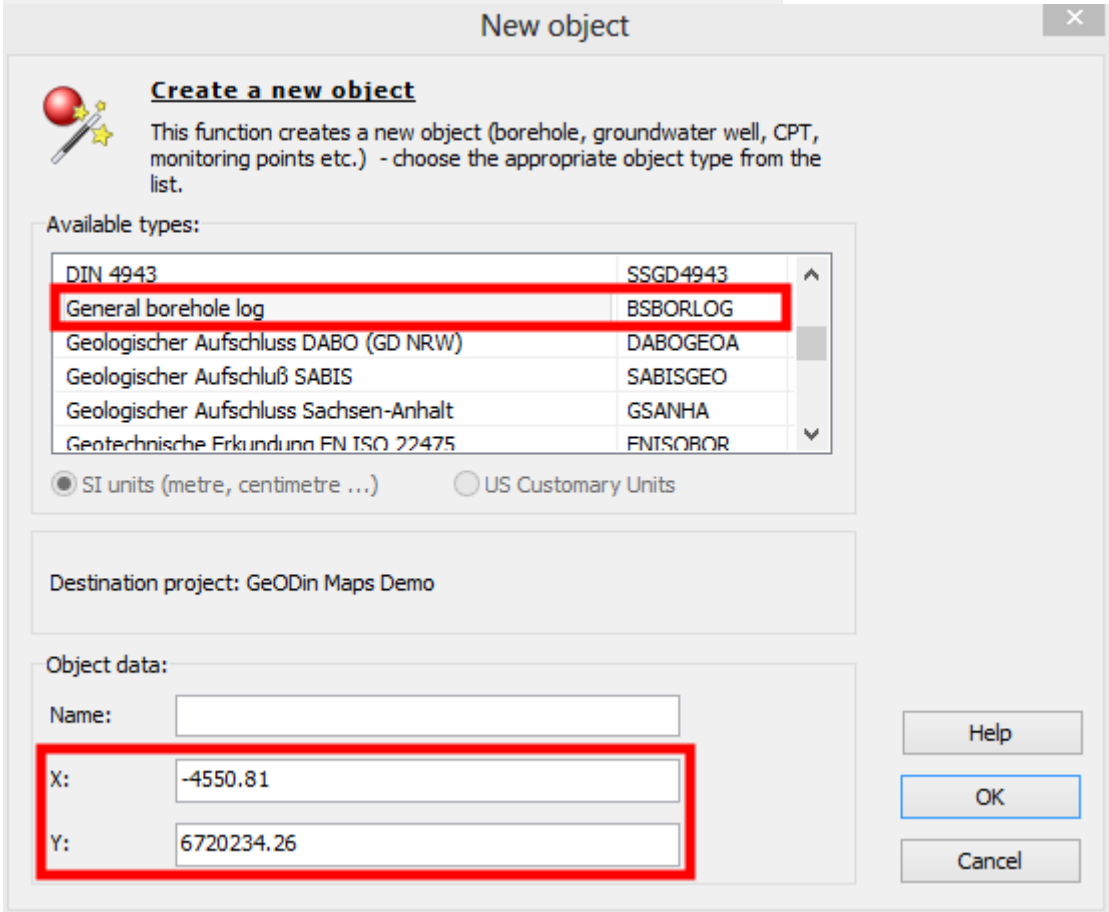
To accept new, changed or deleted objects the edting mode must be ended and all changes must be saved. Only then changes will be visible in the attribute and the coordinate table.

Note: Due to an error in the QGIS kernel a crash of the software may occur, if the edting mode is ended with discarding all changes.

Export of a new object

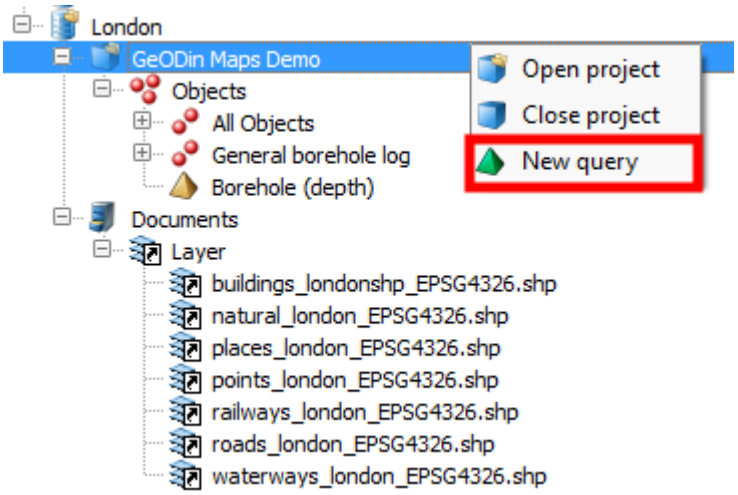
A new object, created by the usage of the plugin, is stored inside a vector layer but is not yet part of a GeODin database. To do so the object is selected in the coordinate table, the export coordinates will be displayed in the windows above. The button "GeODin" is now availbale, which was deactivated before. A click on the button opens a COM function in the background, starting the method "Data management" to add the object to the database. If more than one object is selected, the export function is deactivated. Only one object at a time can be transferred to GeODin. For adding multiple objects to the database the GeODin method "Import general data" can be used to import a shape file.





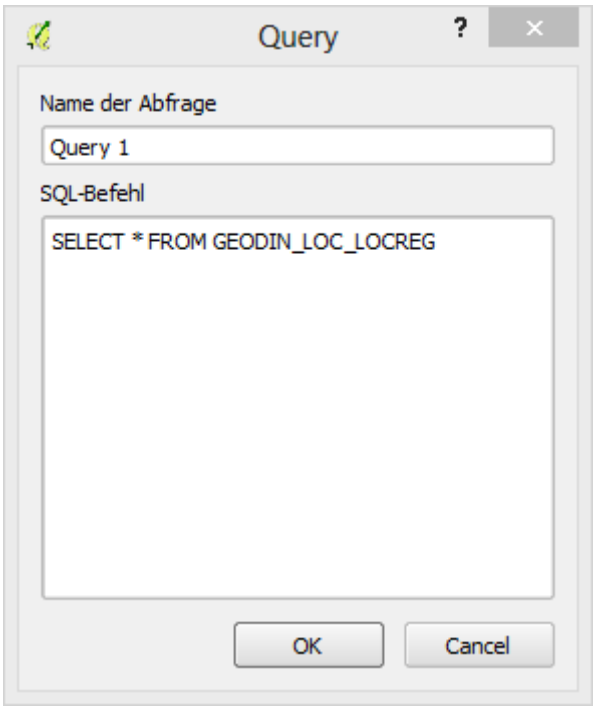
After adding the new object to the database it will appear in an automated query inside the GeODin obejct manager and not as part of the proper object type. For this the database has to be reloaded, the same procedure applies to QGIS.

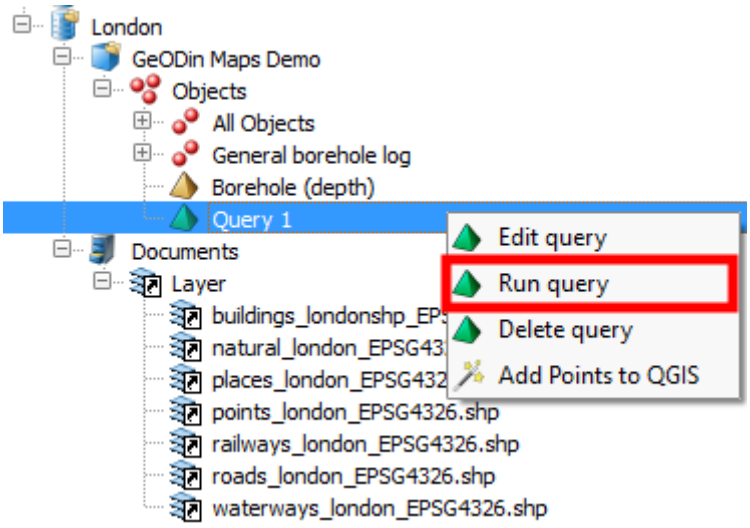
5 Queries



A right click on the project level allows the creation of queries, symbolised by a green pyramid.

The FROM statement must be entered manually, in case of complicated queries it can be copied from the query manager of GeODin.



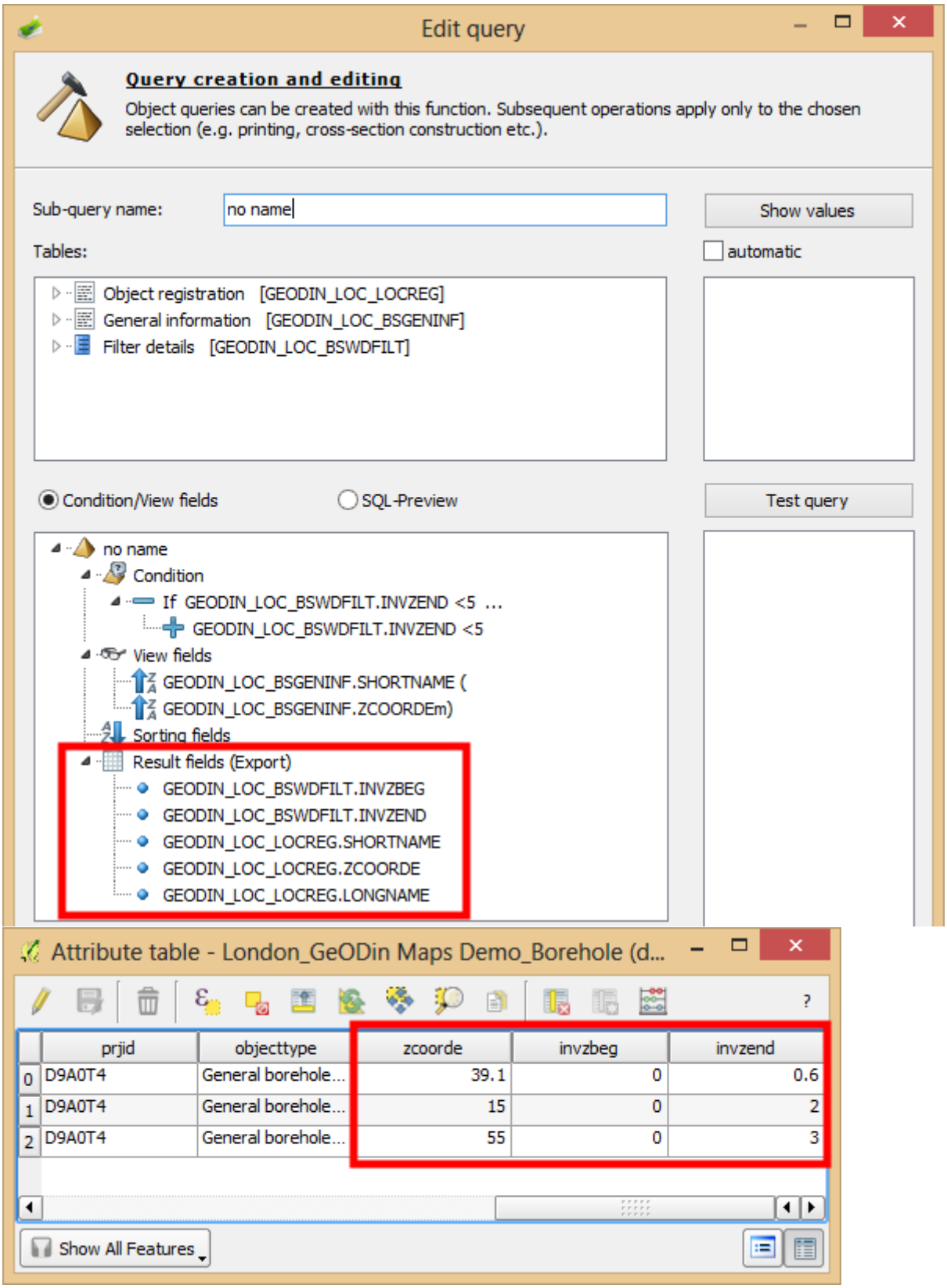


The query must be executed by the user by opening the right click menu of the query. If successful, the object tree expands automatically, showing all objects matching this query.

Custom queries, which were created in GeODin, are automatically imported to QGIS. The symbol is a yellow pyramid. These queries must be executed manually as well.

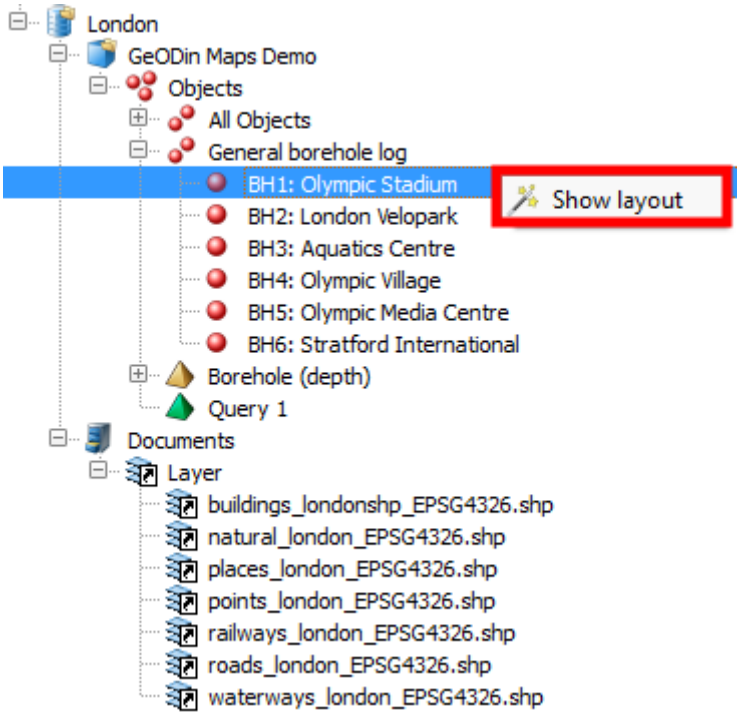
As queries act as object groups they can be added to the QGIS map canvas.

If the GeODin query contains result fields, they are transferred to QGIS in the background. They will be appended to the attribute table, if the objects are added to QGIS as a vector file.


Edit query
Query creation and editing
Object queries can be created with this function. Subsequent operations apply only to the chosen selection (e.g. printing, cross-section construction etc.).
Sub-query name:
no name
Show values
Tables:
automatic
Object registration [GEODIN_LOC_LOCREG]
General information [GEODIN_LOC_BSGENINF]
Filter details [GEODIN_LOC_BSWDFILT]
Condition/View fields
SQL-Preview
Test query
no name
Condition
If GEODIN_LOC_BSWDFILT.INVZEND <5 ...
GEODIN_LOC_BSWDFILT.INVZEND <5
View fields
GEODIN_LOC_BSGENINF.SHORTNAME (
GEODIN_LOC_BSGENINF.ZCOORDEm)
Sorting fields
Result fields (Export)
GEODIN_LOC_BSWDFILT.INVZBEG
GEODIN_LOC_BSWDFILT.INVZEND
GEODIN_LOC_LOCREG.SHORTNAME
GEODIN_LOC_LOCREG.ZCOORDE
GEODIN_LOC_LOCREG.LONGNAME
Attribute table - London_GeODin Maps Demo_Borehole (d...
prjid objecttype zcoorde invzbeg invzend
0 D9A0T4 General borehole... 39.1 0 0.6
1 D9A0T4 General borehole... 15 0 2
2 D9A0T4 General borehole... 55 0 3
Show All Features

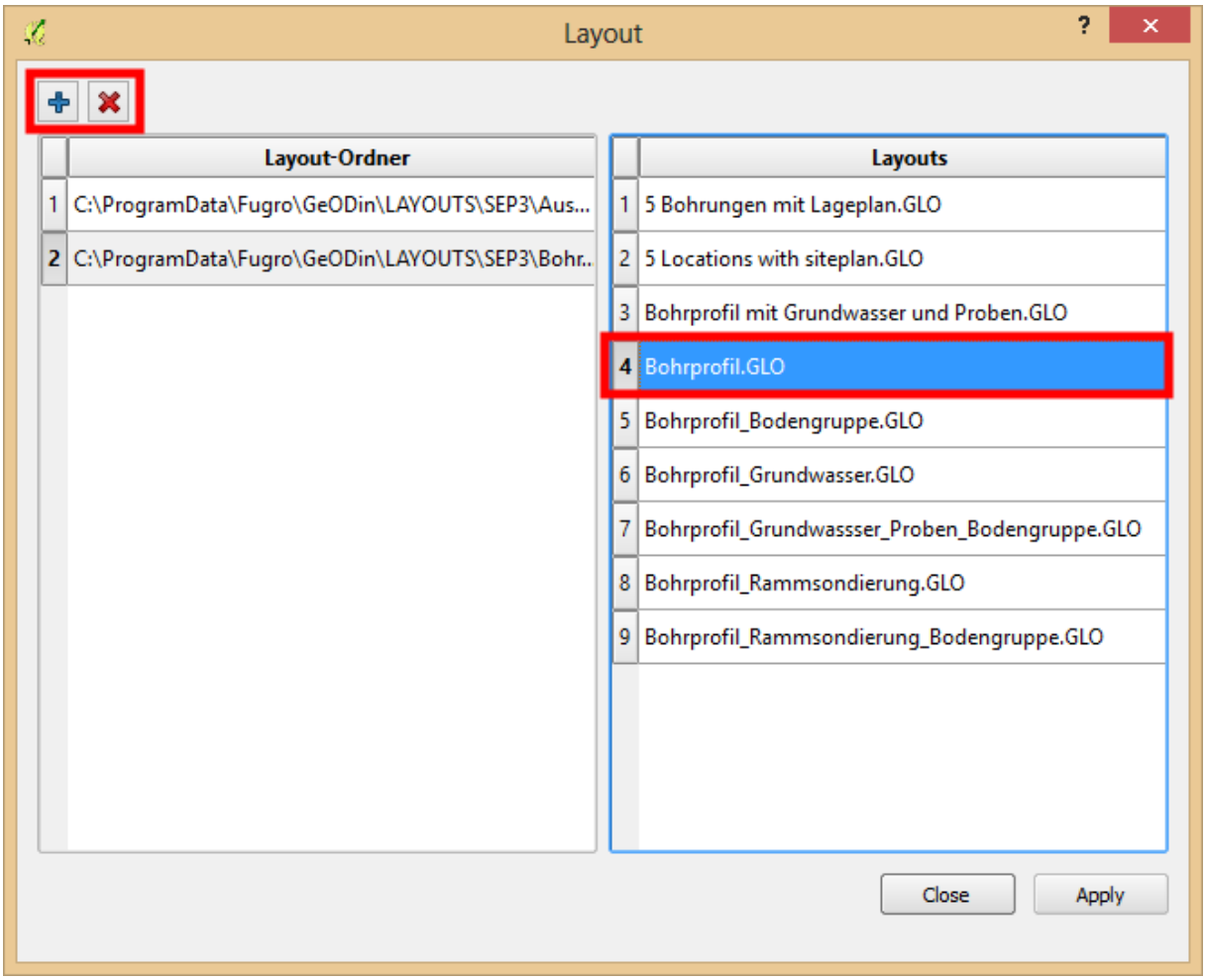
6 Layouts

The layout view is executed at the object itself. To so expand the database tree to the lowerest level, the object level, and open the right click menu at the proper object.



A new dialog opens to declare both the layout directory and the preferred layout. The upper toolbar allows to add a layout folder to the list. For this the default layout directory of the GeODin installation is used. A folder can be deleted from the list in the same way.

The right table view contains all layouts which are part of the selected layout directory.



The layout view is a visualisation of a temporary PDF file. Thereby the common PDF controls like zooming and page change are available. All preferred layout settings must be set in GeODin, the plugin only provides the layout view.

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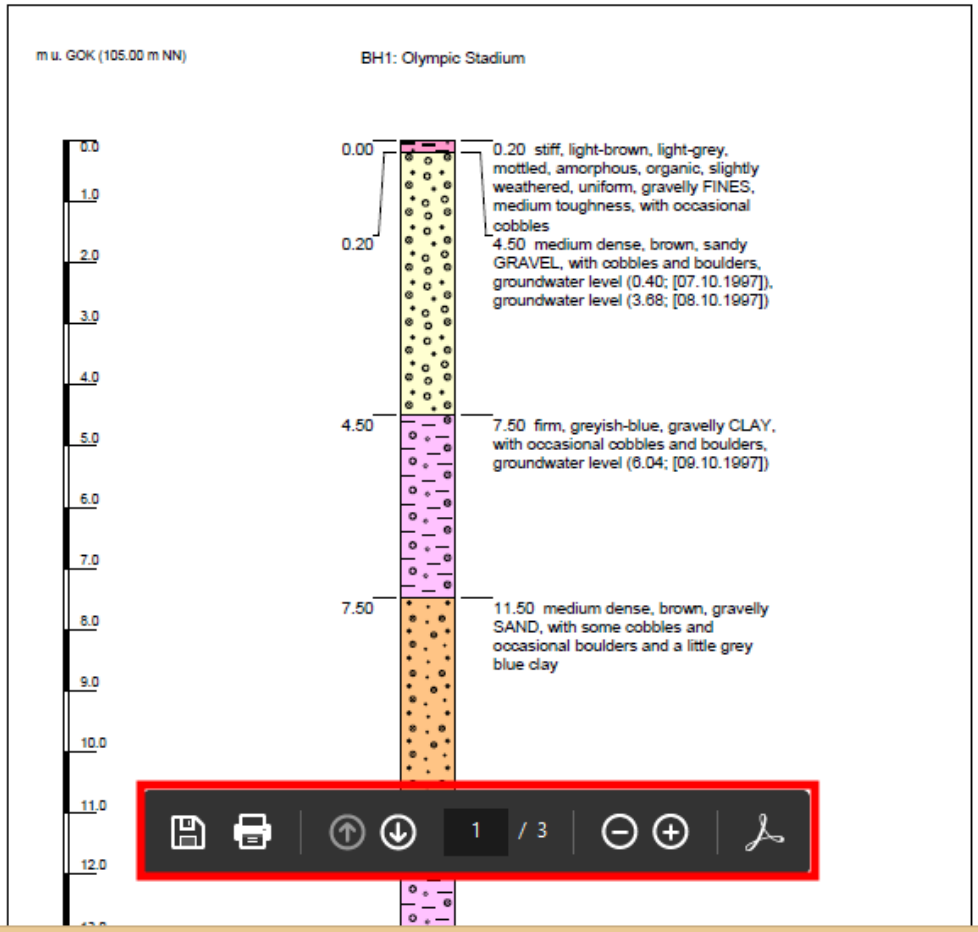
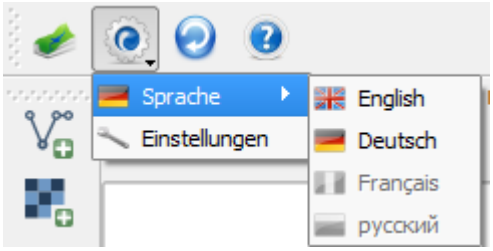
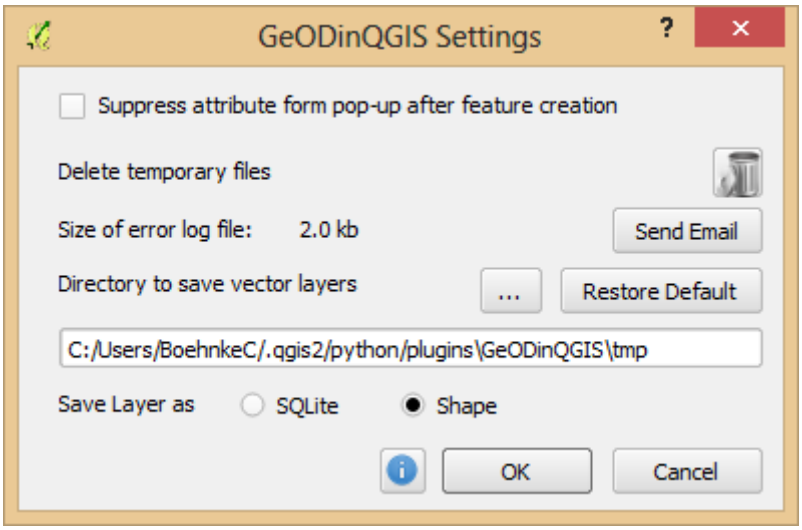


7 Setttings



The settings can be done at the gear wheel symbol at the toolbar. This includes the operating language and the plugin's general settings.



Usually, when creating new objects with the editing mode of QGIS, a window opens, for the input of attribute data. This window always appears, if a new feature was added to map canvas. To suppress this window the option "Suppress attribute form pop-up after feature creation" may be activated.

Several temporary files will be created when working with the plugin. If they are no longer needed the whole directory can be emptied by clicking the button.

If an error occurs, it will be written to the error log file. There is the possibility to send an email to the GeODin support. This will open the Email browser automatically. The error message and the error log file must attached to the email manually.

Vector files, which were created with the plugin, will be stored in the temporary directory if not specified. This directory may be saved at another location in the file system. It is also possible to restore the default path.

The vector files can be saved in two different formats. The usage of SQLite offers the advantage of fieldnames longer than 8 characters, whereas the fieldnames of shape files are limited to 8 characters. However the performance of shape files is much better.