Content

History

Issue	Date	Signum	Comments on Content
0.0	08/2023	EbJo	GeODinQGIS help created

1. General

1.1 Requirements

Requirements

- Windows (64-bit)
- PDF reader to open the help of the GeODin plugin for QGIS 3
- QGIS 3.x (LTR, 64 bit)
  from QGIS 3.22 (developed with QGIS 3.22.9-Białowieża)
- GeODin from version 9.5 (64 bit)
  GeODin installation incl. COM registration is required
- OBDC database driver (64 bit) for the DB systems used
- GeODin configuration (geodin.ini)
  Only databases from the GeODin configuration are supported.

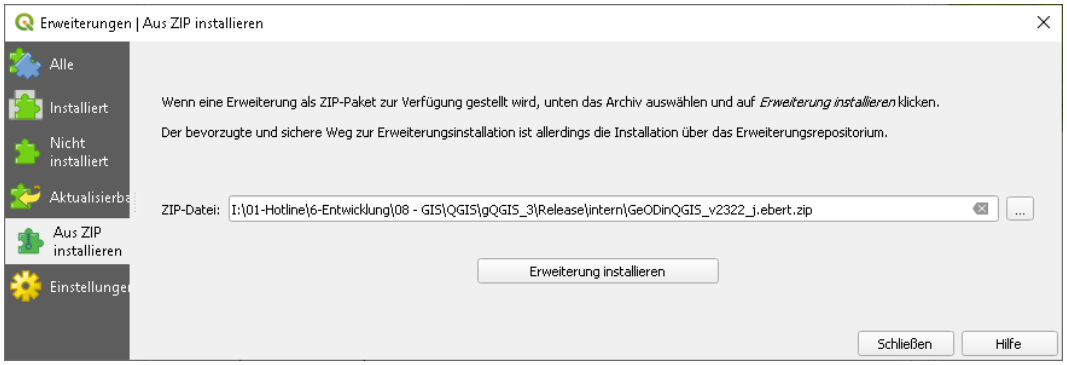
1.2 Installation of the GeODin plugin for QGIS 3

The GeODinQGIS plugin can be installed via the standard options of QGIS.

Attention, always make sure that only exactly one GeODinQGIS plugin is installed and not several, possibly even different versions!

(1) Local installation from ZIP file

- QGIS » Extensions » Manage and install extensions...
- Install from ZIP



- Installation directory
  %APPDATA%\QGIS\QGIS3\profiles\default\python\plugins\GeODinQGIS

(2) customized QGIS plugin directory

- Create any QGIS plugin directory
  D:\somewhere\QGIS\Plugins
- Set QGIS System Variable
  Windows » System Properties » Advanced Tab » Environment Variables

or

Windows » Command Prompt

`setx QGIS_PLUGINPATH D:\somewhere\QGIS\Plugins`

- Check QGIS System Variable

  Open a new Command Prompt (!!)

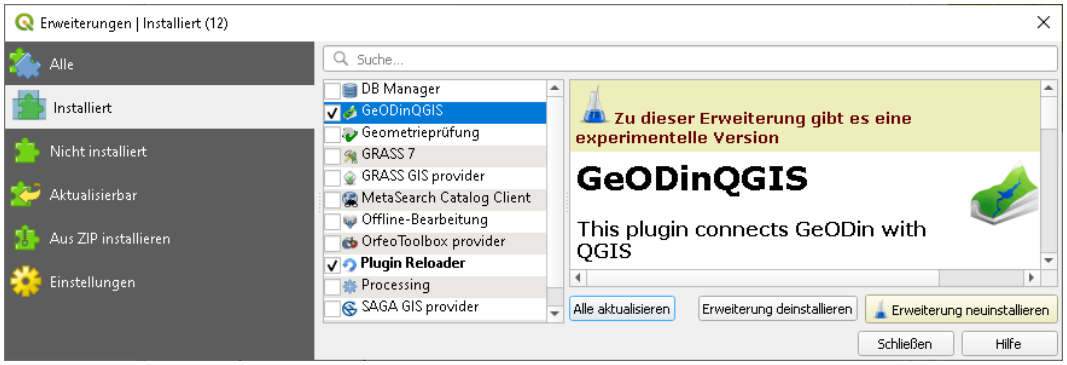
  set qgis

- Unpack the ZIP file of the GeODinQGIS version with relative paths in the plugin directory
- Installation directory

  D:\somewhere\QGIS\Plugins\GeODinQGIS
- Restart QGIS (!!) and activate plugin...

  QGIS » Extensions » Manage and install extensions...

  Installs



- To update the plugin...

  Delete installation directory D:\somewhere\QGIS\Plugins\GeODinQGIS

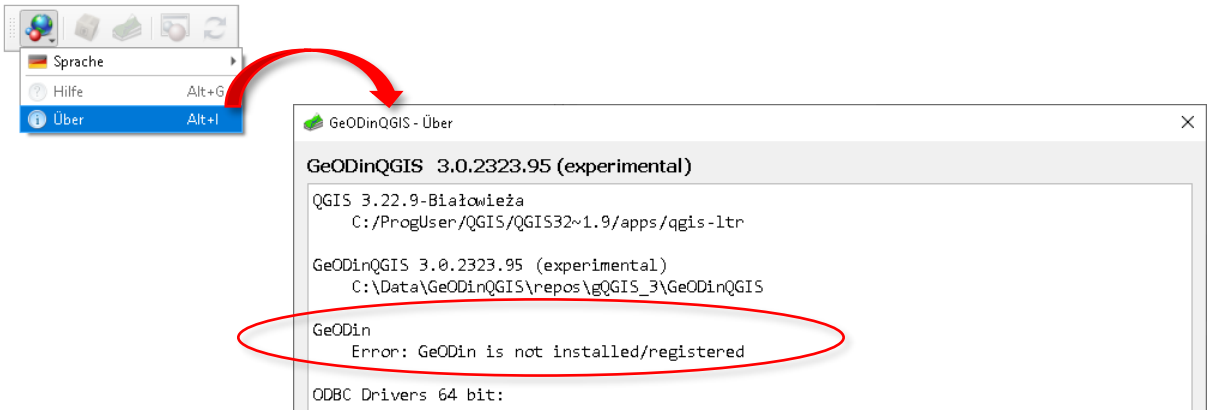
  Unzip file of the new version to D:\somewhere\QGIS\Plugins

  Restart QGIS

1.3 Installation of GeODin

The GeODinQGISplugin only works with an installation of GeODin version 9.5 (64 bit) or higher incl. a COM registration (64 bit) of GeODin.

If the COM registration of GeODin is missing or incorrect, only the first button with the menu is active in the GeODinQGIStoolbar. The current GeODin installation can be displayed via the 'GeODinQGIS - About' dialog.



As a 64-bit application, GeODinApplication must also be registered in the Windows 64-bit Component Service. Registration only in the 32-bit Component Service and different registrations in the 32-bit and 64-bit Component Service are not supported.

Attention:

After a change of the GeODin installation/registration, QGIS must be restarted.

Remark

- As of version 9.5, GeODin is only available as a 64-bit application.

up to version 8.4	GeODin 32 bit
version 9	GeODin 32 bit
from version 9.5	GeODin 64 bit

- To use the GeODin plugin for QGIS 3, GeODin must be registered as a COM server on Windows. GeODin must be registered as a COM server on each computer on which the GeODin plugin for QGIS 3 is to be used.
- **Attention**, it is important to ensure that only one GeODin is registered as a COM server on a computer.

32-bit applications are registered in the 32-bit DCOM Component Service, and
64-bit applications are registered in the 64-bit DCOM Component Service.

Before updating GeODin or replacing the geodin.exe, a registration of the previous geodin.exe must be removed. With the following call, the geodin.exe can be registered.

Attention, the command must be executed **as administrator**!

```
geodin.exe /unregserver
```

When unregistering with a 32-bit version of the geodin.exe the registry is only removed from the 32-bit DCOM component service and with a 64-bit version of the geodin.exe the registry is only removed from the 64-bit DCOM component service – so it doesn't matter which geodin.exe is deregistered with.

To unregister GeODin, the corresponding geodin .exe can be downloaded again from the archive as a ZIP file (geodin.zip).

GeODin can be registered as a COM application with the following call:

Attention, the command must be executed **as administrator**!

```
geodin.exe /regserver
```

Up to GeODin version 9 (all 32-bit applications), registering GeODin automatically overwrote any existing registry in the 32-bit DCOM component service, and thus only one registry was available at a time.

Starting with GeODin version 9.5 (64-bit applications), registering GeODin automatically overwrites any existing registry in the 64-bit DCOM Component Service, but not in the 32-bit DCOM Component Service. This can lead to a GeODin being registered in both the 64-bit and 32-bit DCOM component services and can lead to conflicts.

1.4 Environment

The system environment is displayed in the 'GeODinQGIS - About' dialog (see GeODinQGIS-Toolbar).

GeODinQGIS system variables

GEODINQGIS_CONFIG_DIR

- Default-Value/Default-Config-Folder <GeODinQGIS AppPath>\config\
- Optionally, the Windows system variable GEODINQGIS_CONFIG_DIR can be used to define a directory in addition to the config subdirectory in the installation directory from which GeODinQGIS configuration files are loaded.
  The directories are searched in a defined order until a searched file is found:
  1. %GEODINQGIS_CONFIG_DIR%
  2. <insatllationsverzeichnis>\config

GEODINQGIS_LOG_FOLDER

- Default-Wert/Default-Log-Folder %LOCALAPPDATA%\Fugro\GeODinQGIS\logs\
- The Windows system variable GEODINQGIS_LOG_FOLDER is used in the standard logging configuration.
  By setting the system variable GEODINQGIS_LOG_FOLDER, the directory in which the GeODin logs are stored can be easily adjusted.

GeODinQGIS Environment

LocalAppData

- Default value %LOCALAPPDATA%\Fugro\GeODinQGIS\
- GeODinQGIS creates the directory and stores various local data in it (configuration, standard GeODinQGIS logs, ...).

TmpFolder

- Default value %TEMP%/GeODinQGIS_?*
  Attention, however, the path depends on the current Windows system settings.
- GeODinQGIS creates a temporary directory for each Q GIS session, which is deleted when QGIS is terminated.
- The temporary directory is not deleted when QGIS is terminated undefined. If this is the case repeatedly, all temporary directories of GeODinQGIS can be deleted via the operating system after all QGIS sessions have been terminated.

2. GeODinQGIS-Toolbar

Buttons of the GeODinQGIS-Toolbar

Menu of the GeODinQGIS toolbar
see below

To open the DDX dialog
see chapter DDX dialog

Activate/deactivate GeODin connection
Attention, the button is only active if a DDX has been set or loaded without errors.

Open/close GeODinQGIS Explorer
Attention, the button is only active when GeODin is connected.
see chapter GeODinQGIS-Explorer

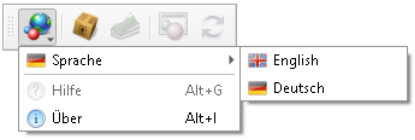
To update the selection of GeODin layers
see chapter Interaction with GeODin

For selection of GeODin layers
see chapter Interaction with GeODin

Hotlink Tool
see chapter Interaction with GeODin

Selection Tool
see chapter Interaction with GeODin

GeODinQGIS toolbar menu



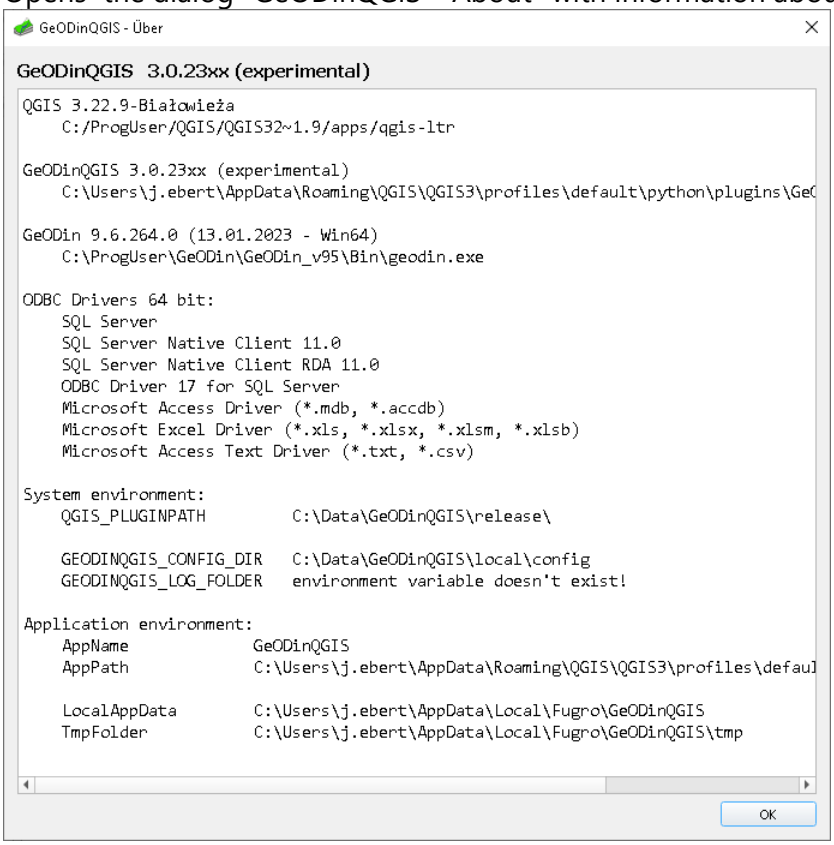
Language
Choosing the language for theGeODinQGIS user interface

Open Help
Attention, a PDF reader must be installed to view the help.

Support
Create a ZIP filewith the GeODinQGIS logs and open a new e-mail
Attention, to open and send the e-mail you must have an e-mail program installed.

About

Opens the dialog "GeODinQGIS – About" with information about the system environment.



3. GeODinQGIS-DataDictionary

3.1 General

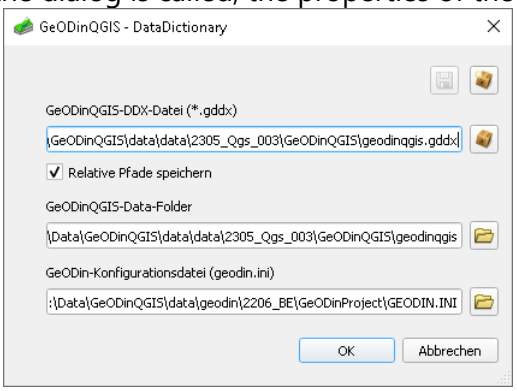
In the DataDictionary (DDX), the metadata is stored and managed by the GeODinQGIS plugin.

In principle, a DDX can be integrated and used in several QGIS projects. However, the DDX is not multi-user capable.

3.2 DDX dialog

Properties

When the dialog is called, the properties of the current DDX are always loaded and displayed.



- **GeODinQGIS DDX file**, DataDictionary
  Opens a dialog to select a DDX that already exists
- **GeODinQGIS-Data-Folder,** data directory of DDX
  Opens a dialog for selecting a data directory
- **GeODin configuration file (geodin.ini),** geodin.ini from DDX
  Opens a dialog to select a geodin.ini

Create a new DDX

1. Create GeODinQGIS DDX file...
   Open dialog« Create GeODinQGIS-DDX file »
   Select directory and enter name
   Exit dialog
2. Customizing GeODinQGIS-Data-Folder...
   When creating a new DDX ,a directory with the same name as the DDX/file and in the same context is preset.
3. Select GeODin configuration file (geodin.ini)...
   For the DDX, a geodin .ini must be selected.
4. Save changes...
   Save the current data directory and GeODin configuration file in the DDX.
   This action saves only the DDX and not the QGIS project.

5. Exit DDX dialog...
   The new DDX is created and stored in the file system. But only if the DXX dialog is terminated with «OK», the newly created DDX will also be transferred to the QGIS project as the current DDX.

Hint

The following data structure is recommended (preferably local):

\any_path\some_qgis_project.qgz	QGIS projectkt-file (*.qgz)
\any_path*\	optionales data directory with relative path to the QGIS project file (*.qgz)
\any_path*\ddx_name\ddx_name.gddx \any_path*\ ddx_name\ddx_name	GeODinQGIS DDX file (*.gddx) and GeODinQGIS-Data-Folder in a directory with relative path to the QGIS project file (*.qgz)
\geodin_app_folder\geodin.ini	GeODin configuration file (geodin.ini)

Select DDX

1. Choose DDX...
   
   Select an existing GeODinQGIS DDX file.
   An error message occurs if the selected file is not a GeODinQGIS DDX file.
2. End DDX dialog with «OK»...
   Only when the DDX dialog is terminated with «OK» will the selected DDX also be transferred to the QGIS project as the current DDX.

Hint

A change to the current DDX has an immediate effect on the GeODinQGIS plugin, but has no effect on data already referenced in the QGIS project.
The data sources of the QGIS layers are not changed, even if the layers were created using the GeODinQGIS plugin.

By deleting the entry GeODinQGIS-DDX-File (or Ctrl-click on ) and exiting the DDX dialog, the DDX is deleted from the QGIS project.

Changing DDX Properties

Attention

Changing the GeODin configuration file (geodin.ini) in an already existing DDX has significant implications. It can cause GeODin database connections already referenced in the DDX and their child data to become orphaned.

However, it may be necessary to adjust the geodin .ini if the location in the file system has changed.

1. Choose DDX...
   Changes can be made for the current DDX as well as for any existing DDX.
2. Customize properties...
   Customize GeODinAddin-Data-Folder...
   Customize the GeODin configuration file (geodin.ini)...
   The changes are discarded if the DDX dialog is canceled without saving.
3. Save changes...
    Save the current data directory and GeODin configuration file in the DDX.
   This action saves only the DDX and not the QGIS project.

   Attention
   After saving, the changes can no longer be reverted, not even if the DDX dialog is aborted and not terminated with «OK».
4. Exit DDX dialog...
   If the settings of the current DDX have been adjusted and saved, it does not matter how the DDX dialog is terminated.
   The changes in another DDX cannot be reverted after saving, but this DDX is only transferred to the QGIS project as the current DDX if the DDX dialog is terminated with «OK».

4. GeODinQGIS-Explorer

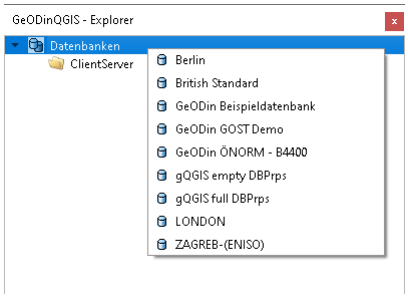
4.1 General

The GeODin QGIS-Explorer is a main part of the GeODinQGIS-Plugin, which is used to manage all database connections and queries.

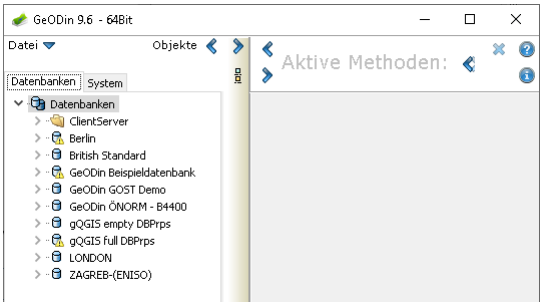
In the Explorer window, the objects of the GeODinQGIS plugin are displayed in a tree structure. The symbology of the objects and their structuring is basically the same as in the object manager of GeODin, but the main differences are:

- Databases do not appear in the tree until they have been added to the current DDX.
- GeODin groups and system queries are not supported by the GeODinQGIS plugin and are not displayed in the GeODinQGIS-Explorer.
- Individual objects and measurement points are not displayed in the GeODinQGIS-Explorer.
- Not all documents referenced in the GeODin database are displayed in the GeODinQGIS-Explorer, only the "GeODin GIS layers".
- Documents are not further grouped in the tree structure of the GeODinQGIS-Explorer.

GeODinQGIS Explorer



GeODin obje kt manager (GOM)



4.2 Databases

The following database systems are supported by the GeODinQGIS plugin:

- Microsoft Access
- Microsoft SQL Server
- PostgreSQL

Implementation of additional database systems on request.

4.3 Query

Query types in the GeODinQGIS-Explorer

- Standard object queries
- Standard measuring point queries
- User queries
  - GeODin user queries
  - GeODin system queries are not supported.

GeODin user queries can produce results that do not contain coordinate fields, or the coordinates are contained in fields other than the standard coordinate fields. To test whether a query is suitable for the extension, the method "Publish and Export" → "Export shape data" in the GeODin object manager (GOM) can be used, for example. If the objects are displayed in the preview without an error message, the query can also be used in the GeODinQGIS plugin.

Coordinate system

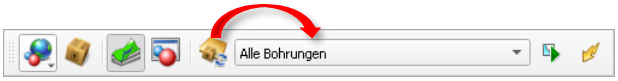
For representation and processing in the GIS, the coordinates of the GeODin objects are almost worthless on their own. The coordinates themselves only indicate the position in a coordinate system. It is only through the definition of the coordinate system that the position on the earth's surface is clearly determined. This definition is the (positional) reference system.

When a layer is created, the GeODinQGIS plugin reads the coordinate system from the result of the query and assigns it to the new layer. The EPSG code is always read from the field named EPSG by the first feature of the query. If the field named EPSG does not exist in the result of the query, or if the EPSG code it contains is not supported by QGIS, the GeODinQGIS plugin does not assign a coordinate system to the layer and uses EPSG code 4326 (WGS 84) by default.

5. Interaction with GeODin

Update the selection of GeODin layers

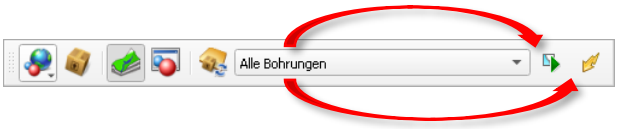
This button updates the selection of GeODin layers.



After adding or deleting ans layer, the selection of GeODin layers is automatically updated, but after moving a layer/changing the order of the layers in the QGIS, the selection of GeODin layers must be updated by the user.

Selection of GeODin layers

The selection of the GeODin layers presets which GeODin layer is used by the Hotlink Tool and the Selection Tool.



Hotlink Tool

After activating the Hotlink Tool, the corresponding object is selected in the GeODin object manager (GOM) after each click on a feature from the pre-selected GeODin layer.

Selection Tool

The action of a selection tool always refers to the selected features (one or more) from the preselected GeODin layer.

If multiple features are selected in the preselected GeODin layer, an object group is created in the GeODin object manager (GOM) and selected.
If exactly one feature is selected in the preselected GeODin layer, the corresponding object is selected in the GeODin object manager.