Getting Started

Product Reference Document

Geobank Version: 2021.5 (11.2)

Revision Date: 24 May 2021

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Contents

Installation

Geobank 2021.5 is a full 64-bit application. The default installation folder is “C:\Program Files\Geobank 2021.5”. Any previous 64-bit Pre-view installations should be uninstalled before installing this version.

Geobank 2021.5 can be installed alongside previous versions.

If you are installing from a USB drive:

1. Place the USB in the drive and wait for autoplay to start.

   Follow the instructions on the screen.

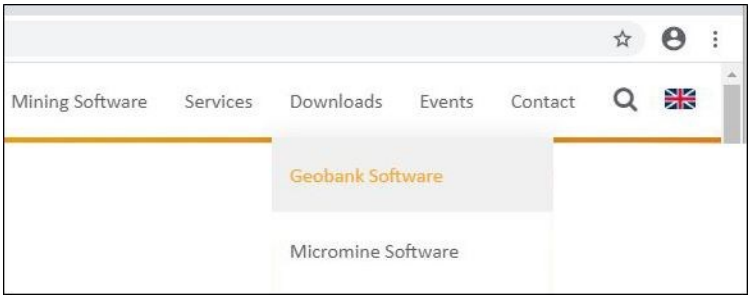
2. If the auto-play fails, use Windows Explorer to browse to the root folder on the USB drive.

   Locate the file named **setup.exe** and double-click it to run the installer.

To Install Geobank from the MICROMINE website:

1. Open your Internet browser and navigate to the MICROMINE website at: http://www.micromine.com
2. Click on the **Downloads** menu to access the **Geobank Software**

menu:



3. Scroll down the list of Geobank downloads, select the latest version of Geobank, and click on the **Download** button:

4. On the dialog, select **Save As** and navigate to the directory where you want to save the zip file.

   A progress bar shows the status of the download.

   The zip file is copied to the selected directory.

5. Using Windows Explorer, navigate to the directory containing the download, right click on the zip file and select **Extract All...**

6. Click the **Extract** button.

   When the files are extracted, double click on **Setup.exe** to install the version of Geobank you have downloaded.

7. Once Geobank has been installed a connection to a database will be required to start using the software. See: "Accessing a Data Model" on page 8

"Examples and Templates" on page 15

"System Requirements" on page 16

Accessing a Data Model

Geobank manages data through a set of configured tools. The data resides in an SQL database. This database is known as *the data model*. It has some built-in components, for common data, and some variable components, for data specific to a commodity or a customised use. It is through this combination of static and customised structures in the data model that Geobank achieves the flexibility it provides. This data is *the content* with which Geobank interacts, and it is stored in one or more *Content databases*.

The tool-set used to manage the data is referred to as *the configuration* of the Geobank system. As with the data model, this tool-set comprises a combination of built-in and custom-built tools. The information defined by the tool-set is stored in a *Configuration database*.

In summary, there are two sets of data:

Configuration data	Data about the tools set-up in the Geobank system.
Content data	The Geological data (typically) managed by the Geobank system.

Base models

Members of a MICROMINE Annual Licensing Programme (ALP) are given access to a variety of base models. These vary, from generic training models, to models for mineral-focussed data, or models for specific commodities such as Coal and the regional processes used with those commodities.

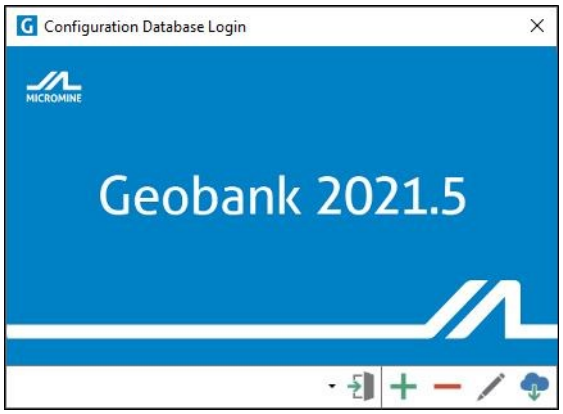
Base models can be downloaded for restoring as databases on a SQL server. Click here to Login to the Customer Portal.

Note: If you are not subscribed to an Annual Licensing Programme, but have a version-locked perpetual licence, Geobank versions 9 or 10 legacy data models may be deployed. Go to https://www.micromine.com/downloads-geobank/.

Connect to a Configuration Database

The Configuration Database is a Microsoft SQL Server database that will be used to store the Geobank configuration tables. A connection to a configuration database must be established the first time Geobank is run.

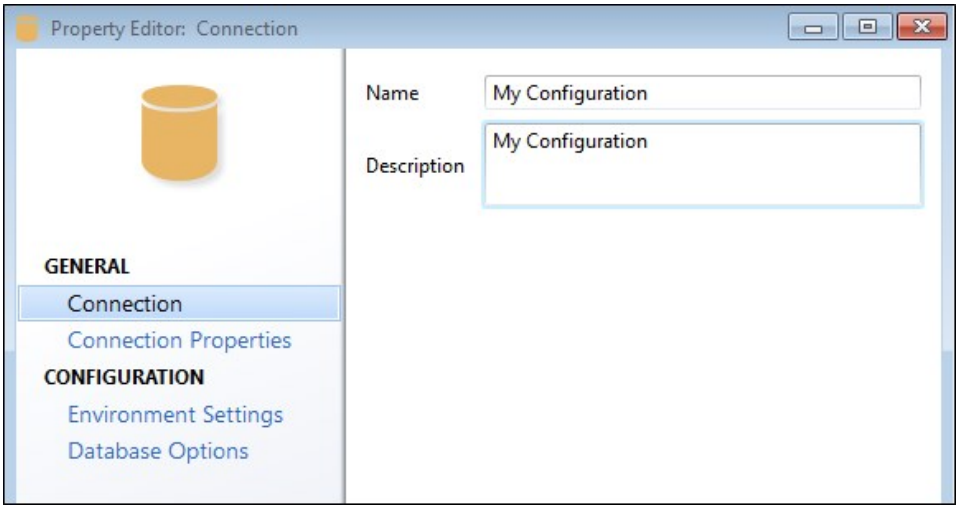
When you start the application for the first time, a blank login screen is displayed.



To add a connection to a configuration database:

1. Click the **Add** button to add a database connection.

   The **Connection Property Editor** is opened:

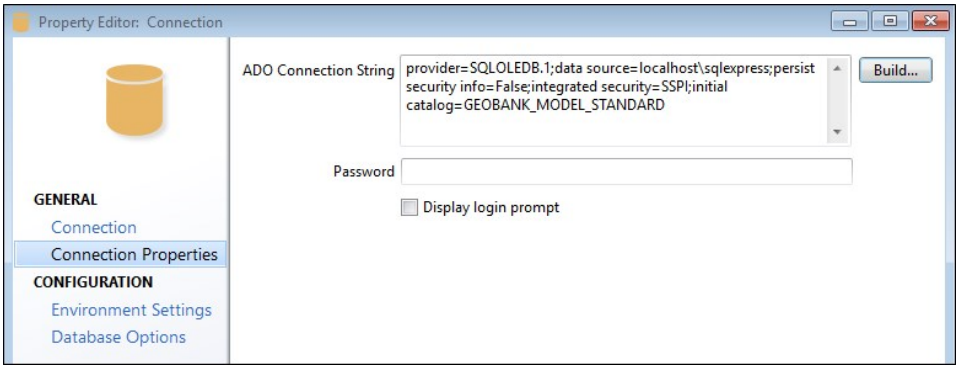


2. Enter a **Name** and **Description** for the configuration database, then click the **Connection Properties** link.

   WARNING: Subsequently changing the **Name** of this Connection will cause any Scheduled Jobs that use this Connection to no longer work as expected. Ensure the name you initially enter is the name you intend to use and only change the name if there are no scheduled jobs, or if you plan to manually update those scheduled jobs.

   Any other usage of the Geobank command line, such as short-cuts, may also be affected by a name change.

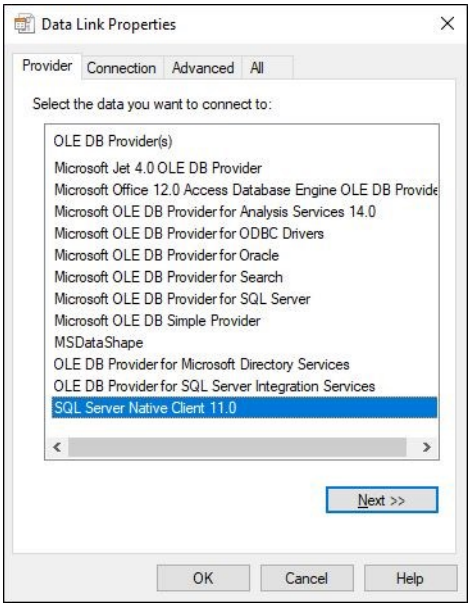
3. Click **Build...** to define the **ADO connection string**.



When a blank database is added as a new datasource, table name and column name mapping tables are created automatically

4. In the **Data Link Properties** dialog, on the **Provider** tab, select the version of the *SQL Native Client*. The version of the native client will vary depending on the version of SQL Server you have installed.

   For best results, use the *SQL Server Native Client* available on your machine.



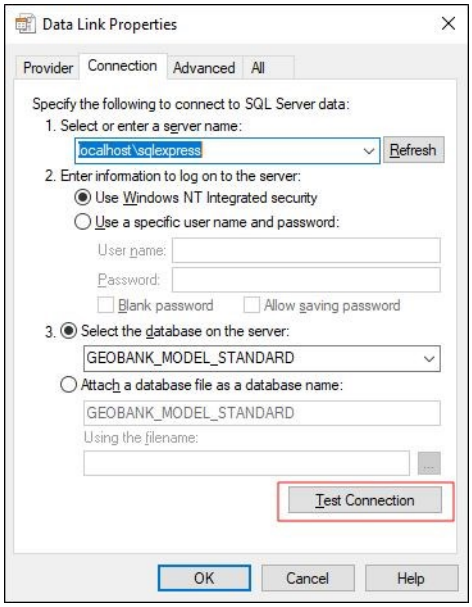
5. On the **Connection** tab:

    a. Select the name of the data source that points to the instance of SQL Server (using the *servername\instance* format). You should use the Geobank configuration database server name here. The example shown below in the **Data Link Properties** dialog is for a networked configuration database. If you are using a local database server, the server name will be localhost\sqlexpress2008.

    b. Select **Use Windows NT integrated security** to allow access to the database based on your windows login details. Otherwise provide the login **User Name** and **Password** needed to access the database.

    c. Select the configuration database that you want to connect to. This should be provided by your system administrator.

    Click **Test Connection**.



d. Click **OK** on the *SQL Server Native Client Data Link* dialog, then click **OK** on the Data Link Properties dialog to save the ADO Connection String properties and return to the Configuration Property Editor.

6. Click on **Environment Settings** to review or change **Date** and **Time** format settings, and the **timeout values** for the database connection and Geobank commands.

7. Click on **Database Options** to setup options for the interaction between the SQL Server software and the database.

Examples and Templates

Template files, example files and folders are installed with the software. It is recommended that these be copied to the $WORK folder defined as part of your Options (on the Home ribbon):

- C:\ProgramData\Micromine\Geobank\Sample Data Sets 11\Standard\Files\Data Transfer Folders

File templates for drillhole logging:

- C:\ProgramData\Micromine\Geobank\Sample Data Sets 11\Standard\Files\Field Logging Templates (CSV)

Reference data tables used by the ad-hoc importer:

- C:\ProgramData\Micromine\Geobank\Sample Data Sets 11\Standard\Files\Field Logging Templates (CSV)\Lookups

System Requirements

For the optimal performance of Geobank your computer system should meet the *recommended* configuration requirements described in the following tables:

Geobank Client

	Geobank Client	
	Recommended	**Minimum**
Operating System	Windows 10	Windows 10
CPU	64-bit 3 GHz or higher	64-bit 2 GHz
Memory (RAM)	8 gigabytes (GB) or higher	4 GB
Free Hard Disk Space[1]	3 GB or higher	3 GB
Screen Resolution	1920 x 1080 (FHD) or higher	1920 x 1080 (FHD)
Database Engine[2]	SQL Server 2019 – Standard Edition	SQL Server 2016 SP2–Express Edition
	See Database Server Requirements below	See Database Server Requirements below

[1] In addition to the requirement for *Free Hard Disk Space* (above) note that the performance of applications running on Windows will begin to deteriorate if less than 10% of the hard disk is free. It is therefore recommended that available hard disk space be maintained at a level greater than 10%.

[2] A Database Engine on the Geobank Client Machine is only required if the SQL database, or a test copy of the database, is stored locally.

Database Server Requirements

	Database Server	
	Recommended	**Minimum**
Operating System	Windows Server 2019	Windows Server 2016
CPU	64-bit 3 GHz or higher[3]	64-bit 2 GHz
Memory (RAM)	16 GB or higher[3]	4 GB
Free Hard Disk Space	32 GB or higher[3]	10 GB[3]
Database Engine	SQL Server 2019 – Standard Edition	SQL Server 2016 SP2 – Express Edition

[3] Dependent on database size and usage

Version & Upgrade Management

Geobank versions provide new functionality and as a result database changes may be required when Geobank is upgraded. For more information, see: "Database Upgrades" on page 23

Note: Before installing a new version of Geobank, ensure that you have an upgrade and rollback plan in place. See: "Upgrade Roll-back Plan" on page 37

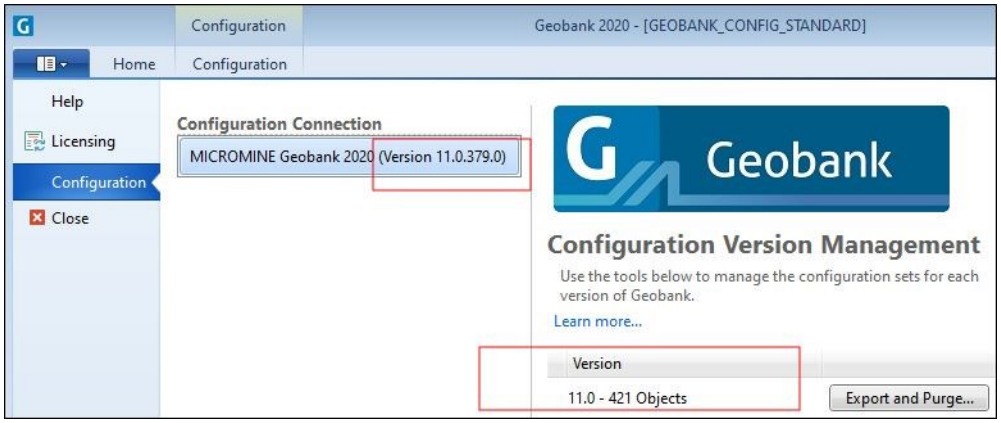
Geobank Backstage Version and Upgrade Management Tool

The name of the currently connected configuration database is shown when you select **Configuration** from the Geobank **Backstage** menu.

Once the next release is available and you have completed testing to your satisfaction, purge tools may be used to to remove legacy configuration objects so that these may be recreated for a new configuration.

Purge tools may also be used to purge the legacy configuration at a later stage once an upgrade to a newer version is complete and all installs of previous versions have been decommissioned.

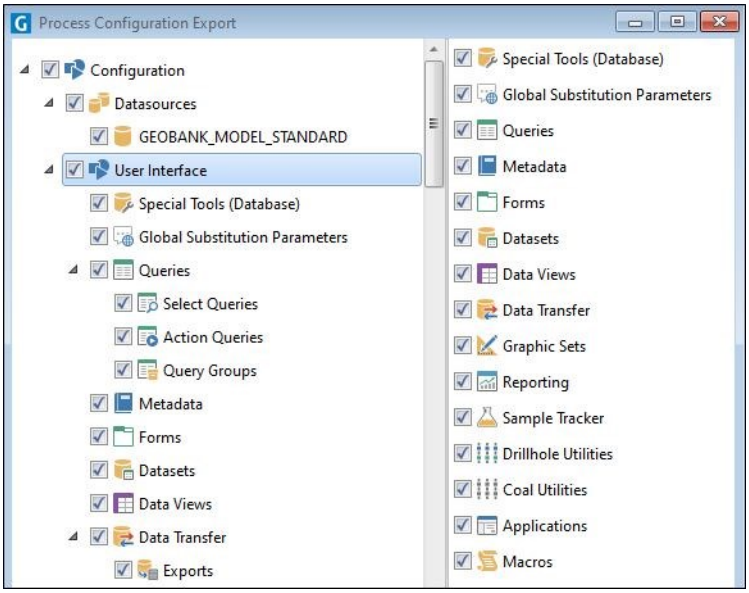
Configuration Sets for each installed version of Geobank are listed to the right of the Configuration Connection:



To export and/or purge a configuration:

1. Select **Configuration** from the Geobank **Backstage** menu.
2. Click the **Export and Purge** button.

3. A *Configuration tree* is shown in the left-hand pane of the Process Configuration Export window. Click on an object to select that object and any objects nested underneath it. Those objects are listed in the right-hand pane.



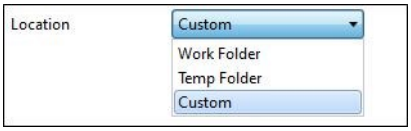
4. Use the check boxes in either pane to finalise your object selection.

   All check boxes are selected by default. You can deselect the **Select All** check box to *Clear All* object selections. Conversely, select the check box to *Select All* objects again:

   Objects with a selected check box are the objects that will be exported and purged.

5. Choose whether to export the selected objects as individual files, or as a single file:

6. Use the drop-down menu to select the (Work folder, Temp folder, Custom) **location** of the export file(s):



Work folder and *Temp folder* locations are setup as part of your Geobank Options and can be referenced using file path variables when specifying the file name for a configured process, See: File Path Variables

Select the *Custom* to navigate to any folder location.

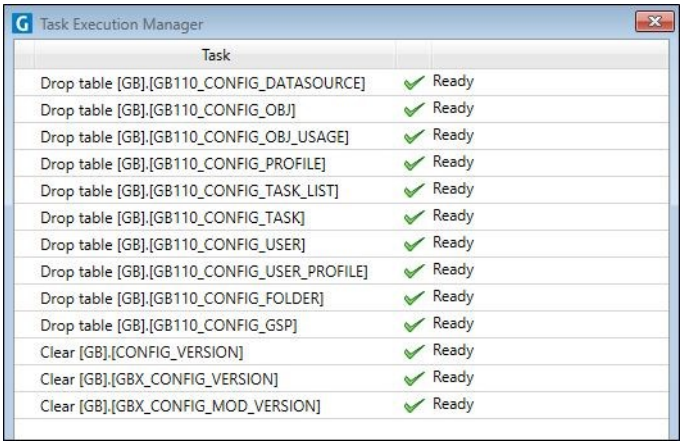
7. A File/Folder location is shown based on the export option selected in Step 5 (above).

    a. If you have chosen to output to a *single file*, the default file name *Configuration.xml* is appended to the folder location specified in Step 6 (above). You can edit the file path if necessary.

    b. If you have chosen to output objects as *individual files*, the folder location specified in Step 6 (above) is shown as the Export Directory Name. Multiple <*Config-Object-Name*>.*xml* files are written to this location.

8. Click **OK** to begin the Export and Purge process.

The results of the process are shown:

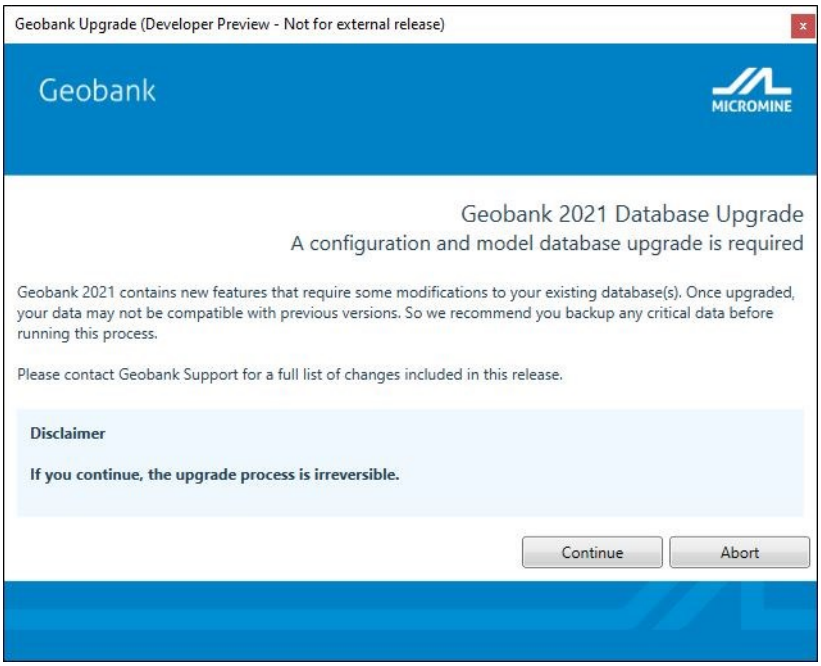


Importing objects created in a more recent version

In this release, you may receive an error message if imported objects cannot be processed, or can only be partially imported, because they were created in *a higher version* of Geobank. See: "Importing objects created in a more recent version" on page 49

Database Upgrades

1. If you are installing a new version of the software, or a database upgrade is required and you are logged in as an admin user, the following screen may appear:



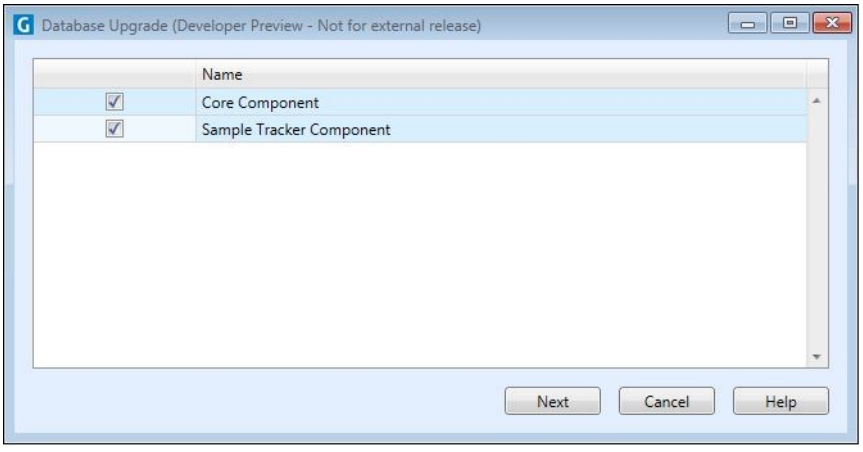
2. Before you carry out an upgrade, implement a change freeze for your users; ensure that you have taken backups of all databases and have a roll-back plan in place. For more details see "Upgrade Roll-back Plan" on page 37.
3. A database upgrade allows you to upgrade the Geobank **Core Component**.

Note that a warning message will be displayed if your database is not compatible with SQL server 2016sp2 or higher. This is the minimum requirement for Geobank as specified in the "System Requirements" on page 16.

All existing objects and their usage data will be migrated to a new independent set of configuration tables (legacy sets can be purged later).

Upgrades to the Core component will add new configuration tables for each major or minor version, creating independent sets of configuration objects.

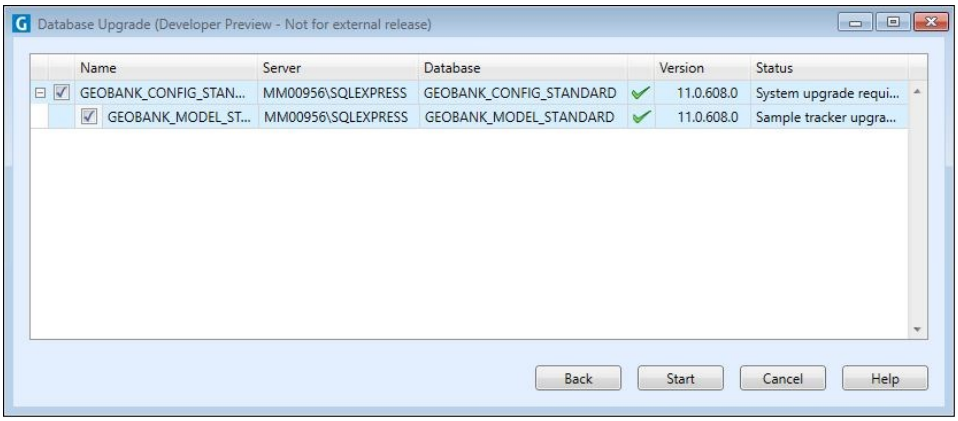
4. The Geobank **Sample Tracker Component** may also be upgraded. If this option is selected, (ST) system tables may also be added to your content database, or be noted as missing (these should be added manually). Click here for details about the required "Sample Tracker Data Model" on page 31.



When you have made your selections, click **Next** to continue.

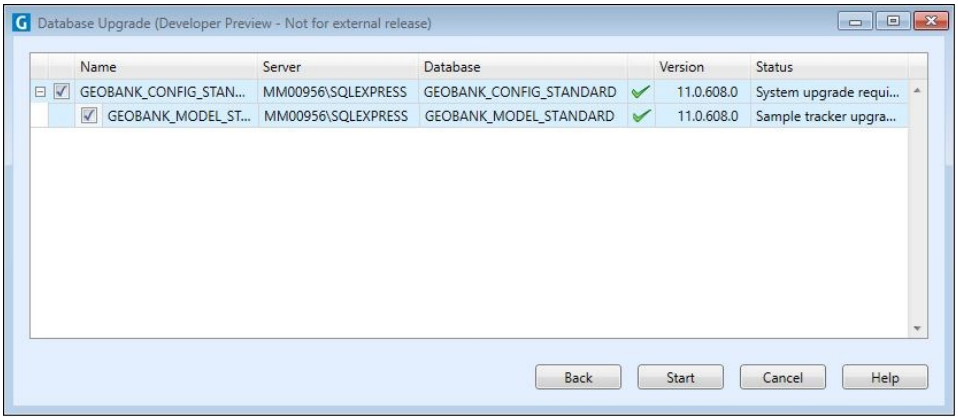
Note: The current technology used by Geobank for accessing the Sample Tracker tables uses an all or nothing approach. This may mean that some tables or columns which are unnecessary in your case need to be added to the database to support Sample Tracker. This technology is being reviewed to provide more flexibility in future.

5. The **Configuration** database may have one or more **Model** databases within it:

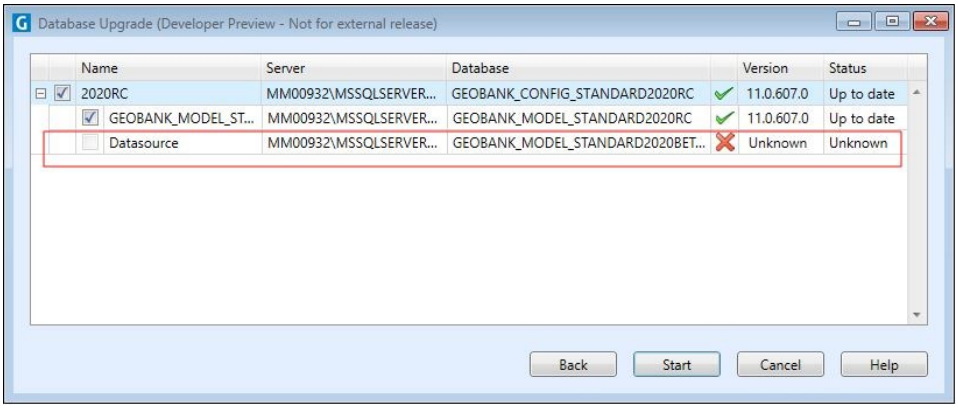


In the above example, there is one Configuration (SYSTEM) database, and one MODEL database within it.

Geobank will scan all datasources prior to the upgrades.



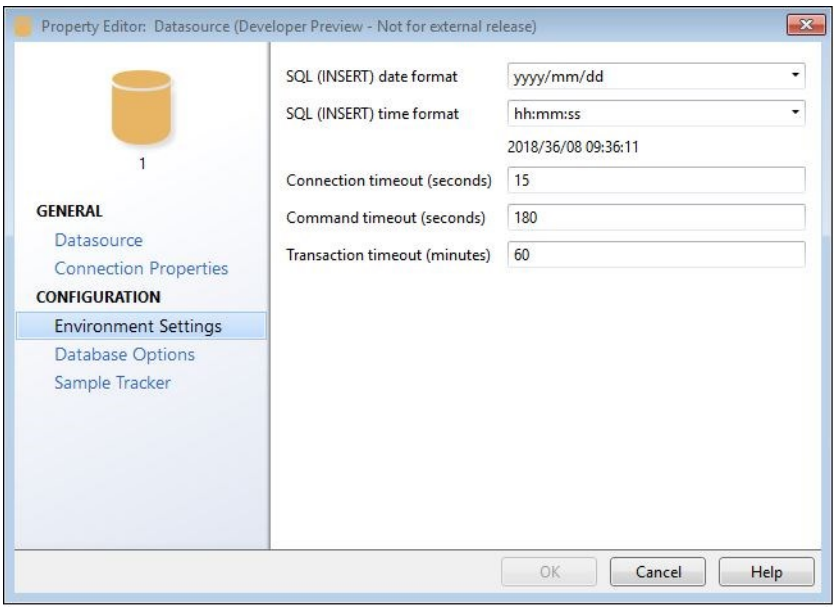
If a datasource is unavailable, it will be shown as Unknown:



In the event of connection problems, the **Connection timeout (seconds)** value (on the *Environment Settings* page of the Configuration Database Connection Property Editor) may need to be increased. Connection parameters and their values are specific to particular providers, servers and drivers.

If you are running (potentially slow) queries on large datasets you may need to increase the **Command timeout (seconds)** value.

If you are performing transactions on very large datasets you may also need to increase the **Transaction timeout (minutes)** value, or even set the value to zero to disable any timeout (a warning is displayed since a zero time-out value may mean transactions take an indefinite time to complete).



6. To perform a SYSTEM upgrade only (i.e. you do not use Sample Tracker or you prefer to use your own databases), select a configuration database but do not select the MODEL databases within it.

   Note: Both the Configuration patch and the Sample Tracker patch will apply any structural changes and data additions to the Configuration database. The set of Configuration tables used by Geobank 2018 (or earlier) and their data are unaffected, hence the earlier version will continue to work; however, any configuration changes made in the earlier version will not be

transferred to the Geobank 2021.5 configuration once the upgrade has been completed (See: "Version & Upgrade Management" on page 18).

7. To perform a MODEL upgrade, select the databases you want to upgrade. The Configuration database they belong to is automatically selected, since an upgrade of these databases requires an upgrade of the SYSTEM database.

   Note: There are no structural changes to the Sample Tracker Model between Geobank 2020 and Geoank 2021.5. For further information on the upgrade, see: "Sample Tracker Data Model" on page 31

8. When you have selected the databases you want to upgrade, click **Start**. The time it takes to upgrade will depend on the number of databases you have selected and their size.

   Table mappings applicable to each installed module will also be **validated** as part of the upgrade process.

   You may need to update the system table and column mappings if:

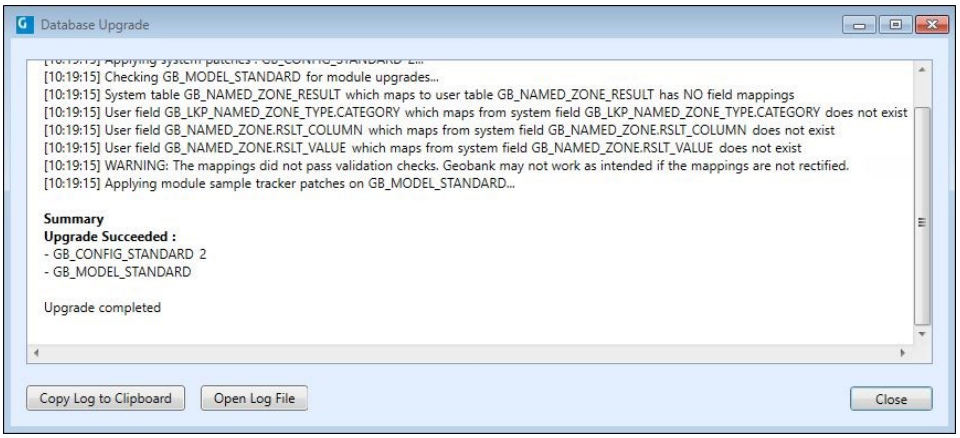
   • a mapping exists but the mapped column name does not exist in the database.

   • a column needs to be mapped to a column in the database.

Download, unzip, and import the following **dataview** to assist in verifying and adjusting your system mapping for Geobank v10+ (GB 2017 - GB 2020). The dataview has an **instruction page:** System Mappings Dataview

9. When the upgrade is complete, you will be given the option to either **copy the log to the clipboard** or **save the log to a file**.

   While these are optional, it is recommended that you save a log file if errors or warnings are reported during the upgrade process.



10. If the database upgrade fails, then:

    - Review the log for instructions on any mapping issues or required fields which need to be added. Details on the requirements are in Step 3 and a mapping management tool can be downloaded - see the note under Step 8

- A UNIQUE KEY constraint 'UC_GB110_CONFIG_OBJ' was introduced in Geobank 2020. If you receive the following error lwhen upgrading the SYSTEM database:

  ```
  Violation of UNIQUE KEY constraint 'UC_
  GB110_CONFIG_OBJ'.

  Cannot insert duplicate key in object
  'GB.GB110_CONFIG_OBJ'.

  The duplicate key value is (TGbCon-
  figDataView, Edit Sample Despatch).

  The statement has been terminated.
  ```

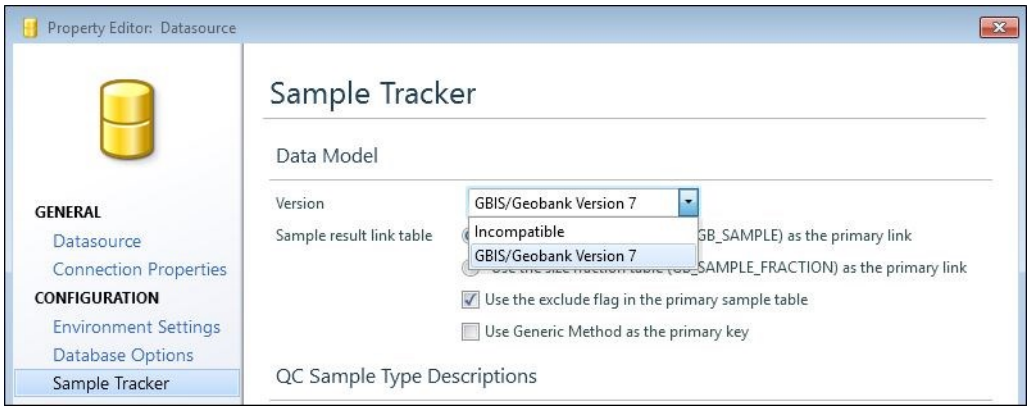
  You will need to delete or rename the duplicated object in order for the upgrade to complete successfully.

- If the upgrade failed due to a timeout when upgrading a large database, open the data source properties for the database and set the *Transaction Timeout* (under Environment settings) to 0. When you click OK you will be prompted to restart the upgrade. (0 means no timeout).
- An upgrade can be manually reinitialized and re-started by executing Geobank with -F as a command line parameter to 'force' a version upgrade
- The Geobank support team have additional tools and scripts and can assist you with questions about required fields or mappings. Please email support@micromine.com for assistance.

Sample Tracker Data Model

Geobank has very specific requirements for the fields and data types in the Sample Tracker tables. Use this link to download a spreadsheet which shows the tables, fields and data types required. The system mappings enable you to use custom names, however the tables and fields must be present, even if unused, and must have the correct data types.

Historically, beginning with Geobank **version 8**, which "system" Sample Tracker Data Model to use could be chosen from two options, as shown in the following screenshot:



In Geobank **version 9**, the Database Deployment tool was introduced. As a result:

- Some Sample Tracker field names were changed to become more meaningful (LAB_METHOD, DESCRIPTION field etc.)
- System mapping tables were set to map fields to the "GBIS/Geobank Version 7" system field names.

The purpose of the (GB_SYS_TABMAP and GB_SYS_FLDMAP) system mapping tables is to facilitate the use of a flexible data model. A mapping is only required if system field names and user field names differ.

In Geobank **version 10** (Geobank 2017 and Geobank 2018):

- The Sample Tracker Data Model has been extended. This is now referred to as the "**Geobank Version 10**" model.
- There have also been a few minor changes to other existing tables

  If you are upgrading from Geobank 2017 (10.0), there is no impact on backward compatibility.

  If you are upgrading from a version prior to Geobank 2017 (i.e. v9.0 or earlier) ***there may be some impact on backward compatibility***, and you will therefore need to **verify** that your **mappings** are correct.

In Geobank **version 11** (Geobank 2020 and Geobank 2021.5):

There have been no changes to the requirements for Sample Tracker tables, columns or their data types. Version 11 uses the Sample Tracker v10 data model.

The upgrade makes the following changes when upgrading from Geobank 2018(10.1) to Geobank 2021.5 (11):

- If it exists, the mapping incorrectly referring to the ST_XS_STANDARD.QAQC_TYPE System column, is corrected to ST_XS_STANDARD.QC_TYPE, which is the column actually used by the

system, the column it is mapped to is unchanged. This is a mapping data change that has no impact on the data structure.

- If the Content database uses the “Data Model Framework” functionality, then the ‘uspGB_Admin_BuildFrameworkForValidation’ procedure is adjusted; please unsure the admin user performing the upgrade through Geobank’s User Interface has sufficient permission to execute an ALTER statement on this stored procedure. The adjustments made are:
  - Table schemas as well as names are used in comparisons to ensure a correct match,
  - The new GB11_... tables are excluded from the framework validation in addition to the existing GBX_ tables which were already excluded – this only has relevance if the configuration tables are in the content database.
  - The special rules for the CL_WASH table have been removed.
- Validation of field mappings

  The validation of field mappings is now more rigorous, thus the upgrade may report a missing field mapping and terminate before applying changes. Any missing field mappings should be added before the upgrade is restarted.

  Note: The SQL view “GB.TABLEFIELD_MAPPING_VIEW” introduced in GB v10 is no longer used in v11 and can be removed once v10 has been decommissioned.

Mappings for the Sample Tracker Data Model

The table below shows those tables and fields in the database which may differ from the field names in the system data model. It shows both "GBIS/Geobank Version 7" and "Geobank Version 10" Sample Tracker system field names. All tables shown are in the dbo schema. For full table details, refer to the data model diagram:

Use the table below to verify that your mappings are correctly set for "Geobank Version 10" Sample Tracker.

If you need to run Geobank 2013 in parallel with the current version

In order to ensure that both versions are supported, each version of Geobank only requires a mapping if the USR_FIELD_NAME (the column name in your database) differs to the SYS_FIELD NAME for the version.

Thus for each of the rows in the table below, where the V7 SYS_FIELD_NAME is different to the v10 SYS_FIELD_NAME mapping, choose the SYS_FIELD_NAME value that is different to the actual column name in your database.

For example:

If a table in your database has DESCR and the V7 SYS_FIELD_NAME is DESCR, but the v10 SYS_FIELD_NAME is DESCRIPTION, then in your GB_SYS_FLDMAP mapping table, set SYS_FIELD_NAME as DESCRIPTION and USR_FIELD_NAME as DESCR.

This will support v10; v7 will work without a mapping, since the field name matches the name which v7 requires.

SYS_TABLE_NAME	v7 SYS_FIELD_NAME	v 10 SYS_FIELD_NAME	Deployed USR_FLD_NAME
GB_COORD_SYSTEM	DESCR	DESCRIPTION	DESCRIPTION
GB_LKP_ATTR_NAME	DESCR	DESCRIPTION	DESCRIPTION
GB_LKP_CATEGORY	DESCR	DESCRIPTION	DESCRIPTION
GB_LKP_CODE	DESCR	DESCRIPTION	DESCRIPTION
GB_PROJECT	DESCR	DESCRIPTION	DESCRIPTION
ST_DESPATCH	DESCR	DESCR	DESCRIPTION
ST_DESPATCH_PREP	DESCR	DESCR	DESCRIPTION
ST_LKP_CATEGORY	DESCR	DESCRIPTION	DESCRIPTION
ST_LKP_CODE	DESCR	DESCRIPTION	DESCRIPTION
ST_MD_LAB	DESCR	DESCR	DESCRIPTION
ST_MD_LAB_COMBO	METHOD	METHOD	LAB_METHOD
ST_MD_LAB_LOCATION	DESCR	DESCR	DESCRIPTION
ST_MD_LAB_PREP	DESCR	DESCR	DESCRIPTION
ST_RESULT	METHOD	METHOD	LAB_METHOD
ST_RESULT	METHOD2	METHOD2	GENERIC_METHOD
ST_RESULT	ELEMENT	ELEMENT	LAB_ELEMENT
ST_RESULT	RESULT_TEXT	RESULT_TEXT	LAB_RESULT_TEXT
ST_RESULT	STORE_RESULT	LAB_RESULT_NUMERIC	LAB_RESULT_NUMERIC
ST_RESULT	STORE_UNITS	STORE_UNITS	LAB_UNITS
ST_RESULT	CALC_RESULT	RESULT	RESULT
ST_RESULT_STANDARD	METHOD	METHOD	LAB_METHOD
ST_RESULT_STANDARD	METHOD2	GENERIC_METHOD	GENERIC_METHOD
ST_RESULT_STANDARD	ELEMENT	ELEMENT	LAB_ELEMENT
ST_RESULT_STANDARD	RESULT_TEXT	RESULT_TEXT	LAB_RESULT_TEXT

SYS_TABLE_NAME	v7 SYS_FIELD_NAME	v 10 SYS_FIELD_NAME	Deployed USR_FLD_NAME
ST_RESULT_STANDARD	STORE_RESULT	LAB_RESULT_NUMERIC	LAB_RESULT_NUMERIC
ST_RESULT_STANDARD	STORE_UNITS	STORE_UNITS	LAB_UNITS
ST_RESULT_STANDARD	CALC_RESULT	RESULT	RESULT
ST_SYS_LKP_CODE	DESCR	DESCRIPTION	DESCRIPTION
ST_XS_ELEMENT	DESCR	DESCR	DESCRIPTION
ST_XS_FORMAT	FORMAT_DESCR	FORMAT_DESCRIPTION	FORMAT_DESCRIPTION
ST_XS_FORMAT_LAYOUT	DESCR	DESCRIPTION	DESCRIPTION
ST_XS_METHOD	METHOD	GENERIC_METHOD	GENERIC_METHOD
ST_XS_METHOD	DESCR	DESCRIPTION	DESCRIPTION
ST_XS_METHOD_ELEMENT	METHOD	METHOD	GENERIC_METHOD
ST_XS_PREP_FIELD	DESCR	DESCR	DESCRIPTION
ST_XS_STANDARD	DESCR	DESCRIPTION	DESCRIPTION
ST_XS_STANDARD_DETAIL	METHOD	GENERIC_METHOD	GENERIC_METHOD
ST_XS_UNIT	DESCR	DESCRIPTION	DESCRIPTION

Upgrade Roll-back Plan

When Upgrading Geobank from your current version to the latest version, as part of your due diligence it is prudent to prepare a roll-back plan specific to your system.

This document is provided as a generic roll-back plan.

The plan should be customised to meet the specific needs of your environment. A database or systems administrator should take responsibility for ensuring that the roll-back plan meets those needs.

MICROMINE has made every effort to ensure that a roll-back will not be necessary. However, not every eventuality can be foreseen, and it is recommended that a roll-back plan be put in place, in the unlikely event that production-critical issues arise following a version upgrade and usage of the software.

A. Steps prior to installing Geobank 2021.5

1. Take special backups of all configuration and content SQL databases which:
    a. Should be full, verified backups and should be stored for a period of at least 2 years. It is recommended that a central location is used to store all files and processes related to the roll-back. Additionally, a commentary about the installation and upgrade should be recorded and stored, including the date and time at which the

upgrade was completed.

   b. May be used for an immediate roll-back if the initial upgrade fails; or to "restore for reference purposes" later when a roll-back is required after the new version has gone live and the new system already contains new and modified objects and data.

2. Switch on full usage logging in Geobank.

   a. This is a Geobank Configuration Manager setting. If it is not already activated, tick the Usage tracking check boxes and save the changes. This will allow usage and editing data about configuration objects to be viewed. This information will assist in decision-making with regards to roll-back steps, should a roll-back be necessary. (As with all activity logging functionality; log size increases over time and, as required, should be managed by a database administrator.)

3. Check your data model and if it does not have PROJECT and SITE_ID columns in the ST_DESPATCH_STANDARD table, add these columns using the same data type as in GB_SITE, and allow nulls.

   This step is necessary because Geobank 2017 and onwards uses these fields and will add data to them going forward. Existing data is not affected.

4. Export all existing objects, datasource objects, profiles, task-lists, tasks and macros, to xml.

   a. This is as a secondary backup. Geobank 2021.5 will not change the configuration of any v10 or earlier objects, but having copies

of the current macro and tasks (and task-lists and profiles which contain those tasks) means that these are available for re-import should the v10 or earlier configuration have been purged using the “Version and Upgrade Management tool”.

5. Back-up copies of the following folders should be made so that they can be restored, or content from them be accessed, should it be required for a roll-back:
    a. <ProgramData>\Micromine\Geobank (stores licence files, config connection strings, sample data and deployment tool data)
6. Customise Installation and upgrade plan:
    a. An understanding of what will occur during a version upgrade is required in order to identify any specific requirements, or any effects on the Geobank system and environment.
    b. The Installation and Upgrade process for version 2021.5, which is covered in detail in the "Getting Started" document for Geobank version 2021.5, should be reviewed (in the in the context of the client environment) prior to an actual upgrade.
    c. Any upgrade should first be undertaken in a test environment prior to an upgrade in a production environment.
7. User information and training should be provided.
    a. Users should be informed of the schedule and the nature of any planned version changes and the effect this will have on their work processes.

B. Install and upgrade process

The Geobank 2021.5 installation and upgrade process is summarised here in the context of a “customised” installation and upgrade, with the possibility of a roll-back.

1. A change freeze in relation to the Geobank system and all its related resources should be implemented.
2. A customised installation and upgrade process should then be undertaken.
3. The success of the upgrade will need to be verified. If the upgrade is deemed to have failed, an immediate roll-back plan should be invoked as described below.
4. Once the upgrade is deemed to be a success, the change freeze should be lifted and users advised to continue production work using the upgraded system.

C. Immediate Roll-back Steps (if roll-back is invoked during or immediately after Install/upgrade)

These steps are relevant if users are still within the change freeze imposed during the install and upgrade process. If the change freeze has already been lifted and non-disposable production work has been carried out, then follow the steps under “D. Post Go-live Roll-back Steps (if roll-back is invoked after going-live)” (below).

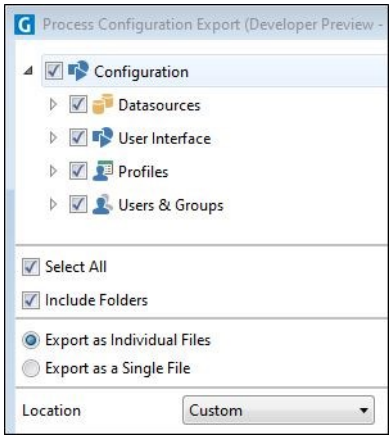
1. Uninstall Geobank 2021.5 On all client machines.
2. If the previous version of Geobank was uninstalled, re-install the previous version.
3. Backup and archive all upgraded configuration and content SQL databases.
4. Restore all configuration and content SQL databases from the backups taken.
5. Restore the folders from the backups taken.
6. Advise users that the change freeze has been lifted, but that the system has not changed.

D. Post Go-live Roll-back Steps (if roll-back is invoked after going-live)

In this scenario it will not be practical to roll back the actual content database (and throw away and then reload the accumulated geological data). Therefore, the strategy will be a software roll-back while retaining the current database (thus avoiding loss of data).

In the case of a roll-back after going live - in other words, an issue is identified at some point (e.g. a day/week/month) after the upgrade has been completed - and (after considering the alternatives to a roll-back, see E. below) it is deemed necessary to roll-back to the previous version of the software, do the following:

1. Implement a change freeze in relation to your Geobank system and all its related resources. Uninstall Geobank 2021.5 on all client machines (but not yet on the administrator machine).
2. If the previous version of Geobank was uninstalled, re-install the previous version.
3. Backup all configuration and content SQL databases (as a reference version of the databases as of the time of roll-back).
4. Create a special backup folder to store a copy of the current Geobank 2021.5 configuration objects, then, on the administrator machine, in the Geobank 2021.5 Configuration Manager:
    a. Select the top ‘User Interface’ node, then
    b. In the Ribbon, select ‘Export config’,
    c. Select ‘Configuration’ so that all four parts of the configuration are selected:
    d. Choose ‘Export as Individual files’
    e. Set Export location as the special backup folder you created and carry out the export:



f. Repeat, but this time select ‘Export as a single file’ (having both types available means you can choose which is more convenient to use if you need to re-import any objects).

g. Repeat, but this time just select the Forms and Datasets nodes under User interface and ‘Export as a single file’ – this is done as an extra backup of the current state of any Forms which have been built so that if needed these can be re-imported after the upgrade has been re-done, again as a separate set for convenience.

5. Reinstall the previous version of Geobank on the administrator machine so that you can run Geobank 2021.5 and the previous version side by side. The purpose if this is to ascertain what, if any, changes need to be made to the Geobank configuration during the rollback change-freeze period.

6. Because Geobank 2021.5 and the previous version have independent configuration sets, the recommended approach (a) is that the configuration data base is not removed and restored from the go-live

backup; but that the Geobank 2021.5 configuration work done so far is left as it is so that configuration work can resume from where it left off once the upgrade has been reapplied. The alternative (b) is to revert to the configuration at go-live time and then, later, once the upgrade is re-applied, to import any Forms, dataset or other configuration objects created from the xml exports of these. If you anticipate a significant amount of configuration work happening between the roll-back and re-applying the upgrade, the approach (b) will be easier. Decide whether approach (a) or (b) is best for your scenario then proceed with (a) or (b) below:

a. In the reinstalled (previous) version of Geobank analyse the Usage tracking data in the Geobank Configuration Manager to determine if any unwanted edits have been made to the previous version or earlier configuration objects since going-live with the latest version. It is unlikely any changes would have been made unless there are admin users who have been working in the previous version since go-live. If unwanted changes have been made, then use the xml file generated from pre-upgrade A step 4 with the configuration of the previous version at go-live time. From this xml file, just import the previous version objects which had unwanted changes.

b. OR As you have already taken a backup of the Geobank configuration database in D step 4, you can now delete the configuration database and restore the configuration database from the backup taken in A Step 1.

7. The original content database will not need to be reinstated (as this would result in data loss). As of version 10.0.0 (the initial release of Geobank 2017) the content database will have additional tables and columns as a result of the upgrade process, however the structure of the data will remain compliant with Geobank 2013. As a result, if you are rolling back to Geobank 2013, the following checks will be necessary as part of the roll-back (the checks are not required for Geobank 2017 of later):
    a. Identify any lab file formats which were created or changed in Geobank 2021.5 by opening SQL Server Management studio (or Geobank visual query builder) and executing: "SELECT * from GB.ST_FILE_FORMAT" and "SELECT * from GB.ST_FILE_FORMAT_FIELD".
    b. If any of the records have DATE_INSERTED or DATE_UPDATED greater that the date on which the go-live was completed, check the details to see what has changed.
    c. If changes or additions have occurred, consult with users or analyse the sub-tables to see if file format data changes or additions need to be re-applied in Geobank 2013 (because Geobank 2013 and earlier used different tables for this metadata the file formats and text rules will be in the state they were left in at the time of upgrade, so anything new will need to be applied in the Geobank 2013 version).
    d. If you are rolling back to Geobank 2020 or earlier and have not already done work on the Sample tracker metadata file format

then it is recommended to drop the ST_FILE_TAG_RULE table so that the migration of the Geobank 2020 or earlier rules is repeated when the re-upgrade occurs.

8. Using the previous version on the administrator machine, all processes should be tested to ensure that the application is behaving as expected. Address any issues that arise.
9. Advise users that the change freeze has been lifted, but that the system has rolled-back to the previous version of Geobank and thus any Geobank 2021.5 functionality will not be available until the upgrade has been re-applied. If using Geobank 2013 or earlier, users should be instructed to report any changes they have made to file formats or text rules, so that these can be repeated after the upgrade has been re-applied.

E. Alternatives to roll-back

A full-roll back is time-consuming and may impact on users. Here are some alternatives to consider:

1. Raise an issue with Geobank Support and ask for a time-line for resolution - if the circumstances and time-line are suitable such that other processes can continue and the failing process can be delayed, wait for the service pack which addresses the issue.
2. Consider re-installing the previous Geobank version for users affected, so that tasks failing in Geobank 2021.5 can be carried out in a previous version running side-by-side.

F. Re-applying the upgrade

Once a service pack or other fixes which resolve the reasons for roll-back are available:

1. Apply and test the fix in a test environment using Geobank 2021.5.
2. Repeat the steps listed under "A. Steps prior to installing Geobank 2021.5" to create a new roll-back point and reference file set.
3. Carry out the steps described under "B. Install and Upgrade process" (above).
4. If the re-apply is from Geobank 2013 or earlier, then identify whether there have been any changes to file formats, or text rules, since the roll-back occurred (based on information from users or an examination of the related tables). These file format or text rules changes will need repeating in Geobank 2021.5.
5. If it was a post-upgrade roll-back, then depending on the approach chosen in D Step 6; either (a) or (b), follow steps (a) or (b) below respectively.
    a. The configuration of Geobank 2021.5 will be as it was when the roll-back occurred; thus, on the administrator machine:
        i. In the previous version of Geobank view the usage tracking, to determine if the design of any of the Configuration objects have been updated since the roll back. If just one or two objects have been updated, these can be exported to

xml form the previous version then re-imported (with Replace) into Geobank 2021.5 to update the Geobank 2020 copies; however if there have been a substantial number of changes then is better to purge the Geobank 2021.5 configuration set and allow the upgrade process to re-copy all previous version configuration object to Geobank 2021.5 in their current state.(see details under “Version and configuration management”). The Geobank 2021.5 Forms and Datasets can then be reimported from the xml file created in D step 4 (g).

   b. OR because approach (b) in D Step 6 reverted to a previous-version-only configuration, then F step 3, will have created a copy of all previous version objects for Geobank 2021.5; so it will just be the Forms and Datasets exported to the special folder in D step 4 (g) which will need to be restored by using the Config Import tool and using the links resolver to match their links up to other objects as needed.

6. Using Geobank 2021.5 on the administrator machine:
   a. Test the Forms and Datasets to check that behaviour is as expected.
   b. Test other objects to check that behaviour is as expected.
7. Lift the change freeze and advise users to work in Geobank 2021.5.
8. Monitor the system and if a roll-back is once again deemed necessary, implement the steps necessary to roll-back to your latest roll-back point.

Importing objects created in a more recent version

In this release, you may receive an error message if imported objects cannot be processed, or can only be partially imported, because they were created in *a higher version* of Geobank.

From Geobank 2020, configured objects have the concept of a "Supported Version". The process that Geobank uses to manage this is as follows:

1. Each type of configuration object has a specific set of properties. When exporting into a "configuration package" file, these properties are stored as XML. As subsequent versions of Geobank are released, the set of properties of a configuration object may change to cater for enhancements. These changes may or may not affect the possibility of the object's definition being used in an earlier version of Geobank.
2. If the changes mean that the object is no longer usable in an older version (known as a *breaking change*), the object's "Supported Version" number is updated. When you try to import a configuration package with such an object the import will not be processed. In this case, please request the provider of the Import package to exclude the unsupported objects or provide them from a compliant version.
3. If the changes mean that the object has certain enhancements, in the latest version, but is still usable in the supported version (without these enhancements), then the "Supported version" number is unchanged.

When you import such an object, it will be imported into your Geobank Configuration and the extra properties will be ignored. Please be aware that if you export this object from your current version **it will not** export the properties which were ignored on import.

Technical Details

The table below indicates the supported version for types of object in Geobank 2020 (version 11) and beyond. For reference purposes, it also shows versions where additional properties were added, but the supported version was unchanged.

Notes:

When a *breaking change* occurs, a new row will be added with the new supported version and a description of the change.

When a new property is introduced and is a *non-breaking change*. a new row is added with the object type and the same "Supported version" together with a comment about the enhanced properties. (See point 3 above.)

Object Type	Supported from Version:	Comments
All object types	Blank	Object in a configuration packages exported from Version 10.1 or earlier do not contain a "Supported Version" property. They can be imported into any version higher than the version from which they were created. Importing into a lower version may not succeed.

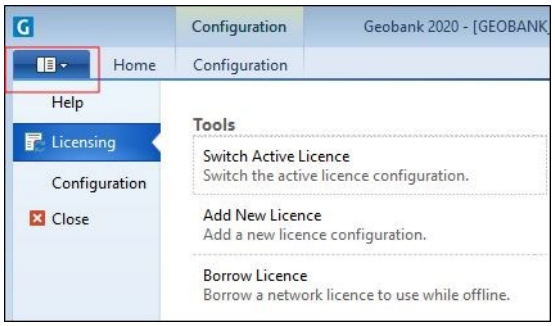
Object Type	Supported from Version:	Comments
All object types	11.0.309.0	Objects with this "Supported Version" may be imported into any Geobank 2020 or higher version. They cannot be imported into v10.1 or lower

Note: It is possible to use copy-paste to copy objects from an older version of Geobank into the current version. In most cases this works fine; however, as detailed validation is not performed, the resulting objects may be invalid. It is recommended that the export-import process be used instead.

Licensing

Geobank's new licensing system provides the ability to temporarily borrow a network licence without a security key (dongle) or a persistent network connection. Administrators can set up licence configurations that connect to different licences, or to different feature sets within licences, and new purchasing and leasing options are available.

Once the application is loaded, you can view your current licensing information from the drop-down Geobank **Backstage** menu on the left-hand side of the application menu:



The options that are available in the menu will depend on the type of licence (node-locked or dongle) that is active. *Borrow Licence* and *Refresh Perpetual Licence* options, for example, are only enabled for a network licence.

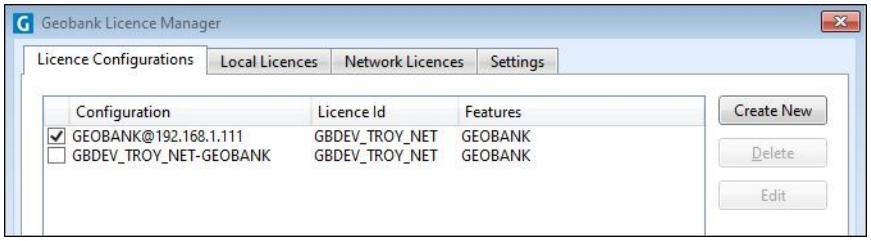
To import a licence that is locked to a dongle, you can **share** that licence. When a licence is shared, an exchange file is copied to another computer from the computer of the person who is sharing the

licence. This file can then be selected and opened as part of an *Import* process. In order to use the licence, the new user will need to attach the dongle that is also being shared.

You can also **transfer** a node-locked licence between different computers. There are two ways to transfer the license to a new computer, either by creating a *licence exchange file* to import the licence, or by copying an *activation code* to activate the licence online.

A *licence configuration* is a set of features that can be tied to a licence. The specification of different licence configurations means that different users may be allocated only the modules they need.

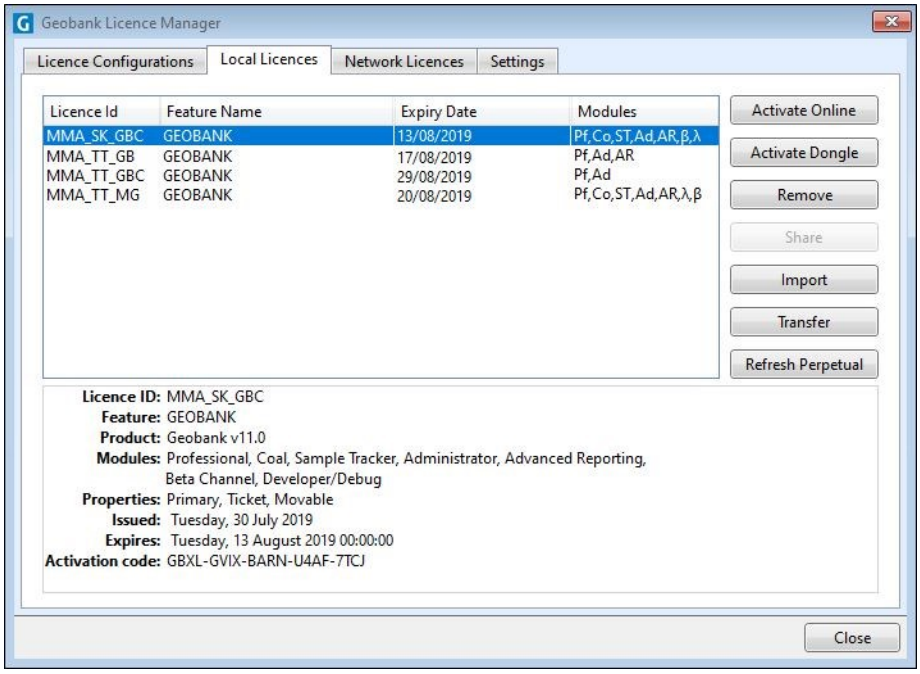
The default (current) licence configuration is indicated by a **check box** which is selected to the left of the configuration name. To make a configuration the default configuration, select a different check box. Alternatively, select **Tools | Licensing | Switch Active Licence**.



To create a new licence configuration, see: Create New Configuration

Local Licences

Use the *Local Licences* tab of the Licence Manager to manage the local licences that have been registered for use at your workplace. When you select a licence in the grid, the details of the licence are shown:



If you are installing Geobank 2021.5 for the first time, or you have upgraded an existing licence, or have been issued with an additional licence, you will need to **activate your local licence**, using either the *node-locked* activation code or the USB security key (dongle) supplied to you by MICROMINE Licensing.

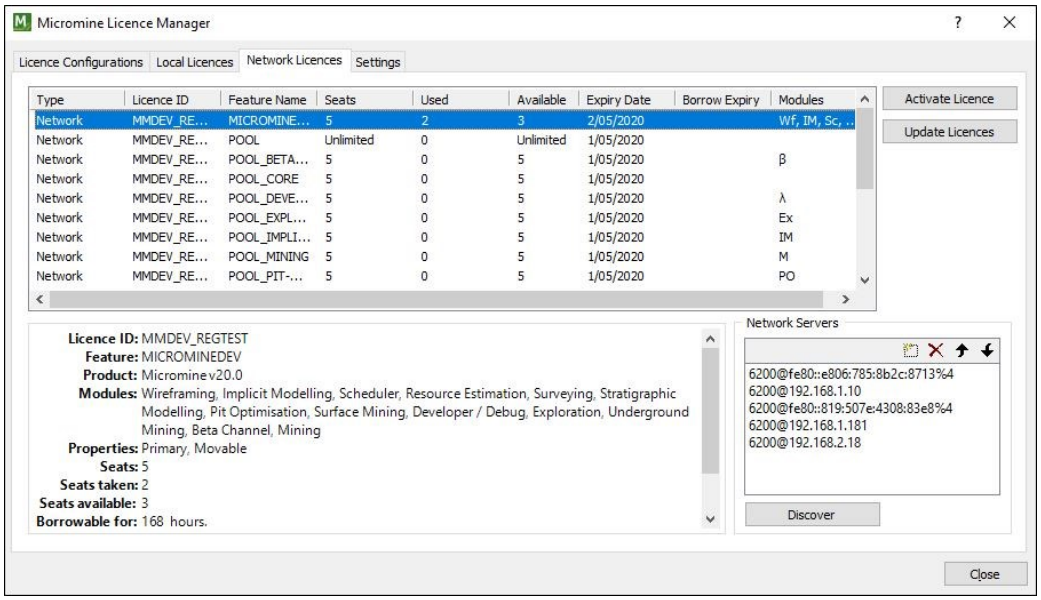
To activate your local licence, see: Local Licences

Note: When the **Only allow single instance of Geobank to be run** option is set, users without administrator privileges mar receive an error:(Err: 44) Unable to obtain single-usage lock.This is due to a failure to folder where the licensing lock file is located, typically:C:\Windows\Temp\x-formationTo allow a user without administrator privileges to use the licence, give them FULL access to that folder.

Network Licences

Provided you are currently connected to a network licence server, network licences and features and their availability are shown on the *Network Licences* tab of the Licence Manager.

Click on a network licence to view the details of that licence.



As mentioned in the introduction, the MICROMINE network licence server allows you to temporarily borrow a network licence without a security key (dongle) or a persistent network connection.

To setup and activate a network licence, see: Network Licences

To borrow a network licence, see: Borrow Licence