Query Tool

Release 6.0 Version 1

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Harris Govern

Govern QueryTool

Release 6.0

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This edition reviewed by

the PKO team

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Table of Contents

Introduction: The Govern QueryTool

Overview

The Govern Query Tool is used for creating and running SQL selection queries in order to provide greater flexibility for performing searches.

Note: It is used for selection queries only in order to view information from the database. It cannot be used for action queries to add, update, or delete information from a database.

It can be integrated with both the Govern OpenForms and Govern for Windows product suites.

- Create and run new queries.
- Run existing queries.
- Change or add new conditions on the fly.
- View results in real-time.
- Save queries for reuse.
- Share your queries with other users or keep them private.

SQL experience is not required. You do not need to write SQL statements. Just select the database columns and view the results.

Installing and Integrating the Govern Query Tool

The Govern Query Tool is automatically installed when you install Govern OpenForms and, if required, it is automatically updated when the Govern application is updated.

If you want to run it outside of Govern, as a separate application or integrate it with Govern for Windows, you need to install it through Govern Deploy EZ. *Refer to the Govern Deploy EZ user guide for details*.

Running the Query Tool from Govern OpenForms

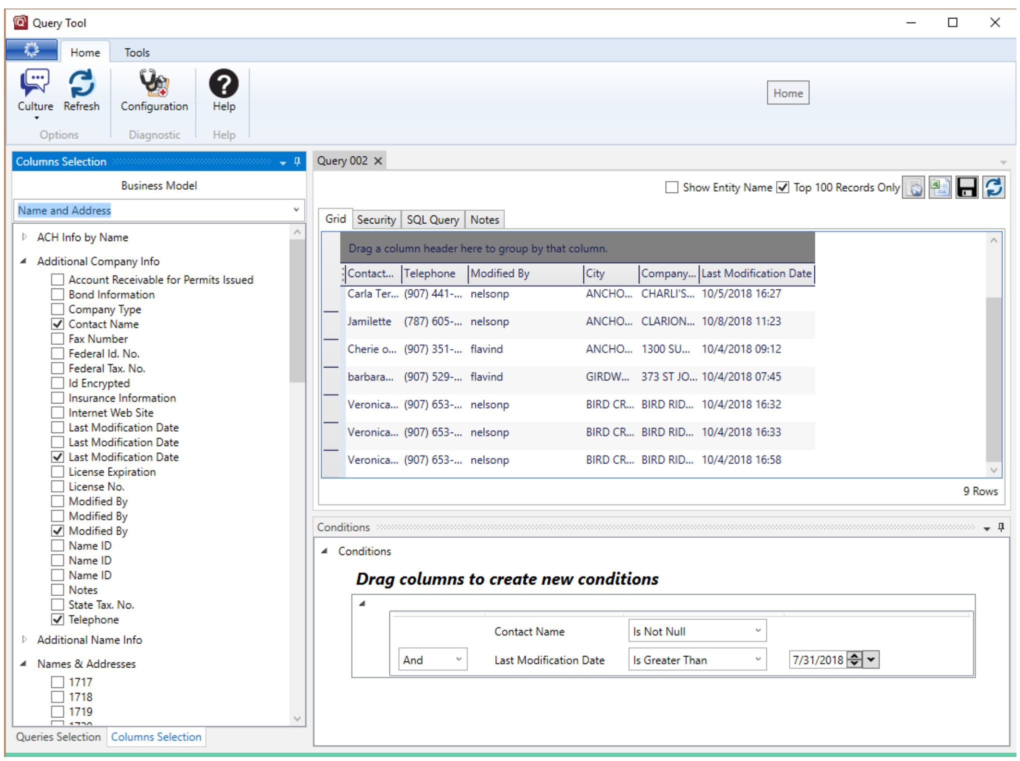
You can open the Query Tool from the Govern ribbon and use it as you would use a predefined search. Run your query, load the results directly to the Govern tree view, and view them on your Govern forms.

It is automatically integrated with Govern OpenForms as part of the default package. It does not require any further setup.

Anyone with the required permissions can run a query directly from Govern as follows:

To run a query:

1. Launch Govern.
2. Select **View** on the Govern Ribbon.
3. Select the **Query Tool** icon.



4. Select the query that you want to run.
5. Click the **Load** icon.

   This loads your results directly to the Govern tree view. From there, you can open any form in the Profile as you would from a Predefined Search.

Running the Query Tool from Govern for Windows

You can integrate the Govern Query Tool with the Govern for Windows Product Suite and open it directly from the user application. You can perform a search and export the results to the Govern tables: PC_EXTERNAL, NA_EXTERNAL, and PM_EXTERNAL.

Govern OpenForms 6.1 is not backward compatible with Govern for Windows. Therefore, version 6.0 or lower is required for the integration. As a minimum you would need the following Govern OpenForms applications: Govern Business Entity Designer, (BED), Govern New Administration (GNA), and the Govern Security Manager (GSM) in addition to the Govern Query Tool. *See the documentation on Integrating the Query Tool with Govern for Windows.*

Running the Query Tool as a Standalone Application

You can use the Query Tool outside of Govern OpenForms or the Govern for Windows. Launch the Query Tool from your shortcut. The functionality and procedures are the same as using it from within Govern. However, you need to run it from Govern OpenForms or Govern for Windows in order to load the results of your queries directly to the dataset tree views.

Prerequisites

This section lists the system requirements and applications that are required for setting up and running the Govern Query Tool.

System Requirements

For the requirements for the Govern Query Tool, refer to the Govern System Requirements 5.1 guide.

Applications

The following applications are required for the Govern Query Tool:

- **Govern Deploy EZ:** Govern Deploy EZ manages the installation and updates for all applications in the Govern OpenForms product suite. You can create a connection key to your Govern database through Deploy EZ.

- **Govern Business Entity Designer (BED)**: The Govern Business Entity Designer is used for mapping the Govern database tables and columns to the Govern business models and entities that are used for building the end user forms. First, the business models are created. Then, business entities are added to the models. One or more entities can be added to a business model. The entities are mapped to tables in the Govern database. The entities contain attributes. These are mapped to the database columns. *Refer to the Business Entity Designer (BED) guide for further details.* In the Query Tool, you create queries that are based on the same business models, entities, and attributes.

  You need to enable the required business models, in the Business Entity Designer, that you want to use in the Query Tool. See *Step I: Enabling the BED Business Models for Use in the Query Tool on page 13*.
- **Govern Security Manager (GSM)**: The Govern Security Manager manages the security for the Govern OpenForms through the Govern Security Manager. Access to the Query Tool application, to the enabled business models, and entities is set in the GSM. *See Step II: Setting Permissions by Role and User on page 15*.

Setting Security for Your Queries

Security for the queries that you use in the Govern Query Tool is defined at three levels:

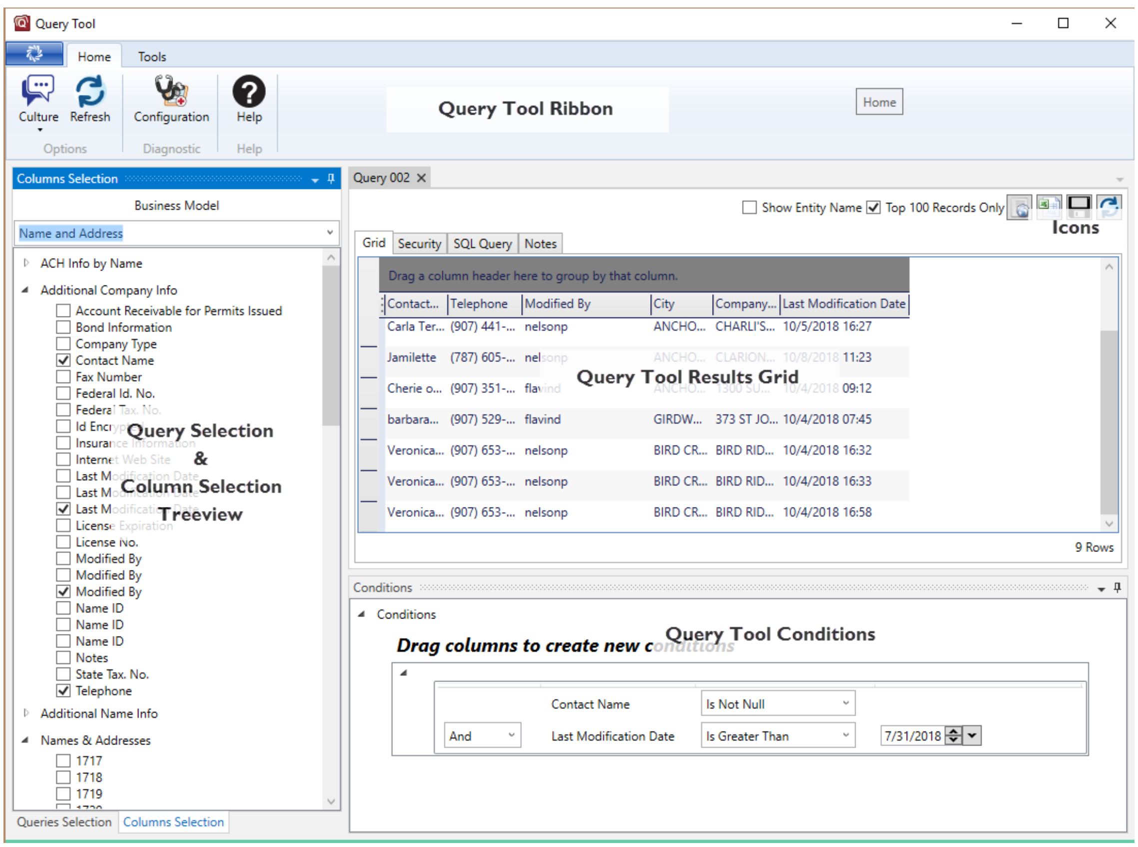
- **Business Models**: You need to enable the business models in the Govern Business Entity Designer (BED) that you want to use in the Govern Query Tool. *See Step I: Enabling the BED Business Models for Use in the Query Tool on page 13*.
- **Query Tool application, business entities, and entity sets**: In the Govern Security Manager (GSM), the BED business models are referred to as entity sets. You can set the security for the application, the entity sets, and entities by role or by user. *See Step II: Setting Permissions by Role and User on page 15*.
- **Queries**: You can share your queries with selected roles and users or keep them private. *See Step III: Define Permissions for the Query on page 16*.

The Govern Query Tool User Interface

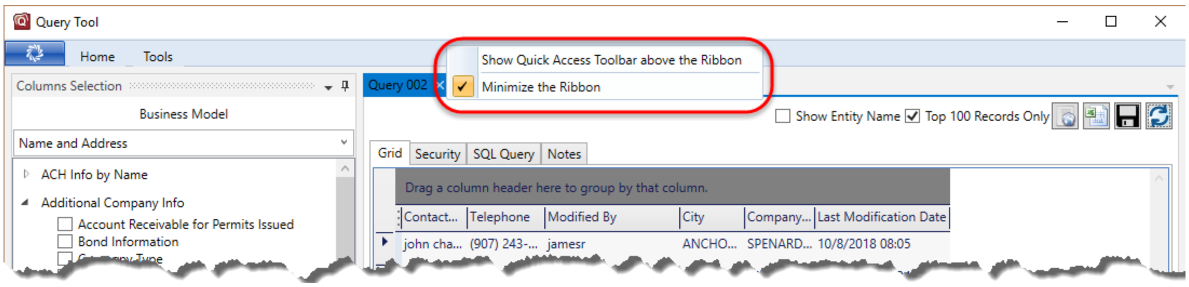
Overview

This section provides an overview of the Govern Query Tool with its features and functions.

The following screen shot provides a quick tour of the Govern Query Tool UI.



Minimize / Maximize the Ribbon: The Query Tool runs along the top of the application. You can minimize the ribbon in order have more room for you queries.



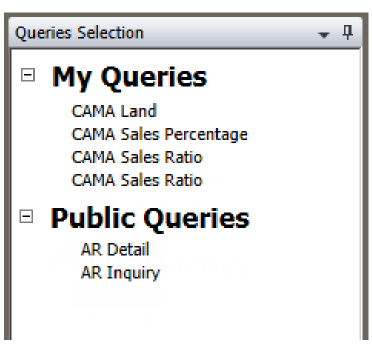
To minimize the ribbon, right click on it and select **Minimize Ribbon**.

Customizing the Interface

As with all applications in the Govern OpenForms product suite, you can reposition the screens, dock them in different locations, or pin them on the side. *Refer to the Govern General Information guide for complete details*.

Queries Selection

Select Queries Selection **Queries Selection** at the bottom left of the interface if it is not already selected. This action displays the queries that are already created. These are listed under **My Queries** or **Public Queries** as follows:



My Queries

This section lists all the queries that you have created regardless of whether you have shared them or kept them private. To share a query, open the Security tab and grant permissions to the roles and users accordingly.

Public Queries

This section lists the queries that other users have created and granted you permission. If you do not have permission to a query, it does not appear in this list.

Note: The queries that you create are always displayed under My queries regardless of whether you are sharing them or keeping them private.

For information about enabling a query for other users, see Defining Security Permissions for the Query on page 24

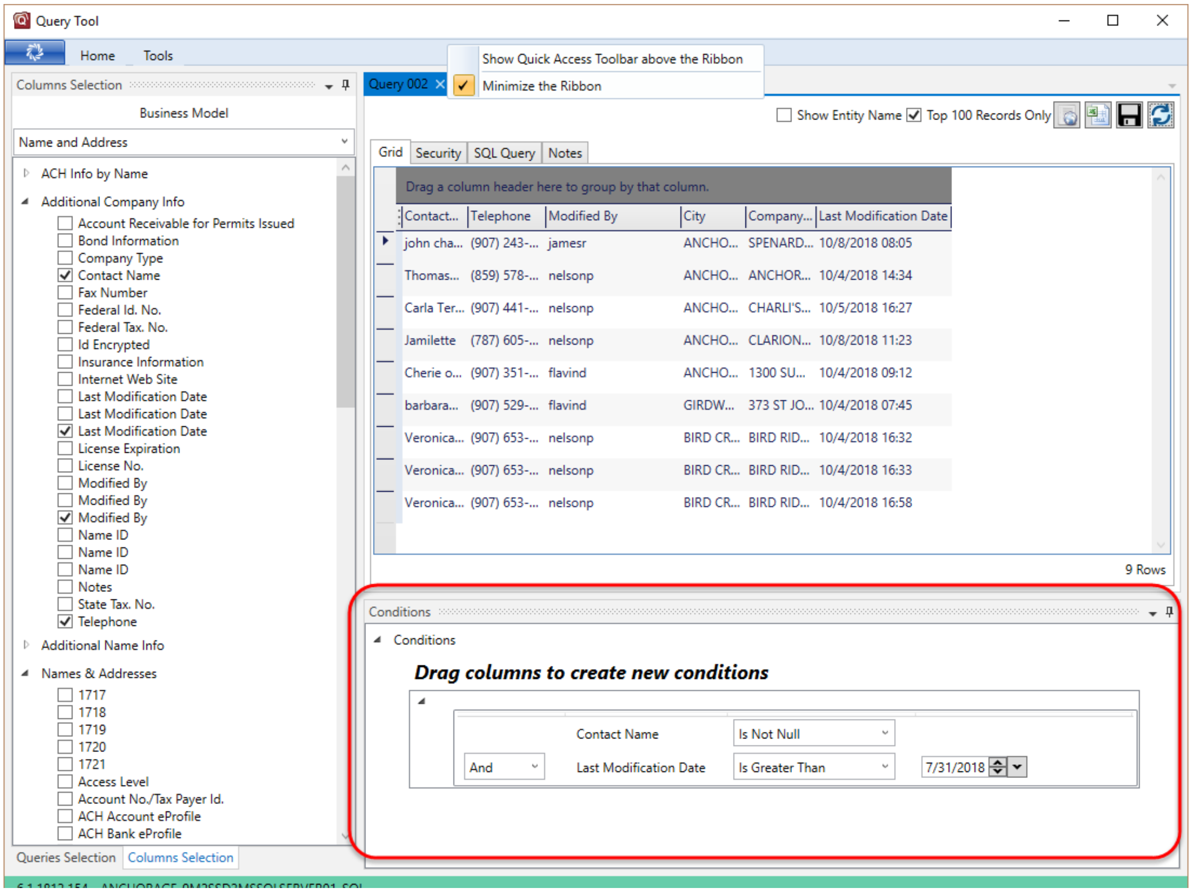
Column Selection

Click **Columns Selection** 

at the bottom left of the interface to display the Column Selection drop-down list. Select an entity. Then select the attributes required for the query. *See Creating Queries on page 18*.

Govern Query Tool Editor

The Govern Query Tool editor displays the following information about the query or the entity and attribute selected on the left.



- Results of the query
- Conditions associated with the associated query
- Icons and tools for exporting data
- Check boxes for displaying the data

Query Results

The results of the selected query are displayed on the following tabs:

- **Grid**: Results of the selected query
- **Security**: Access permissions for the query by role or user.

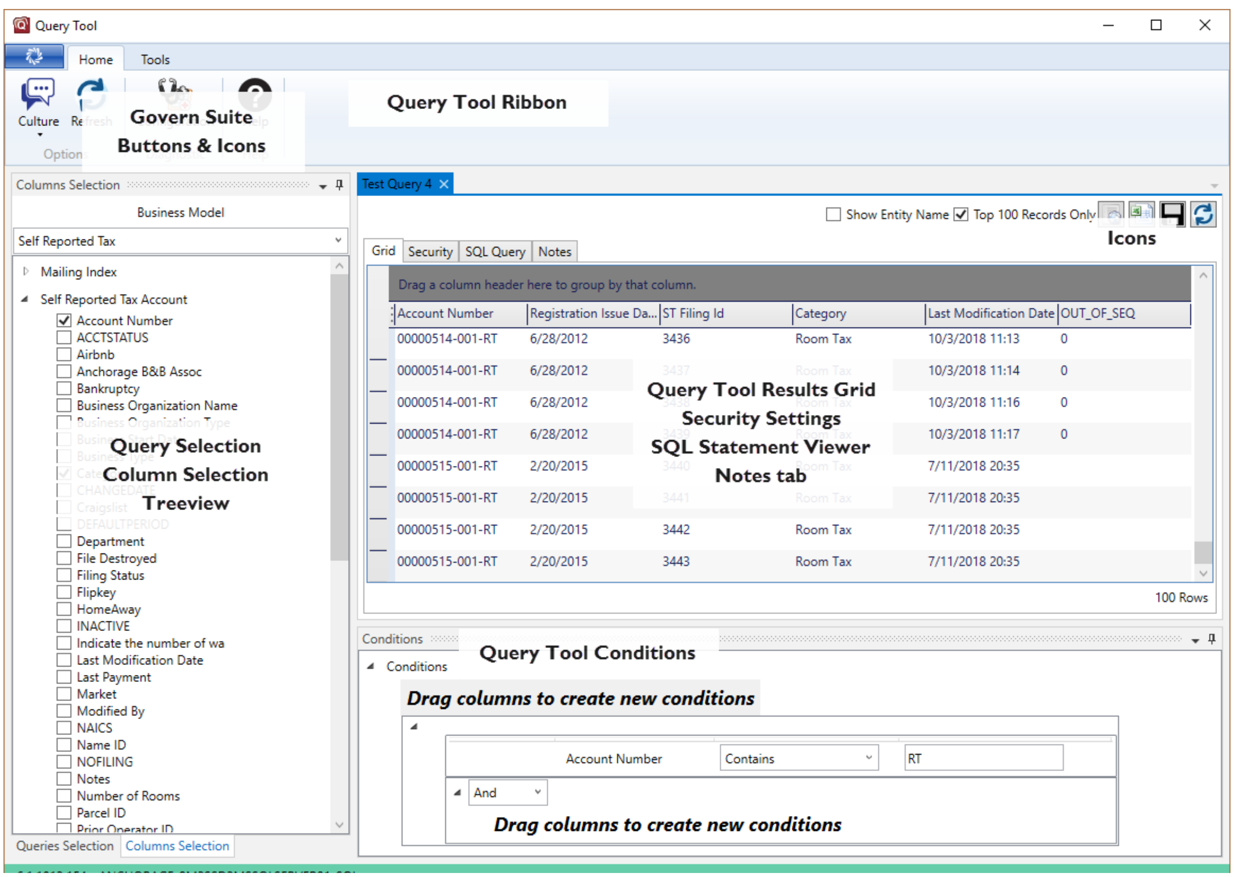
Note: Use this tab to share a query with selected roles and users.

- **SQL Query**: This tab will contain the SQL statements that make up your query. The statements are updated in real-time as changes are made to the drag and drop interface. *Note that if the target database is Oracle, the Query Tool will support it.*
- **Notes**: Any additional information associated with the query can be entered in this area as reference for a later time; e.g. reasons for designing the query. *See Viewing the Query Results on page 21*.

Conditions

The conditions are used for filtering the results of the query. There are multiple condition types that you can add, including comparisons, such as greater than and less than, and other qualifiers, such as Begins with or Contains.

The Conditions are displayed at the bottom of the center screen.



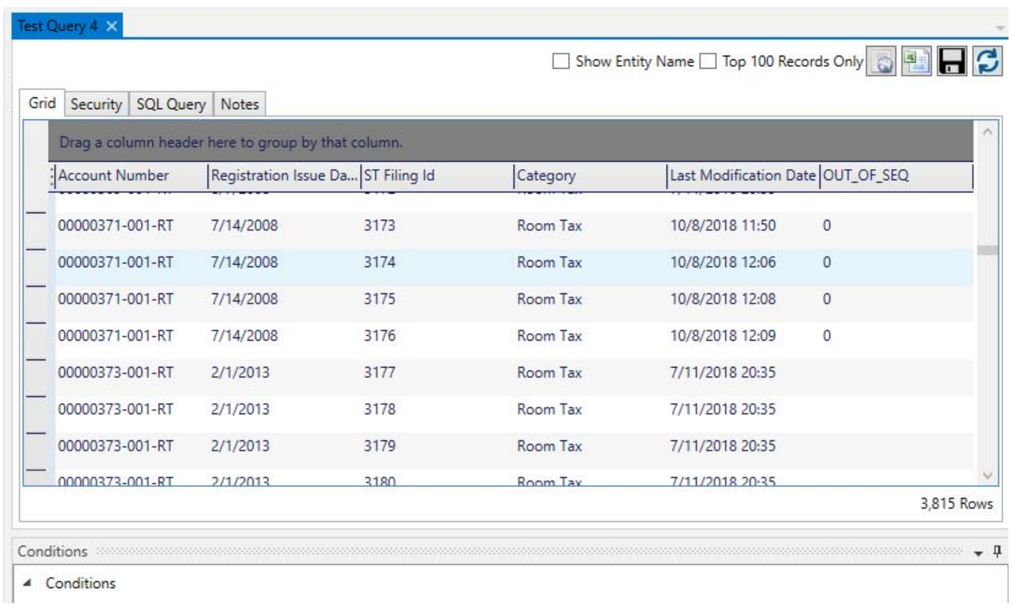
For details, see Adding Conditions on page 30.

Display Check boxes

The following check boxes are included for displaying the query results in the Query Tool editor.

Show Entity Name

Select the Show Entity Name checkbox to display the Entity Name with the Database Column or attribute in the Query Tool editor.



Top 100 Records Only

Select **Top 100 Records Only** to limit the number of records displayed in the Query Tool editor to 100. This is the default.

Deselect this option to display all results.

Tip: Govern for Windows users should note that If you export data to Govern for Windows, you will need to deselect this option.

Exporting Data

You can export data from the Govern Query Tool to Microsoft Excel file format, XML, or to Govern for Windows external tables.

Note: Govern for Windows external tables are no longer supported in Govern for OpenForms 6.0.

Export Icons

The export icons are located at the top right of the interface.

Export to XML: Select this icon to export your data in.XML format for external applications. Then, enter a file name and select a directory. A message box appears. Click **Yes** on this message if you want to open the xml file immediately.

Export to Excel: Select this icon to export the data as a Microsoft Excel spreadsheet. Then, enter a file name and select a directory. The Excel file opens immediately.

Note: Microsoft Excel must be installed on the same computer as the Query Tool.

Export to Govern: Click this icon to export the query results to one of the following tables for use in Govern for Windows:

Note: The Export to Govern option is not available in the 6.1 release of the Query Tool. This icon will not be present in the interface..

The tables used for export are as follows:

- PC_EXTERNAL: for results containing a P_ID.
- PM_EXTERNAL: for results containing an N_ID.
- NA_EXTERNAL: for results containing a PM_ID use the PM_EXTERNAL table to export to Govern for Windows.

If the both a P_ID and an NA_ID are included in the results, the PC_EXTERNAL table is used. If both an NA_ID and a PM_ID are included in the results, the NA_EXTERNAL table is used.

If there is no P_ID, NA_ID, nor PM_ID, an error message is displayed saying that the result could be different from the current data.

For information about the Govern for Windows configuration, see Integrating the Govern QueryTool with Govern for Windows on page 33.

Defining Security Permissions

Overview

Access permissions to the Govern Query Tool and queries are defined at three levels:

- The business models in the Business Entity Designer (BED)
- The Govern Query Tool application in the Security Manager (SM)
- The queries in the Query Tool.

Step I: Enabling the BED Business Models for Use in the Query Tool

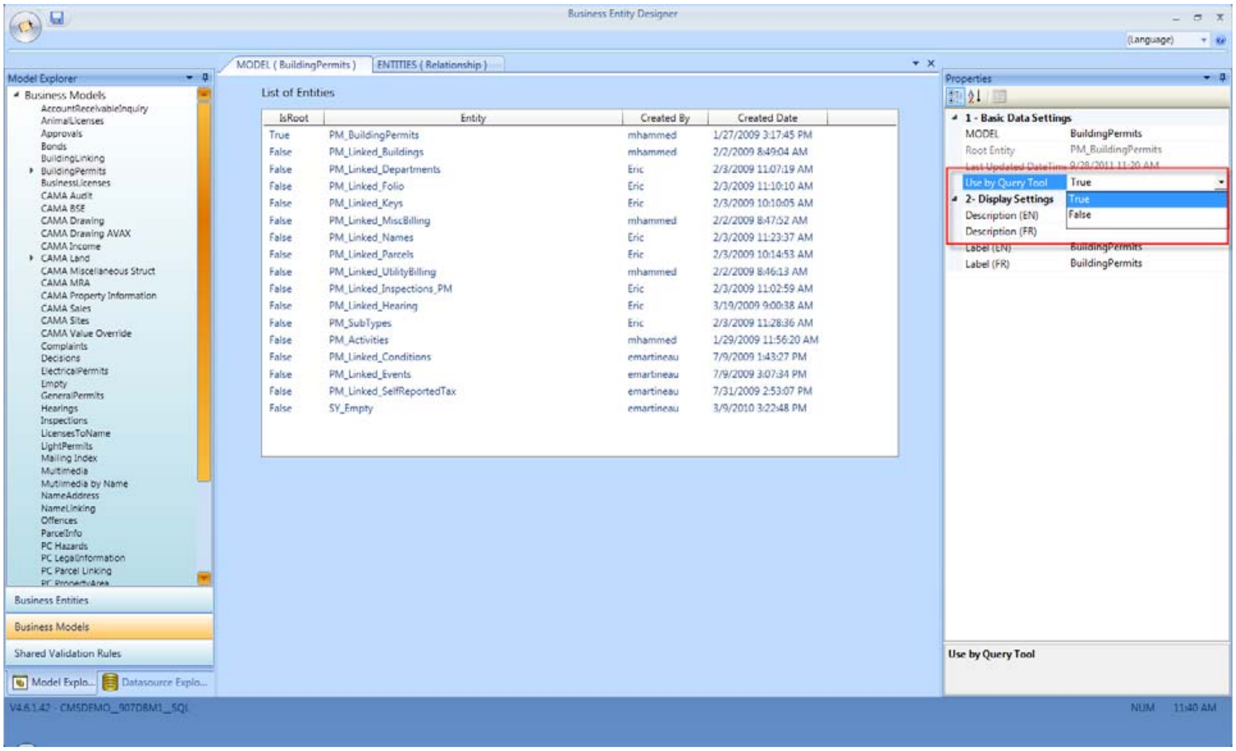
Queries are created in the Query Tool with the same business models that are used for building the Govern user forms. The first step is to enable these business models so that it can be seen in the Query Tool.

This is done by setting the **Use by Query Tool** property to **True** in the Govern Business Entity Designer (BED).

By default, this property is set to **FALSE** for all business models, and the models are not visible in the Govern Security Manager, or the Query Tool. This is done to protect the sensitive data in the database.

To enable a business model for use in the Query Tool:

1. Launch the Business Entity Designer (BED).
2. Select **Model Explorer** > **Business Models**.
3. Select the business model that you want to use in the Query Tool.



4. Select **Use by Query Tool** under **Basic Data Settings** in the Property Explorer.
5. Select **True** from the drop-down menu.
6. Click the **Save** icon .

   The green light appears in the Status Bar to indicate that the business model is updated successfully.
7. Repeat steps 3 to 6 for all the business models that you want to enable.

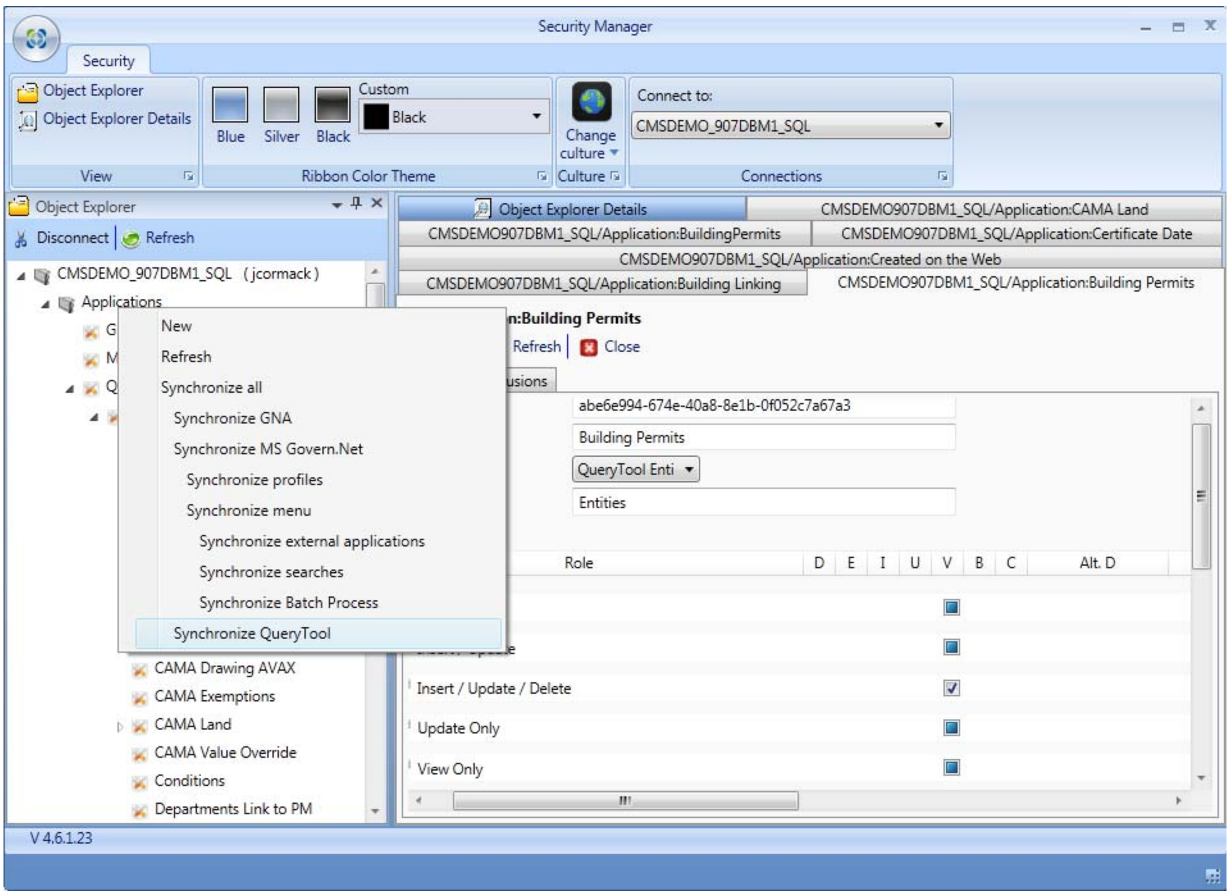
Synchronizing the GSM and Query Tool

After setting the business model for use in the Query Tool, you need to synchronize the BED with the Query Tool. Synchronizing updates the menus in the GSM and the Query Tool so that the business models are visible in both these applications.

Following synchronization, the enabled business models are displayed in the **Entities** and **Entity Sets** section of the Query Tool and you can set user access permissions.

To synchronize the new changes to the business model with the GSM and the Query Tool:

1. Launch the GSM.
2. Select the required database connection key in the Object Explorer.
   - Click **Synchronize All** from the SM ribbon.
   - Expand the **Applications** node with a double click; right click on **Query Tool** and click **Synchronize All** from the ribbon.



A confirmation message appears.

3. Click **Yes** on the confirmation message.

Step II: Setting Permissions by Role and User

In the Govern Security Manager (GSM), security is set at four levels:

- **Application**
- **Entity Set**: Note that the BED business models are referred to as Entity Sets in the GSM.
- **Business Entity**
- **Attribute**

The first step is to grant permissions to the Query Tool. Then, verify or set up permissions for each business model (in the Entity Sets section), business entity, and attribute.

Note: Permissions and exclusions that you set for Govern OpenForms do not apply automatically to the Query Tool. Ensure that you set all required permissions for the Query Tool.

For further information about setting security permissions and exclusions, refer to the Govern Security Manager (GSM) guide.

Step III: Define Permissions for the Query

After enabling the business model in the BED and setting user permissions in the GSM, the next step is to set permissions for each query in the Query Tool. The available permissions are view, update, and delete.

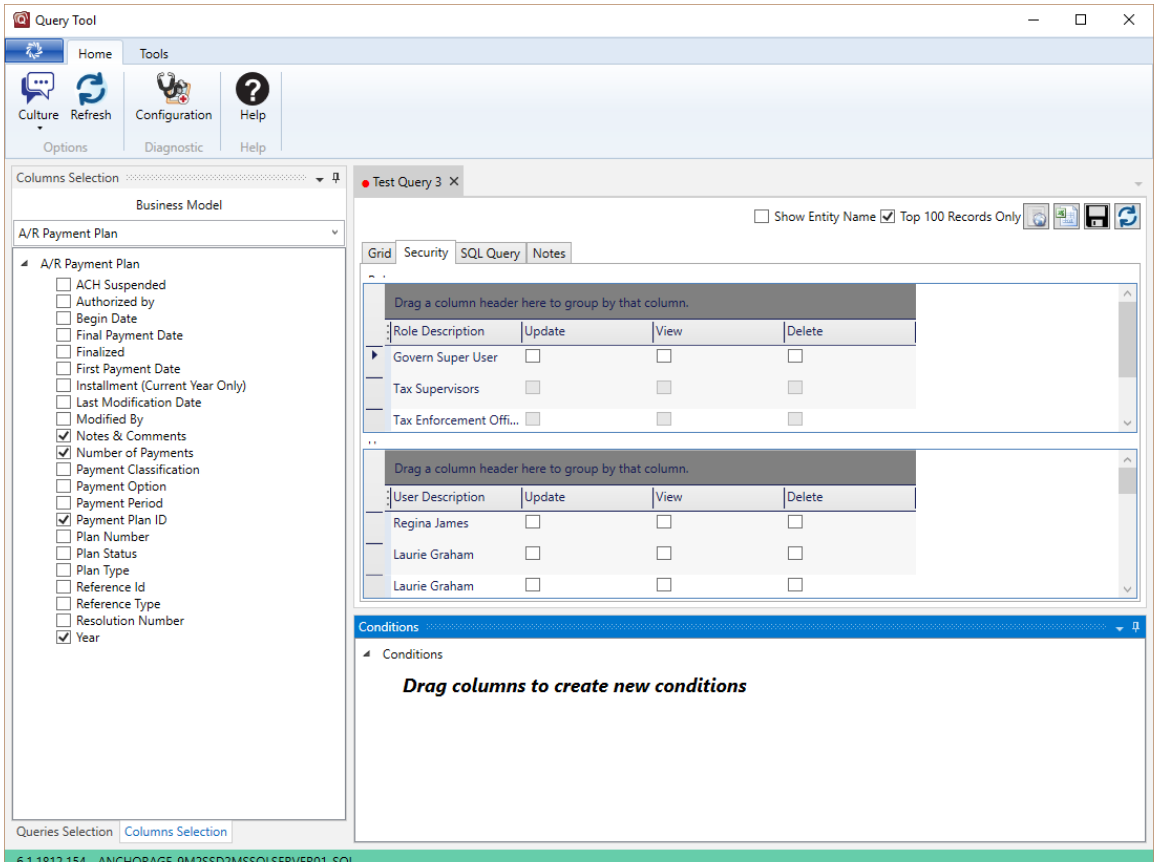
When you create a query it is displayed under **My Queries** in the **Queries Selection** treeview. The queries that are created by other users are displayed under **Public Queries**.

When you grant view, update, or delete permissions to a query that you have created, other users see it under **Public Queries**.

Note: All the queries that you have created are displayed under My Queries regardless of whether you are sharing them or keeping them private.

To set permissions for the query:

1. Launch the Query Tool.
2. Open the **Queries Selection** tab.
3. Select the query for which you want to define permissions.
4. Open the **Security** tab.



The Roles are listed in the top section of the tab and the users in the lower sections. if you are not a member of a Role, the Role is disabled in the Query Tool and you will not be able to set permissions for the query.

5. Select the permissions that you want to grant to the selected Role or user.

   When you select Update or Delete, the View is automatically selected.

6. Click **Save**.

Creating Queries

Overview

This section describes how to create, configure, and build on a new query in order to retrieve the required results.

It includes the following subsections:

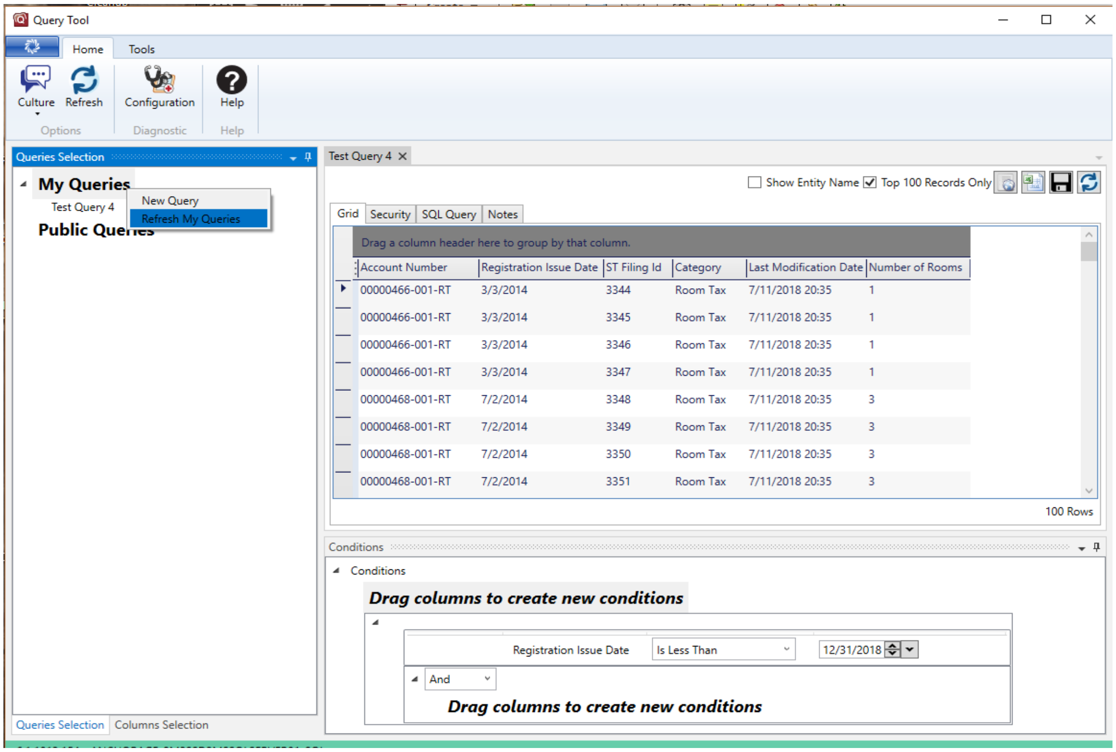
Prerequisites

Before creating queries, ensure that the required business models are enabled for use in the Query Tool and that the user permissions are defined in the Govern Security Manager. *See Defining Security Permissions on page 13.*

Building a New Query

To begin building a query:

1. Launch the Govern Query Tool.

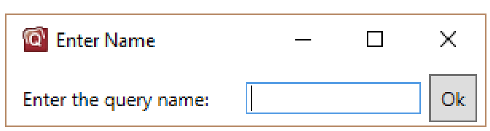


2. Select **Queries Selection** at the bottom of the left tree view to open the Queries Explorer.

   This is the default.

3. Do one of the following:
   - Right click on **My Queries** and select **New Query** from the menu.
   - Click the **New** icon at the top of the interface.

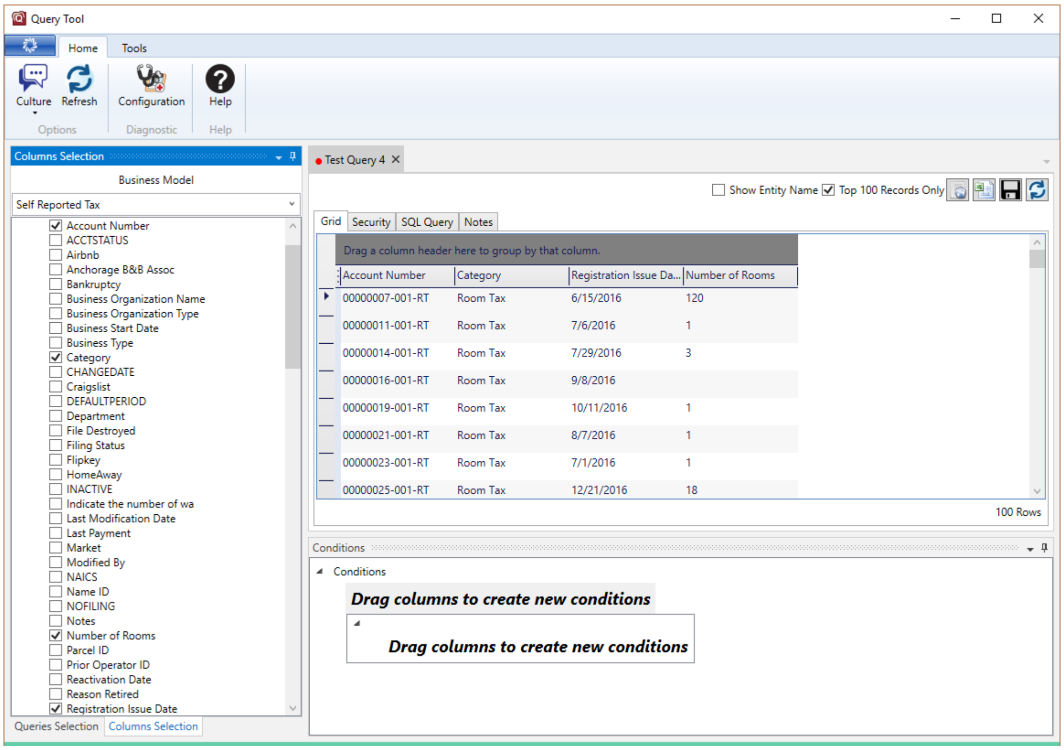
   The **New Query** dialog box opens.



4. Enter a name for the query and click **OK**.

5. Click **Columns Selection** 

at the bottom of the tree view.



6. Select the business model from the drop-down list.

   All the entities that are contained in the business model are displayed.

7. Select the required entity.

   All the attributes, or database columns, that are contained in the entity are displayed.

   All attributes that are part of the Business Entity on which the query is built, appear in the Column Selection List, as long as the following conditions are met:

   - The user building the query has permission to view the attribute.
   - The attribute is mapped to the database. Calculated fields, for example, are not mapped to the database and do not appear in the Column Selection List.

8. Select the required attribute.

   It appears in the grid.

9. Select all the attributes that you want to add to the query.

Viewing the Query Results

The results of the selected query are displayed in the following tabs:

- **Grid**: Results of the selected query
- **Security**: Access permissions for the query by role and user.

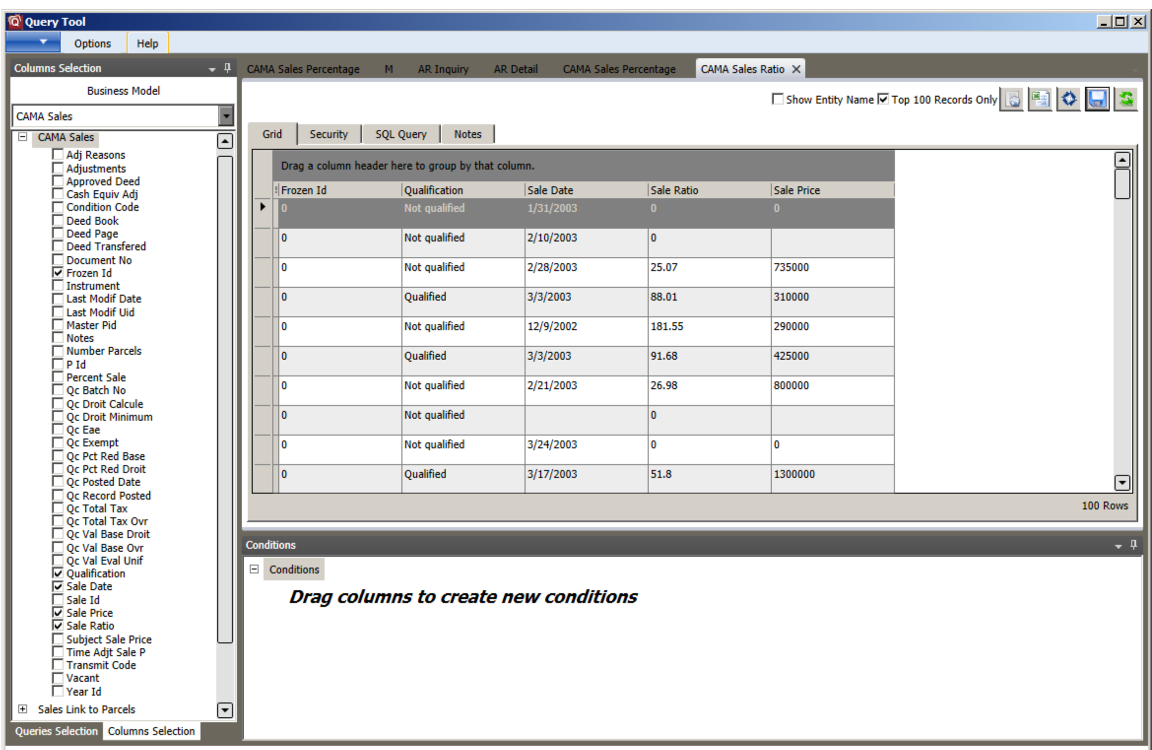
> **Note:** Use this tab to share a query with selected roles and users.

- **SQL Query**: Statement in SQL
- **Notes**: Any additional information associated with the query

Viewing the Results in the Grid

By default, the query results open in the grid.

The columns that you selected are displayed across the top. The values from the database are displayed under the columns.



There are check boxes for the following:

- **Show Entity Name**: Select this option to show the entity name with the column name. This will allow you to see the table that the column came from.
- **Top 100 Records Only**: Select this option to limit the number of records to 100. Deselect it to show all the results from the database.

Organizing the Results

You can change the order of the columns in the Grid tab of the Results and add or remove columns from the results.

Changing the Order of the Columns

Select a column heading in the Grid results and drag it to a new position.

Removing Columns from the Results

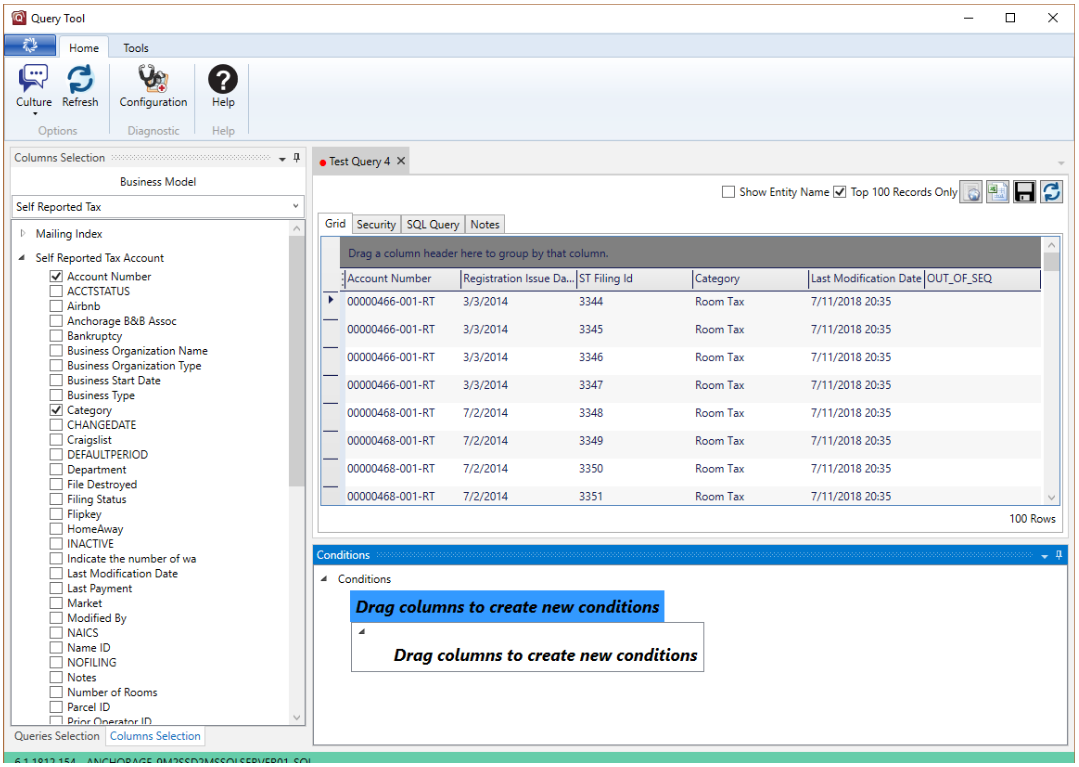
To remove a column from the results, deselect the attribute in the Columns Selection list. The column is automatically removed.

Adding Columns to the Results

Expand the entity in the Column Selections tree view and select all the attributes that you want to add.

Grouping by Columns

You can group the results of your query by one or by multiple columns. For example, you may want to display the result by the last billing date, in order to view the records separately according to the billing period.



To group according to the Sales Qualification:

1. Launch the Govern Query Tool.
2. Open the required query.
3. Select the **Qualification** column and drag it to the area marked **Drag a column header here to group by that column**.

   The column heading is displayed with the number of different values contained in the column (Number of items.) Click on the plus sign (+) to expand the contact or the minus sign (-) to contract it.

   You can group multiple columns together in order to create subgroups. It is also possible to change the order of the subgroups with a drag and drop action to the right or to the left of the current position. The result is the same as changing the position of the columns in the results grid.

   Similarly, you can remove a subgroup by selecting it and dragging it outside of the column grouping.

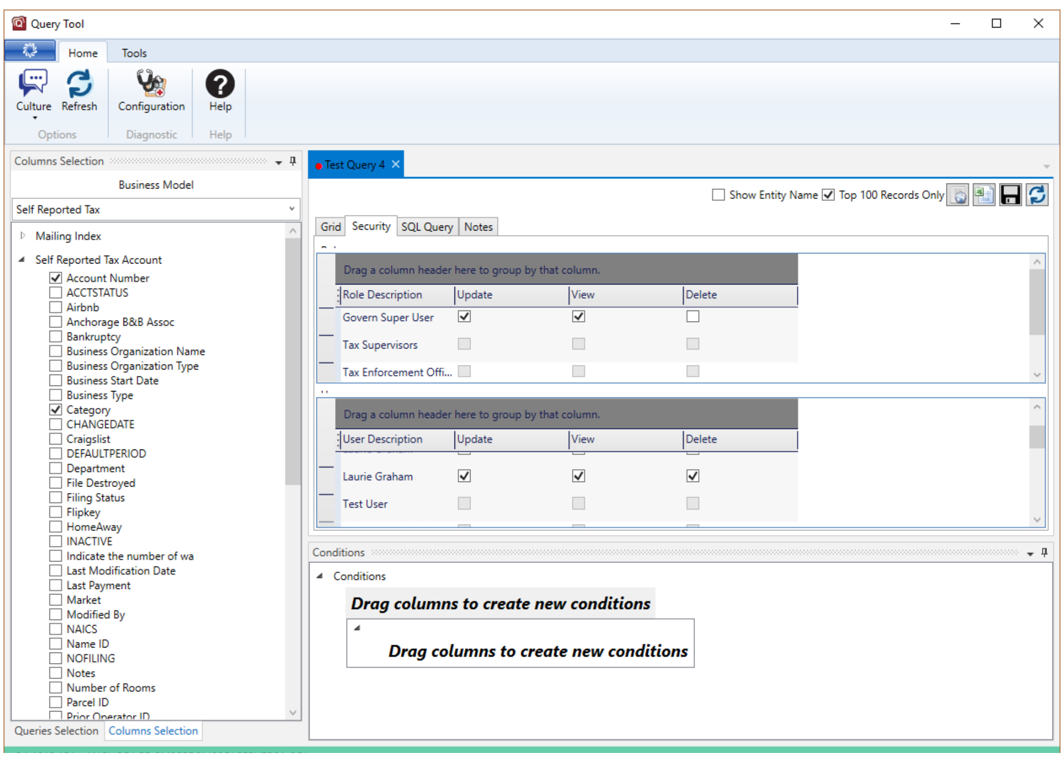
Defining Security Permissions for the Query

The **Security** tab displays the security permissions for the roles and users in the Govern deployment.

When you create a query, it is private. If you would like other users within your deployment to use the query, you can modify the permissions in the Security tab, role and / or by user.

To modify the security permissions.

1. Open the query in the Query Tool.
2. Select the **Security** tab in the results grid.



Roles are displayed in the top section and users are displayed in the lower section.

3. Select the **Update**, **View**, and **Delete** options for each role according to the permissions you want to grant.

As elsewhere in Govern OpenForms, the permissions defined by user override those defined by role.

If you want to grant access to a single user, you can deselect the check boxes beside the role and select the check boxes beside the user.

If on the other hand, you want to deny access to a single user, you can select the check boxes beside the role and deselect the check boxes beside the user.

4. Click **Save**.

Note: Users can duplicate a query to which they do not have full access rights and save it under their private queries.

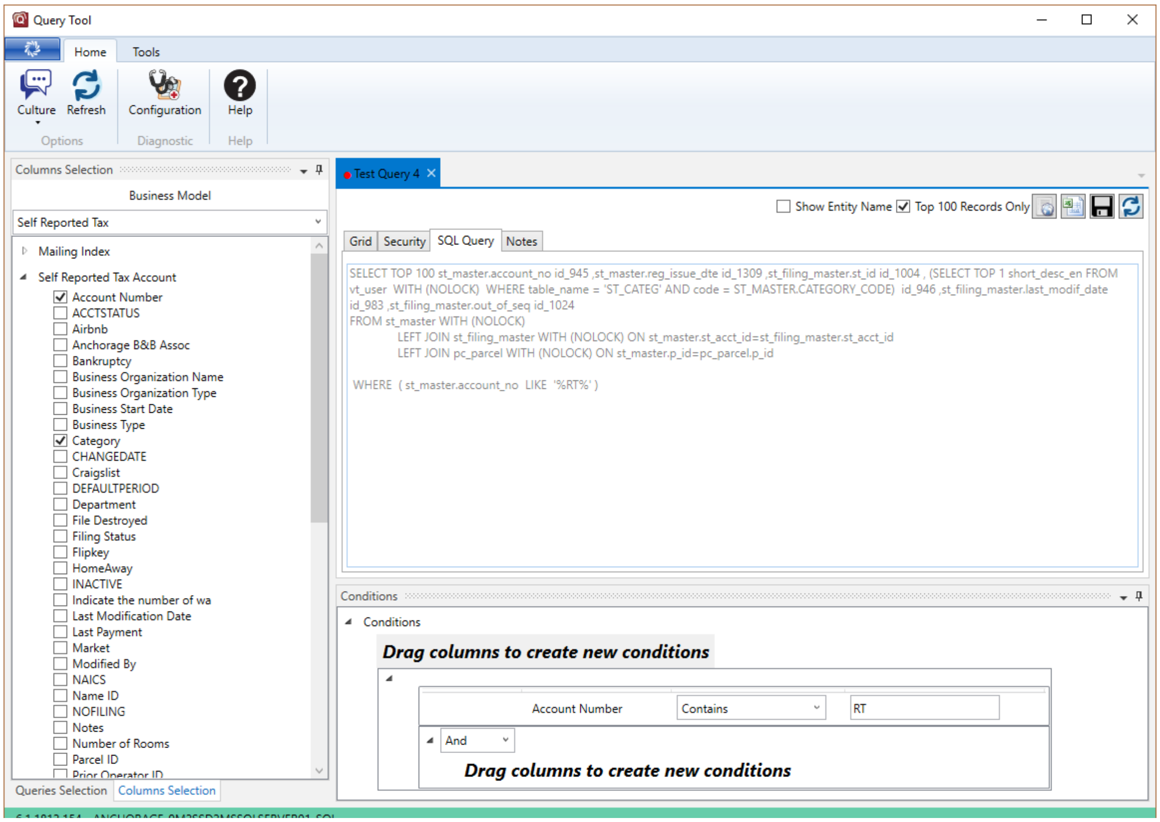
Viewing the SQL Query Statement

You can view the query in SQL in the SQL Query tab.

To view the query in SQL:

1. Open the query in the Query Tool.
2. Select the **SQL Query** tab.

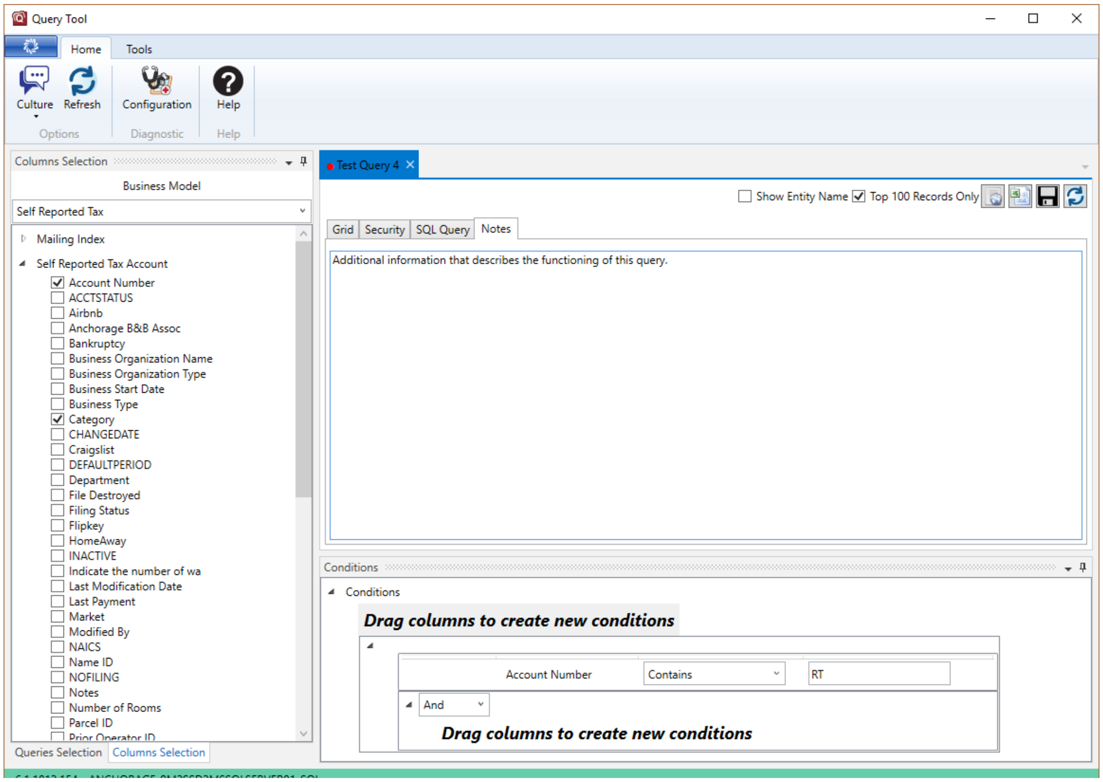
Note: The queries displayed under the **SQL Query** tab are informational, i.e. they can be highlighted and copied, but they can not be directly edited.



Adding Notes

You can view or add notes or comments about the query, as follows:

1. Open the query in the Query Tool.
2. Select the **Notes** tab.



Duplicating a Query

You can duplicate any query that is saved under My Queries or Public Queries. This can be useful if you want a second query that is similar to the first but has some modifications.

If you do not have update rights to a query saved under Public Queries, you can duplicate it and save it under My Queries. You can then make any required modifications to the duplicated query.

To duplicate a query:

1. Launch the Govern Query Tool.
2. Select **Queries Selection** 

.
3. Right click on the query in the treeview, under **My Queries** or **Public Queries**.
4. Select **Duplicate Query**.

The duplicated query is saved under **My Queries**, regardless of whether you copied it from My Queries or Public Queries.

The name of the query is preceded by Copy of...

5. Rename the query, run it, make modifications.

   The duplicated query is the same as any other new query.

6. Click **Save**.

Deleting a Query

You can delete any query to which you have delete rights, regardless of whether it is saved under My Queries or Public Queries.

To delete a query:

1. Launch the Govern Query Tool.
2. Select **Queries Selection** 

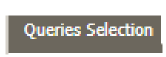
.
3. Right click on the query in the treeview, under **My Queries** or **Public Queries**.
4. Select **Delete Query**.
5. Click **Save**.

Note: The query is not deleted until you click **Save**.

Renaming a Query

Before you can rename a query, you need to open it.

To rename a query:

1. Launch the Govern Query Tool.
2. Select **Queries Selection** 

.
3. Right click on the query in the treeview, under **My Queries** or **Public Queries**.
4. Select **Open Query**.
5. Repeat step 3.

This opens the query in the Query Tool editor and enables the **Rename Query** option on the right click menu.

6. Select **Rename Query**.
7. Enter a new name for the query.
8. Click **Save**.

Refreshing a Query

When you modify a query or add conditions, you can refresh the results in the Query Tool editor.

Click the **Refresh** icon, to update the results .

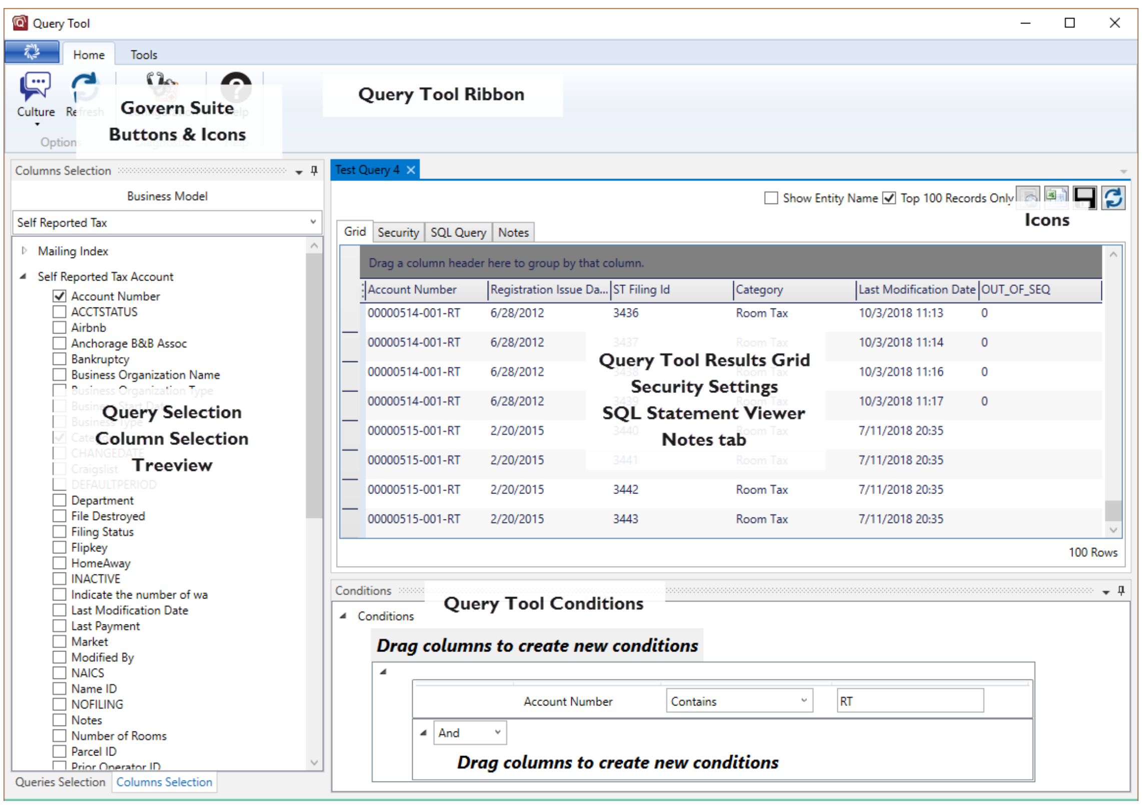
Adding Conditions

Overview

You can add conditions to your queries in order to filter your data and limit the number of results returned. This makes it easier to zero in on the information you need to find.

There are multiple predefined conditions that you can apply in order to filter by value, using a comparison, such as greater than and less than; or a filter by the word, such as, begins with or contains. You can apply multiple conditions, separated by boolean operators.

The Conditions are displayed at the bottom of the center screen.



Filtering by Value

The following predefined types are available:

Is Equal To: Select **Is Equal To** and enter a value in the field on the right. If the selected field matches the value, the record is retrieved.

Is Not Equal To: Select **Is Not Equal To** and enter a value in the field on the right. If the selected field does not match the value, the record is retrieved.

Is Greater Than: Select **Is Greater Than** and enter a value in the field on the right. If the selected field is greater than the value, the record is retrieved.

Is Less Than: Select **Is Less Than** and enter a value in the field on the right. If the selected field is less than the value, the record is retrieved.

Is Null: Select **NULL** to retrieve the records with NULL in the selected field.

Is Not Null: Select **Is Not NULL** to retrieve the records that have any value other than NULL in the selected field.

Filtering by Word

The following predefined types are available:

Contains: Select **Contains** and enter a string, a few characters or words long, in the field on the right. The records that include the string in the field selected on the left are retrieved.

Does Not Contain: This condition works the same as Contains, but only the records that do not have the entered value or string are returned.

Begins With: Use **Begins With** to retrieve only the records that begin with the text entered.

Does Not Begin With: Use **Does Not Begin With** to retrieve only the records that do not begin with the text entered.

Ends With: Use **Ends With** to retrieve only the records that end with the text entered.

Does Not End With: Use **Does Not End With** to retrieve only the records that do not end with the text entered in the Value field.

Is Empty: Use **Is Empty** to return the records in which there is no entry for the selected field.

Is Not Empty: Use **Is Not Empty** to return the records that have data in the selected field.

Combining Conditions

You can add multiple conditions to the query. Separate the conditions using:

- **And**: When both the condition before and after the operator must be true.
- **Or**: If only one of the conditions before and after the operator must be true.

How to Add a Condition

To add a condition:

1. Launch the Query Tool.
2. Select the query in the **Queries Selection** explorer.
3. Right-click on **Conditions** under Conditions.
4. Select **Add New Condition Group**.
5. Open the **Columns Selection** explorer.
6. Select the business model that contains the attribute you want to use for the condition.
7. Expand the entity.
8. Select the attribute in the tree view and drag it to the field that is marked **Drag columns to create new conditions**.
9. Select a condition operator from the center drop-down list.
10. Enter a string or a value in the right column, if applicable.
11. Click **Save**.

How to Remove a Condition

To remove a condition:

1. Launch the Query Tool.
2. Select the query in the **Queries Selection** explorer.
3. Right-click on **Conditions** under Conditions.
4. Select **Remove Current Condition Group**.
5. Click **Save**.