



HARRIS
GOVERN



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Govern Quick Search

Govern V6

Release 6.0/6.1 Version 1
Last Revision Update: 6/8/2018

[illegible]

Disclaimer

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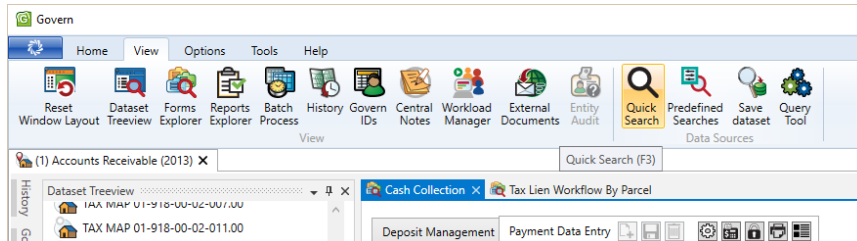
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Overview

As of release 6.0.1707 / 6.1 1707, an alternate search interface is available to the Govern user. The Quick Search differs from the traditional search interface in the sense that it bears a closer similarity to the search and results interface that is often associated with search engines. When correctly configured, this search interface is available through the Govern ribbon.



User Interface

Keyboard Shortcuts

The Quick Search and other search interfaces are accessible through the following keyboard shortcuts:

- Quick Search: **F3**
- Advanced Search: **Alt + F3**
- Saved Datasets: **Ctrl + F3**
- Query Tool: **Shift + F3**

Available Search Type (aka Views)

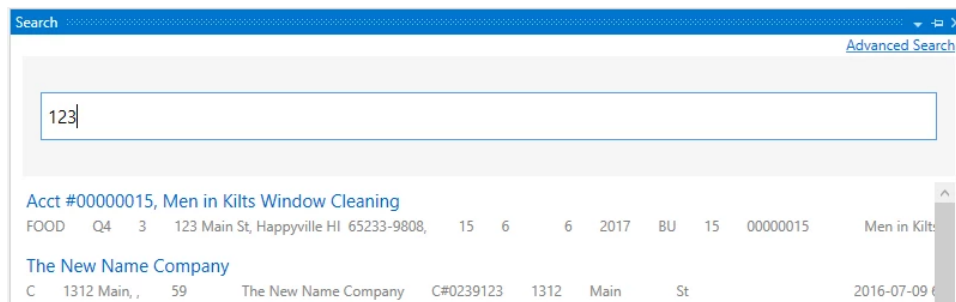
Standard Views are available to the user; these are part of Govern's ViewsScripts.xml resource files. Standard views include a *Search for Property* records (V_INDEX_PROPERTY), a *Search for Self Reported Tax* records (V_INDEX_SRT), and a *Search for Name* records (V_INDEX_NAMES)

Conditions for Functioning of Views

The Quick Search is a standard Govern Control. In order for this control to function correctly, the associated views must adhere to the following standard rules:

- The nomenclature of the View must begin with **V_INDEX_** for standard views and **VW_INDEX_** for custom views
- There must be a unique **ID** column
- The View must have a **Title** column
- Although the search will still search in the column, the description will use any column not ending with **_h**

Search results will be presented on 2 rows, the first will be the *Title*, the second a *Description*.



Configuration

The first requirement for installing the Govern Quick Search is to install the Elastic Search Service.

Installation of ElasticSearch

Details about the Elastic Search service can be found at the following link:

<https://www.elastic.co/guide/en/elasticsearch/reference/current/install-elasticsearch.html#install-elasticsearch>

During the installation you may the following default settings

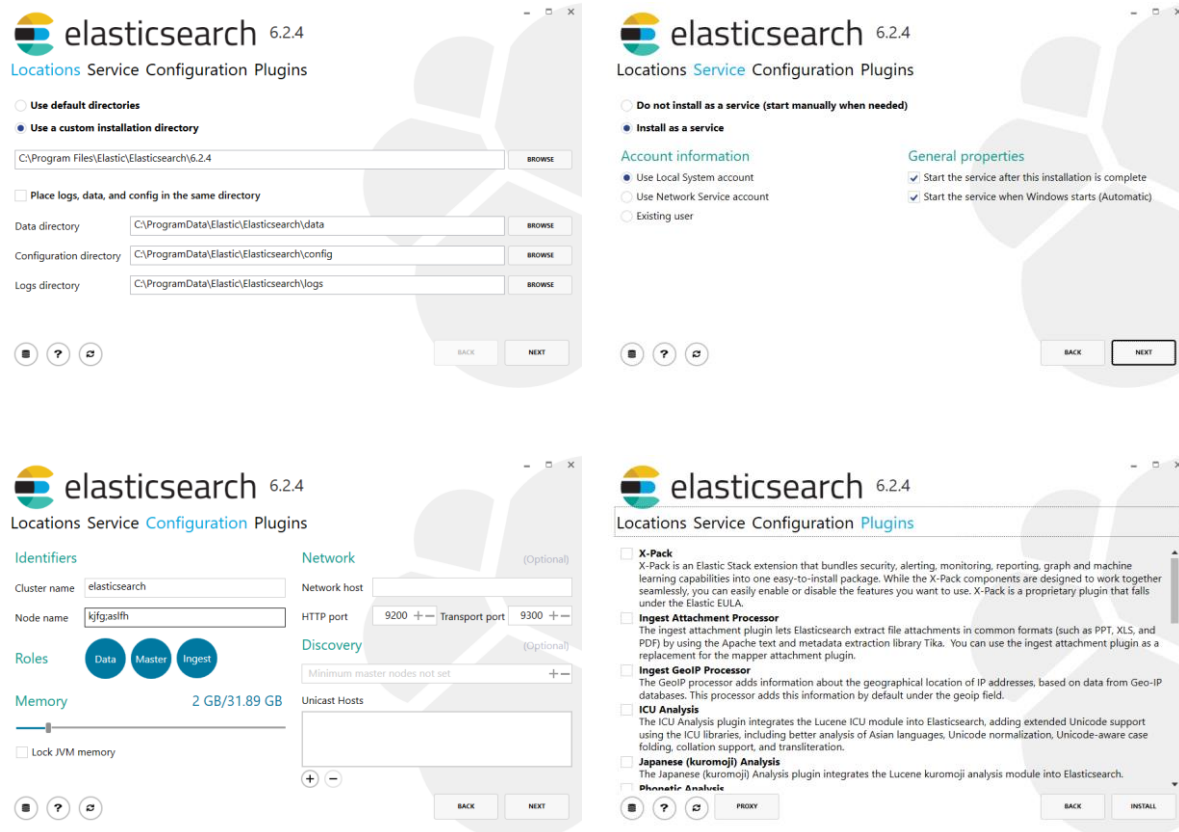
When installing with the MSI package option, you may use the following:

1. Download the **MSI** package and run it.

NOTE: Java is required in order for Elastic Search to run. If not installed, the installer will give a notification. If not installed, you can download the offline Java installer from the following location: <https://java.com/en/download/manual.jsp>. Install Java and re-execute the Elastic Search installer.

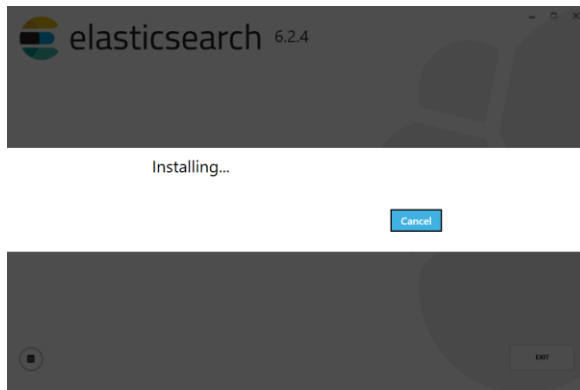
2. Install ElasticSearch with the default directories and ensure you select the **Install as a service** option. *You may reference the screen shots in the [Elastic Search Install Screen](#) below.*
3. For the *Cluster Name* you can keep the suggested name or make another selection. Note down the selected HTTP port, as it will be required later; the default is port 9200.
4. Ensure that the Network host value is completed. This is the name of the server. Note that none of the Plugins options are required.

ElasticSearch Install screens

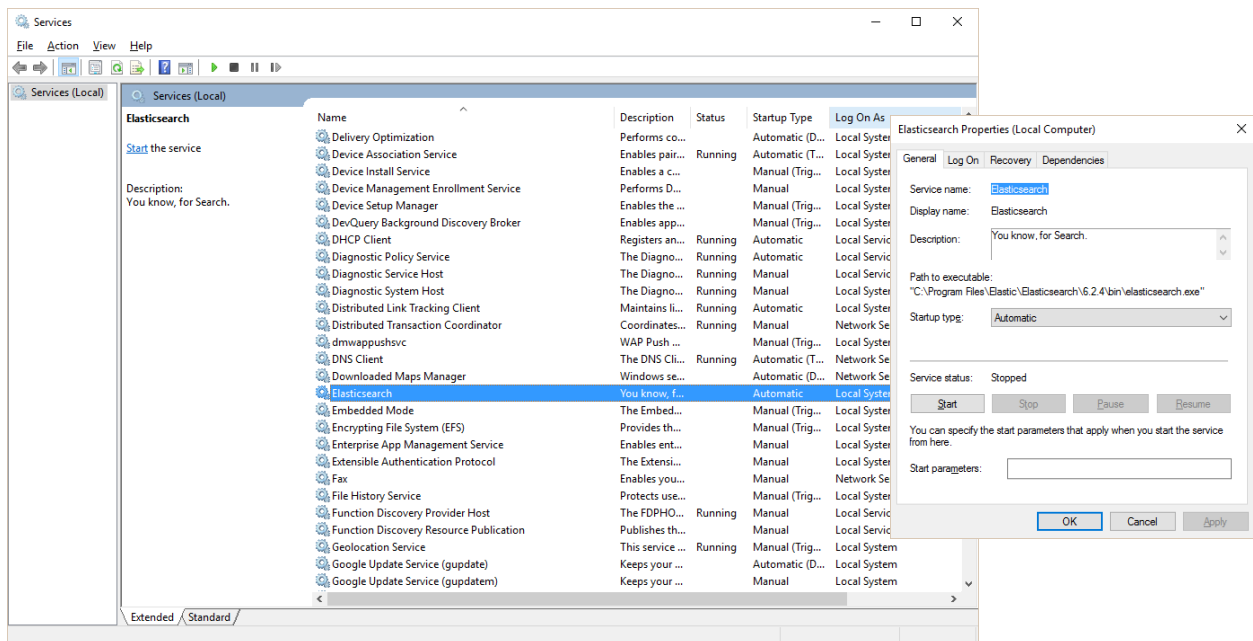


The screenshots show the following configuration steps:

- Locations Service Configuration Plugins:**
 - Use default directories (selected)
 - Use a custom installation directory: C:\Program Files\Elastic\Elasticsearch\6.2.4
 - Place logs, data, and config in the same directory (unchecked)
 - Data directory: C:\ProgramData\Elastic\Elasticsearch\data
 - Configuration directory: C:\ProgramData\Elastic\Elasticsearch\config
 - Logs directory: C:\ProgramData\Elastic\Elasticsearch\logs
- Locations Service Configuration Plugins:**
 - Do not install as a service (start manually when needed) (unchecked)
 - Install as a service (selected)
 - Account information:
 - Use Local System account (selected)
 - Use Network Service account (unchecked)
 - Existing user (unchecked)
 - General properties:
 - Start the service after this installation is complete (checked)
 - Start the service when Windows starts (Automatic) (checked)
- Locations Service Configuration Plugins:**
 - Identifiers:
 - Cluster name: elasticsearch
 - Node name: kjfgaslh
 - Roles: Data, Master, Ingest (all selected)
 - Memory: 2 GB/31.89 GB
 - Lock JVM memory (unchecked)
 - Network:
 - Network host: (empty)
 - HTTP port: 9200
 - Transport port: 9300
 - Discovery:
 - Minimum master nodes not set
 - Unicast Hosts: (empty)
- Locations Service Configuration Plugins:**
 - Plugins (Optional):
 - X-Pack (unchecked)
 - Ingest Attachment Processor (unchecked)
 - Ingest GeoIP Processor (unchecked)
 - ICU Analysis (unchecked)
 - Japanese (kuromoji) Analysis (unchecked)
 - Phonetic Analysis (unchecked)



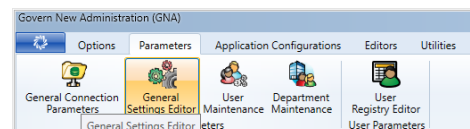
Once the installation is completed, open Services in windows and make sure Elastic Search is configured as Automatic, and start the service.



Configuration in the Govern New Administration (GNA)

GNA – General Settings Editor

For the next step, additional configuration is required in **GNA**.
Open the GNA application...



1. Open the General Settings Editor.
2. Select General as the Registry Filter, and in the Search section locate the **Elastic Search URL** key. Enter a value like `http://servername:9200`, where the **servername** is that of the server where the service is installed, 9200 is the port that was chosen during the installation; *Step 3* above.

OpenForms General Settings

Registry Filter: General

Section Name	Key Name	Year ID	Key Value
General	Notification flag for normal priority messages		<input checked="" type="checkbox"/>
General	Primary Activation Key		0
General	Show English VT Description		<input checked="" type="checkbox"/>
General	Show French VT Description		<input type="checkbox"/>
General	State Code		mo
General	Status bar ARGB Color		Black
General	Use Winnipeg Satellite Systems		<input type="checkbox"/>
General	User has unique connection key (Sql Server Only)		<input type="checkbox"/>
Imaging	Imaging Path Level 1		\\server\ntwin\govern\Version.107\
Imaging	Imaging Path Level 2		\\server\ntwin\govern\Version.107\
Imaging	Imaging Path Level 3		\\server\ntwin\govern\Version.107\
Multimedia	Approximate size of low resolution images (KB)		100
Roll Forward	Roll Forward Audit Records		<input checked="" type="checkbox"/>
Search	Elastic Search Url		http://localhost:9200
SMTP	Default Sender Address		MSGovern_notification@juneau.gov
SMTP	Host		10.100.244.20
SMTP	Password		
SMTP	Port		6565
SMTP	User		micgagne

Save Exit

GNA – Profile Editor

Index Refresh Batch Process

In order to have access to the Quick Search, you will need to setup and run the **Quick Search Refresh (101-std-bp-010)** batch process. This batch process is used to rebuild indexes used by the quick search. If this batch process is not present in the list under the Batch Processes tab in Govern, it will need to be added to the profile. This is done through the GNA Profile Editor. *Refer to the **Profile Editor** page for instructions on how to add a batch process.*

Dynamic Search Groups Profile Editor

NAME - Name & Addresses
BUDGETSETTLEMEN - Budget Settlement
PROPERTYINFOALL - Property Information All F
MAHHMES - Manufactured Homes
PROPERTYINFO - Property Information

Profile 3 Of 5

Properties Links Queries

Forms

- TX001 - Real Property Tax
- TX008 - Tax Increment Financing
- WB001 - Govern Wiki
- BR001CUY - Bankruptcy
- DC001CUY - Delinquency
- NA_SUMCUY - Name Summary
- NA001CUY - Name & Address
- NA035CUY - Name Linking
- PC_SUMCUY - Property Summary
- PC001CUY - Property Information
- PC001ACUY - Parcel Info & Address
- PC005CUY - Project
- PC017CUY - Property Area
- PC018CUY - Legal Information
- PC035CUY - Parcel Linking
- PC038CUY - Deed Information
- TX001CUY - Real Property Tax
- TX008CUY - Tax Increment Financing
- WM_AR - AR
- WM_EXEMPTION - EXEMPTION
- WM_WORKFLOW - WORKFLOW

Reports

- ar-rpt-004.rpt - AR - Cash Balance
- opencr.rpt - Open Credit Report (Refund Report)
- re-rpt-001.rpt - RE - Computation Register
- re-rpt-002.rpt - RE - Register Summary
- re-rpt-005.rpt - RE - Tax Receiver's Total
- re-rpt-008.rpt - RE - Dashboard
- RPT100.rpt - 100 Summary of Charges
- RPT101.rpt - 101 Excess Moved Listing

Batch Processes

- 101-tx-bp-999 - Tax Bill File Export
- 101-std-bp-010 - Quick Search Refresh
- 101-ar-bp-001 - A/R - Apply Pending Credits
- 101-ar-bp-002 - A/R - Set Warning Flag on Delin
- 101-ar-bp-003 - A/R - Apply Penalties on Delinq
- 101-ar-bp-004 - A/R - Generate Delinquent Char
- 101-ar-bp-005 - A/R - Apply Deposits
- 101-ar-bp-008 - A/R - Generate Refunds

A/R Sub

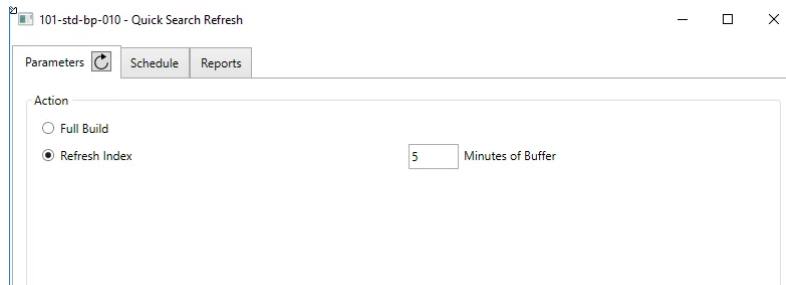
- Bankru
- Delinq
- Land M
- Land M
- Miscell.
- Real Pn
- Tax Tit

External

Add Remove

In Govern, by default, after running the *Verify Database Process*, the batch definition and the schedule to run the batch process is generated. The batch process is scheduled to run once a day in **Full Mode**, and every 5 minutes in **Refresh Mode**.

The batch process will search for all views created in the database that begin with **V_INDEX** or **VW_INDEX**, and refreshing them using the buffer parameter. Alternatively the process will completely build, or if already existing, rebuild the indexes.



Search Parameters

There are three (3) Search parameters that are required to be configured in the GNA Profile Editor.

Configuration of Profile Editor Search group parameters

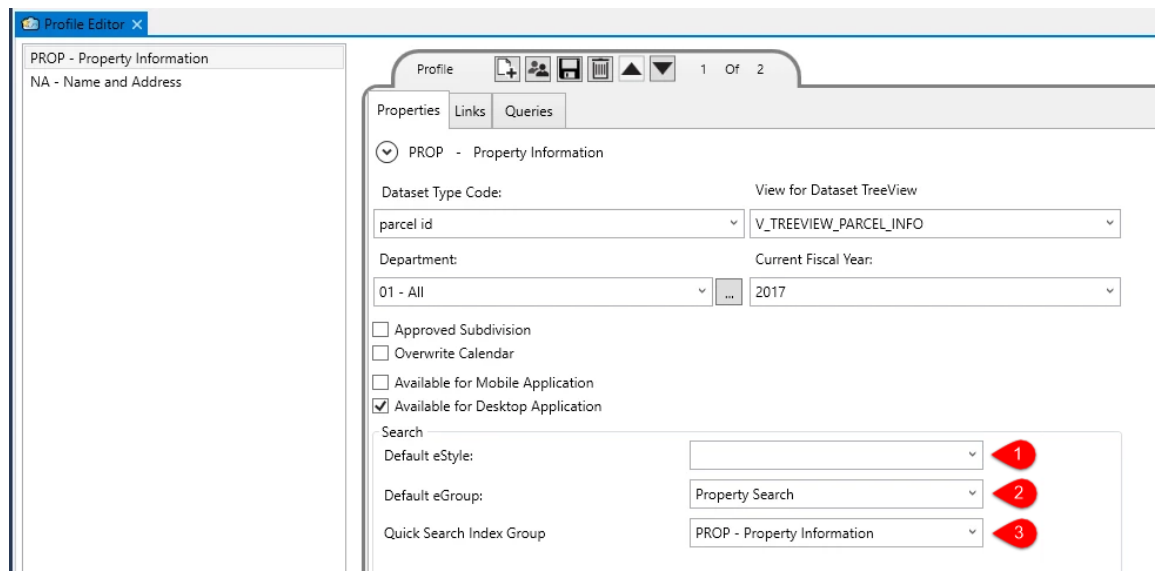
Default eStyle – Selecting an eStyle will remove the selected eGroup.

Default eGroup – When an eGroup is selected, it will remove the selected eStyle.

Quick Search Index Group – The Quick Search Group is used for the Quick Search of the Profile.

NOTE: Additional Quick Search Index groups can be created using the Quick Search Index Group Editor.

When saving the profile, at least one of the searches must be selected.

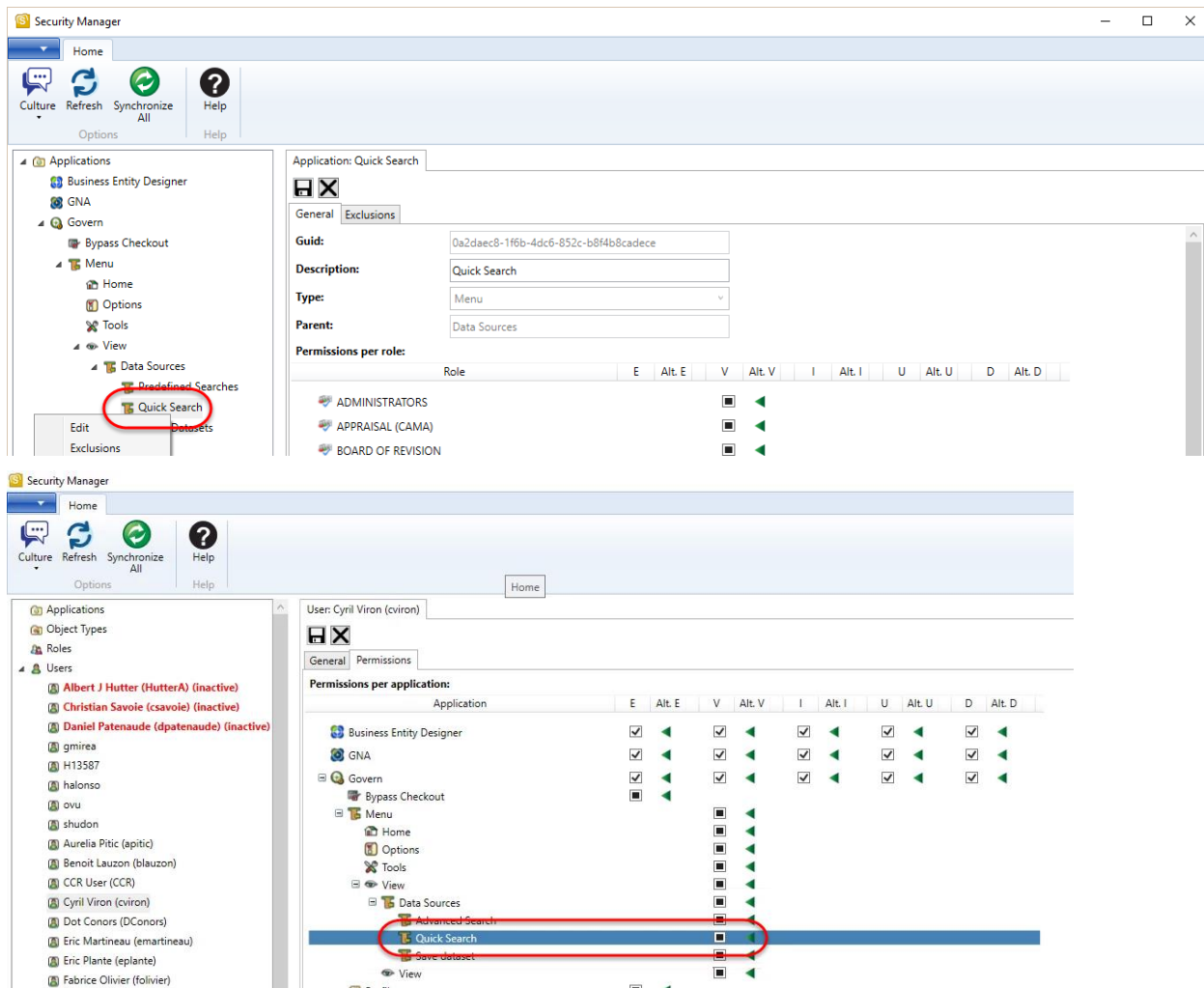


NOTE: When exporting and importing a profile, indexes from the Quick Search Group associated with a Profile will be automatically exported/imported.

Govern Security Manager (GSM)

In order to provide security parameters for this feature, there is a new node for the Quick Search in the Govern Security Manager (GSM).

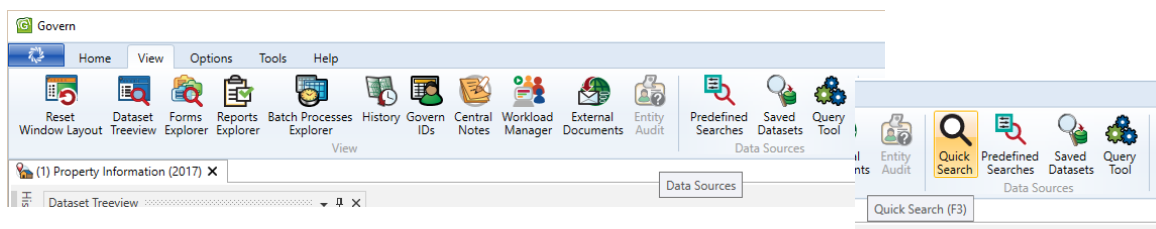
To locate the node to secure in the GSM, in the left hand pane, select *Applications > Govern > Menu > View > Data Sources > Quick Search*. Refer to the **GSM** page for instructions on how to secure an application.



The top screenshot shows the 'Security Manager' window with the 'Quick Search' application selected. The 'Exclusions' tab is active, showing the 'Quick Search' application with a GUID of '0a2daec8-1f6b-4dc6-852c-b8f4b8cadece'. The 'Permissions per role' table shows permissions for 'ADMINISTRATORS', 'APPRAISAL (CAMA)', and 'BOARD OF REVISION'.

The bottom screenshot shows the 'Security Manager' window with the 'Quick Search' application selected. The 'Permissions' tab is active, showing the 'Quick Search' application with a GUID of '0a2daec8-1f6b-4dc6-852c-b8f4b8cadece'. The 'Permissions per application' table shows permissions for various applications, including 'Quick Search'.

When security is not enabled, i.e. OFF, Govern users will not see the *Quick Search* icon in the View (tab) > Data Sources (group) section in the Govern ribbon. Users without permissions that attempt to access the Quick Search, will be presented with the standard Govern restricted access screen.

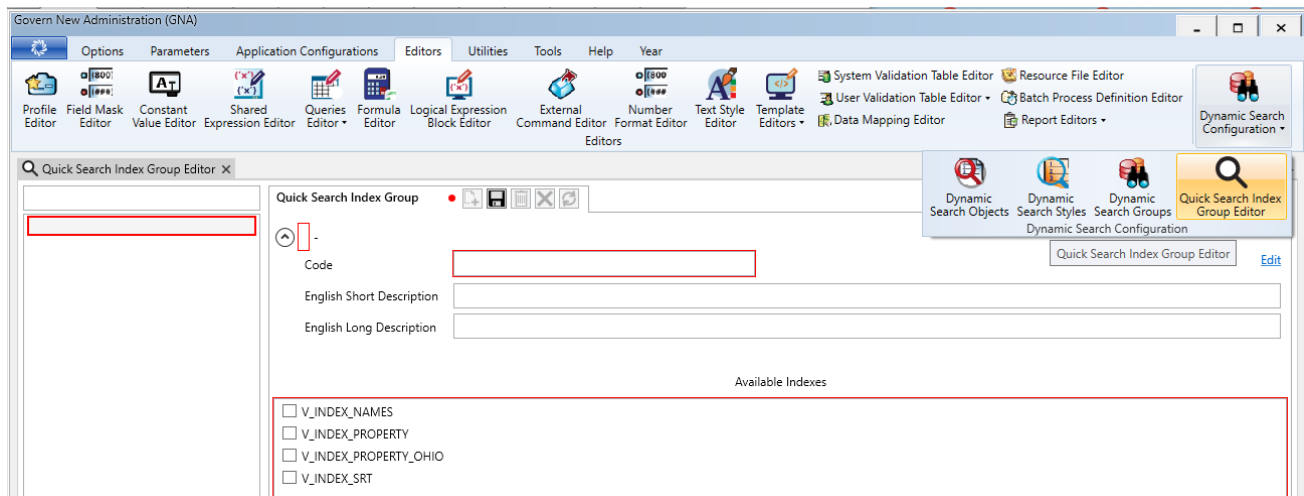


The screenshot shows the 'Govern' ribbon with the 'View' tab selected. The 'Data Sources' group is expanded, showing the 'Quick Search' icon. The 'Quick Search' icon is highlighted, and the 'Quick Search (F3)' button is visible in the bottom right corner.

Quick Search Index Group Editor

Available in release 6.0.1804 and 6.1.1804

The Quick Search Index Group Editor will enable users to create groups of indexes that can be used with a Profile, or be made available as a Quick Search Definition in custom controls like generic links. When configuring, i.e. grouping the indexes that are required by users, a “**boost**” value can be specified for the indexes within a group. The boost value helps to control how the index search results are presented.

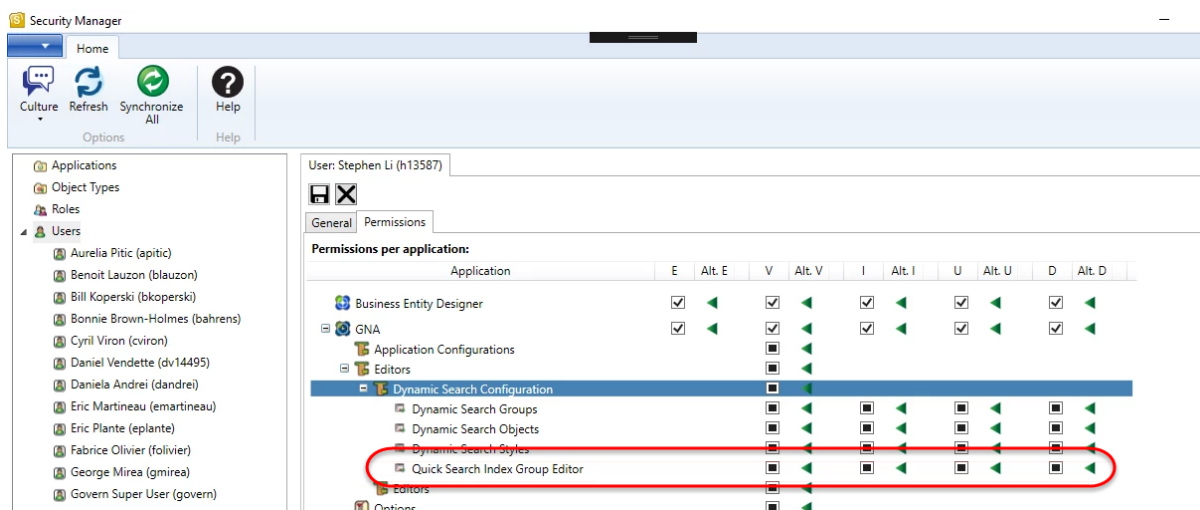


Configuration – Quick Search Index Group Editor

In order to create the required table and fields required, users must run the *GNA Verify Database* process. No additional configuration is required.

Provide Access to the Quick Search Index Group Editor

Administrators that need to provide or restrict user access to the *Quick Search Index Group Editor*, can do so through the *Govern Security Manager (GSM)*. In the GSM, under the left hand pane, locate the *Quick Search Index Group Editor* node. Refer to the *GSM user guide* for details about securing nodes.



Using the Quick Search Index Group Editor

In order to access to the Quick Search Index group Editor, in the GNA ribbon...

1. Select *Editors (tab) > Editors (group) > Dynamic Search Configuration > Quick Search Index Group Editor*.

Creating a new Quick Search Index Group

When there are no existing search groups, opening the editor will, by default, create a blank form that is ready to be configured. To create a new group, click Create a new item. Parameters for new groups are validated; a **code** is required and the **group** must contain at least one index.

All available indexes will be displayed in the Available Indexes pane. Administrators will need to select the checkboxes beside the indexes that they want to include in the group.

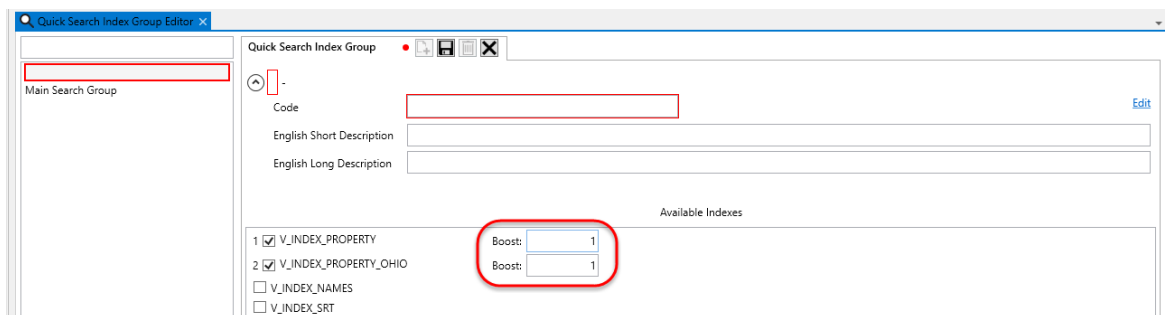
Quick Search Index Group – Boost Factor

Upon selecting an index, the user will be allowed to specify a “boost” value for the index. By default, the index boost factor is a value of 1. The boost factor influences how results from this index will appear in the Quick Search tab in Govern. Search results from indexes with higher boost factors will be displayed before search results from indexes with lower boost factors. However, if the searched text string in index (A) is a perfect match, and a partial match in index (B) search results from an index (A) with a lower boost factor may appear above another index (B) with a higher boost factor

Changing the Order of indexes within a group

Selected indexes can be repositioned with a drag and drop action. The sequence number is displayed at the left of the index. The sequence number corresponds with the order it will appear in the Govern Quick Search pane. Click on the index text, and drag to the space between the indexes.

NOTE: Only selected indexes are movable.



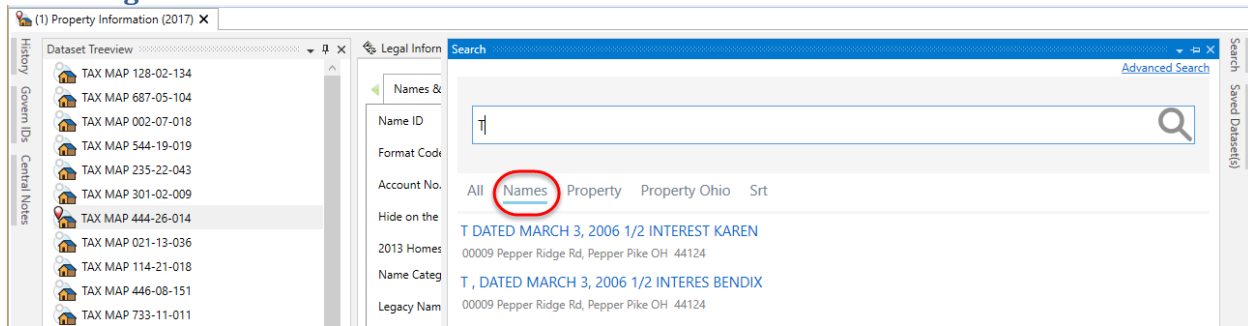
Using the Quick Search

Differences between Search All vs Specific Index

The **Search All** option allows a user to perform a search on ALL indexes associated with the Profile. If a specific index was selected then the search will be performed only on that selected index.

NOTE: **Search All** will use the boost specified to an index in GNA to order the Search Results. You will see a tag to indicate which index the Search Result came from in the Search All option.

Switching between indexes



In order to switch between indexes, you must click on the index name. The currently selected index will be underlined. The index name that is displayed is the name of the view without the prefix and underscores and title cased.

For example if you create a view named VW_INDEX_COMPANY_ONLY then the display name will be **Company Only**.

Search within a Specific Index

Searching within a specific index allows users to restrict search results to a specific index as well allowing them to search a specific column.

Column Specific syntax

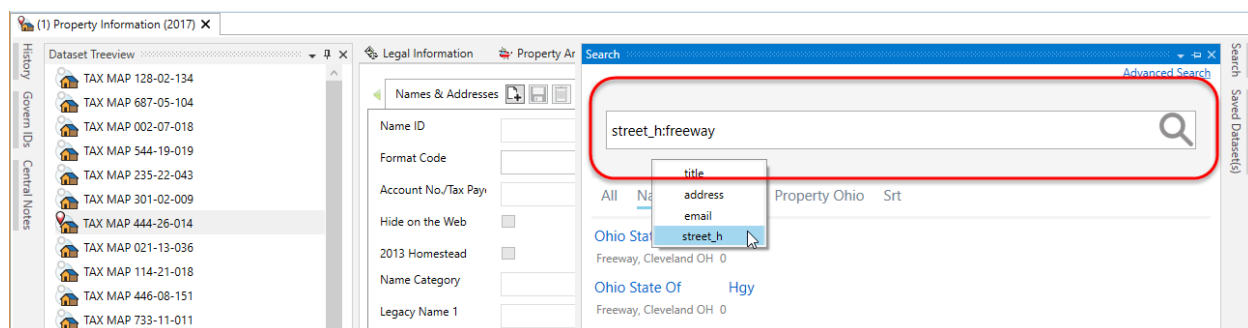
The *Column Specific Search* enables a user to specify on which column a text string should be search.

Syntax – Field followed by ":" then by the text string to search for.

If the user selects a specific index all available fields will be available in the search box context menu. The *context menu* can be displayed with a **Right-Click** within the area of the *Search* field.

For Example: the following... **street:freeway**

This is an indication that the text string "**freeway**" must be located in the **street** field. Therefore, even if there was a record with an email like "freeway@example.com", the record will not be returned if the text **freeway** is not found in the street field.



Using special options

In addition to a normal text search, special characters such as Boolean operators or wildcards may be used to further narrow search results. Listed below are options that are available.

Operators

AND – A search for the results containing the words *CRYSTAL AND LAKES*. This means that result must contains both the words **CRYSTAL** and **LAKES**.

OR – Searching for results containing the words *CRYSTAL* **OR** *LAKES*. This means that result must contains either word, *CRYSTAL* or *LAKES*.

*** (Wildcard Character)** – The wildcard character is used for performing searches for partially defined strings, e.g. RIVE*. This means that all records containing words starting with RIVE will be returned, e.g. RIVER, or RIVEN.

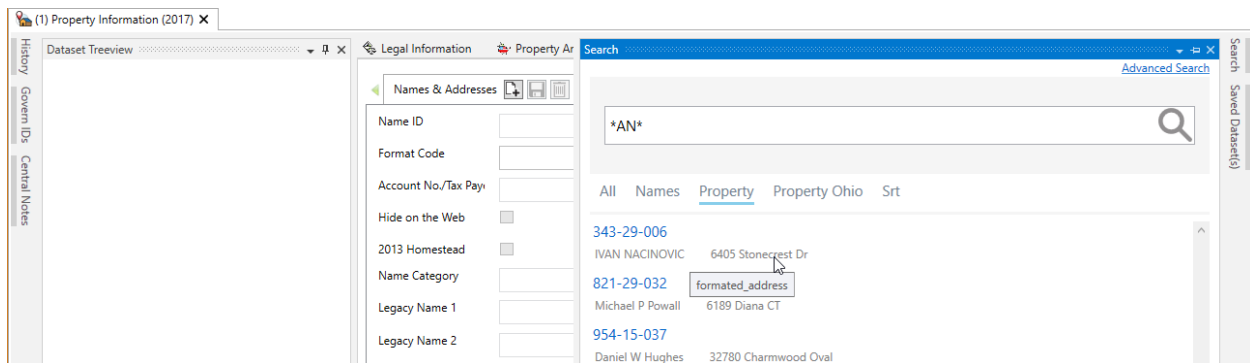
~ (Fuzzy Character) – The Fuzzy Character tilde (~), allows the search to be more relaxed with its results. Searching for the following string with the tilde, **CRYSTEL~**, will result in all records containing a word the “sort of” looks like **CRYSTEL** with a one character difference allowance. The resulting records could contain the following words: **CRYSTEL**, **CRYSTAL**, **CYRSTEL**, **CRESTEL**, **CRYSTEN**, and so on.

Clicking on a Search Result

A click on a specific search result will add the ID to the Govern Dataset Treeview, and set all Govern IDs specified by the search result. In addition, if the search result contains a field named "form", the form with this code will also be opened.

Tooltips

If you want to know the origin of the information displayed in the search result, i.e. the field it is taken from, place your mouse cursor over the value and the tooltip will indicate which field it corresponds to.



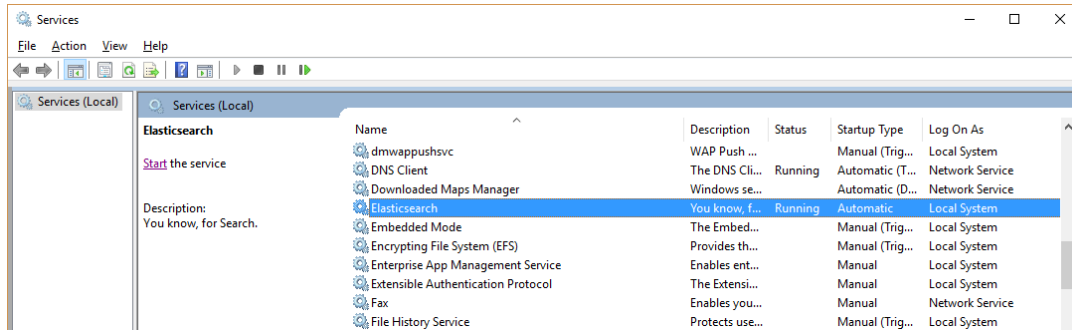
TROUBLESHOOTING

Typically issues that may arise with the Govern Quick Search may be related to the installed ElasticSearch service, or port configuration issues with the Windows Firewall.

NOTE: The following troubleshooting actions can only be accomplished by users with administrator level access.

Verify ElasticSearch Service

If the Govern Quick Search is not working after configuration, the first step is to verify that the installed ElasticSearch service is running. This is done through the Windows Services screen.



Additional Verification of Service

Issues with Java

Issues have been known to arise with the setting of the variable JAVA_HOME when installing Java 32bit or 64 bit. Ensure that the correct path is being used as some applications, when installing, may set a path for the JAVA_HOME variable that may not be consistent with other installed applications.

Verify the JAVA_HOME variable

In Windows 7 on a system that had Java 1.7 then upgraded to Oracle Java 1.8 SDK (jdk-8u45-windows-x64.exe) the system JAVA_HOME differed from the JAVA_HOME in the elasticsearch manager and as such a different version of java was in the path. As a result, the ElasticSearch service install failed because the system was unable to load Java 8. Resolution required the setting of the system JAVA_HOME to the correct folder:

1. Open Windows File Explorer.
2. Right-click My Computer.
3. Select *Advanced system settings*.
4. Select Environment Variables.
5. Select JAVA_HOME.
6. Edit JAVA_HOME to change the value to the correct root folder e.g.
C:\Progra~1\Java\jre1.8.0_45
7. Click **OK** twice.

Verify that **JAVA_HOME** is set and java works:

- `java -version`
- `echo %JAVA_HOME%`

If this fails then `elasticsearch-service install` won't work. To fix in a DOS prompt:

- `set JAVA_HOME=C:\Progra~1\Java\jre1.8.0_45`
- `path=C:\Program Files\Java\jdk1.8.0_45\bin;%path%`

Check the JAVA_PATH value in ElasticSearch manager and fix it if required. Open the manager program from a DOS prompt:

1. Run `elasticsearch-service.bat` manager from a DOS prompt.
2. Click on the Java tab
3. Click the ... button to the right of %JAVA_HOME%\bin\server\jvm.dll
4. Select the correct JRE folder if required or set the value manually, e.g. C:\Program Files\Java\jdk1.8.0_45\jre\bin\server\jvm.dll
5. Click **Apply**.
6. Select the **General** tab.

7. Click **Start**.
8. Click **OK** to close the *ElasticSearch* manager

It may be necessary to remove and re-add the *ElasticSearch* service:

- `elasticsearch-service.bat remove`
- `elasticsearch-service.bat install`

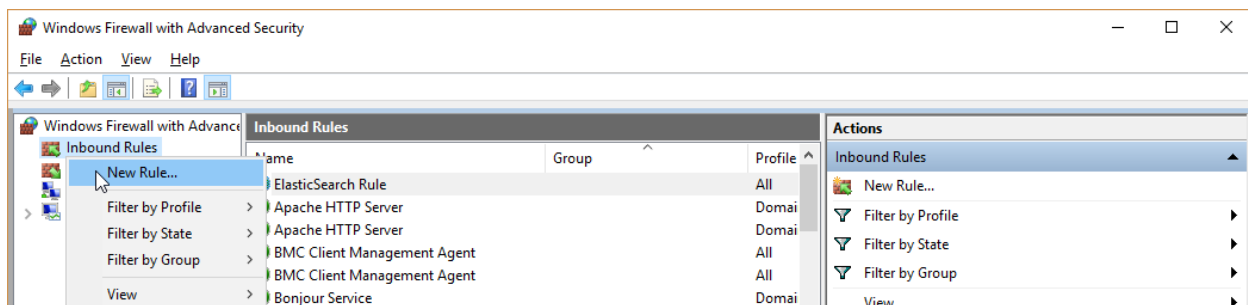
Browser Verification

Open ElasticSearch in a browser using the settings in `config\elasticsearch.yml` to check that it is running. The URL could be `http://MyServer:9200`. For example <http://localhost:9200/>. Where, depending on your configuration, "localhost" would be substituted with the name of the server that the ElasticSearch is running on.

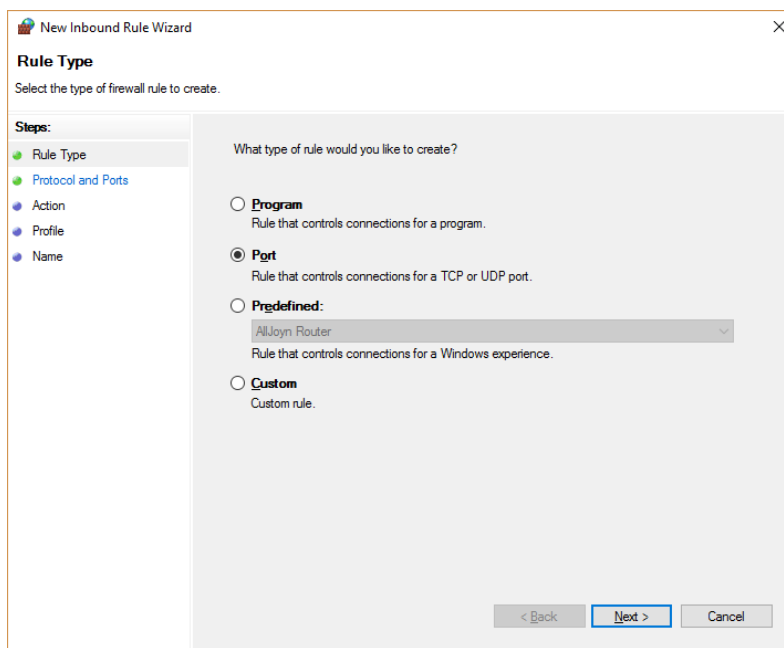
Issues with Windows Firewall

When there are issues with configuring the ElasticSearch, these issue may exist with the Windows Firewall.

1. When the Firewall Screen is displayed, click *Show/Hide Console Tree*.
2. On the left hand pane, right click *Inbound Rules* and select **New Rule**.

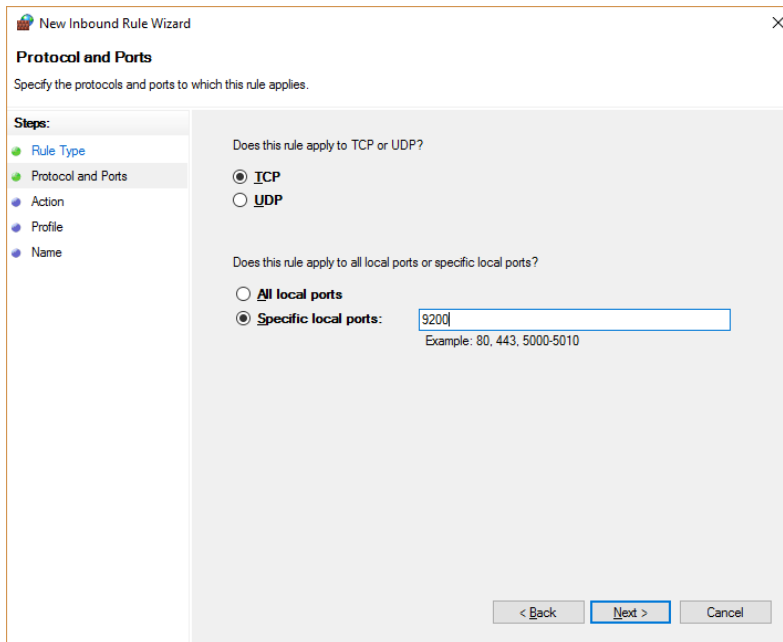


3. In the New Inbound Rule Wizard form, select **Port**, click **Next**.



4. At the *Protocol and Ports* step, select **TCP**; click on *Specific local ports* and enter **9200**.

5. Click **Next**.



New Inbound Rule Wizard

Protocol and Ports
Specify the protocols and ports to which this rule applies.

Steps:

- Rule Type
- Protocol and Ports
- Action
- Profile
- Name

Does this rule apply to TCP or UDP?

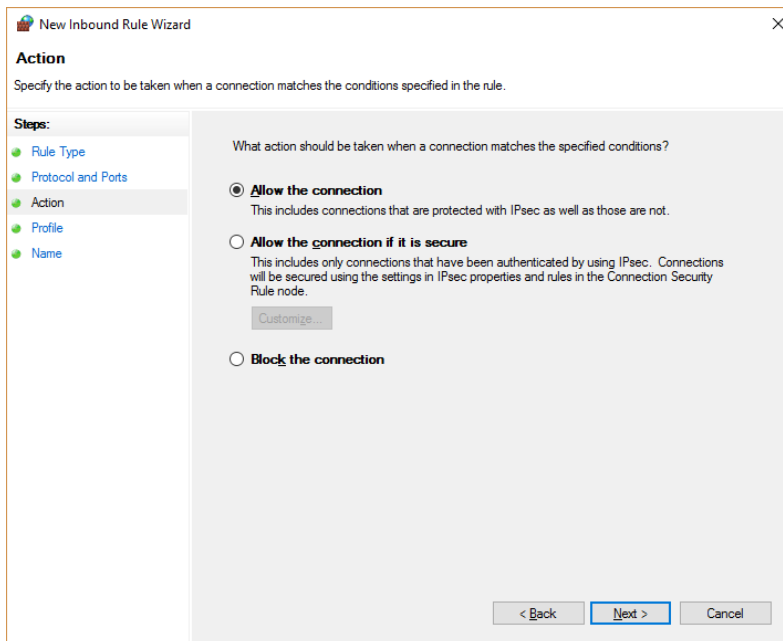
☒ **TCP**
☐ **UDP**

Does this rule apply to all local ports or specific local ports?

☐ **All local ports**
☒ **Specific local ports:**
Example: 80, 443, 5000-5010

< Back **Next >** Cancel

6. At the *Action* step, select **Allow the connection**; click *Next*.



New Inbound Rule Wizard

Action
Specify the action to be taken when a connection matches the conditions specified in the rule.

Steps:

- Rule Type
- Protocol and Ports
- Action
- Profile
- Name

What action should be taken when a connection matches the specified conditions?

☒ **Allow the connection**
This includes connections that are protected with IPsec as well as those are not.

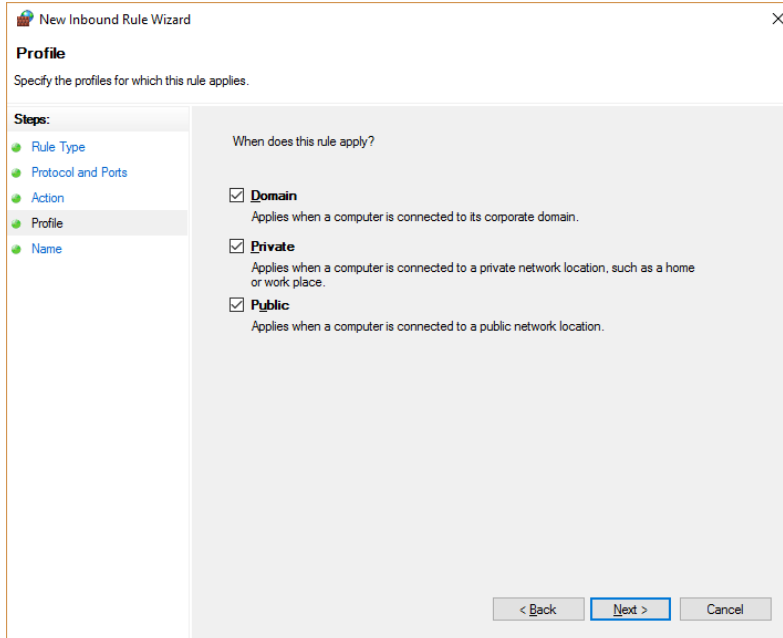
☐ **Allow the connection if it is secure**
This includes only connections that have been authenticated by using IPsec. Connections will be secured using the settings in IPsec properties and rules in the Connection Security Rule node.
[Customize...](#)

☐ **Block the connection**

< Back **Next >** Cancel

7. Set the rule to apply for **Domain**, **Private**, and **Public** by selecting the check boxes.

8. Click *Next*.



New Inbound Rule Wizard

Profile

Specify the profiles for which this rule applies.

Steps:

- Rule Type
- Protocol and Ports
- Action
- Profile
- Name

When does this rule apply?

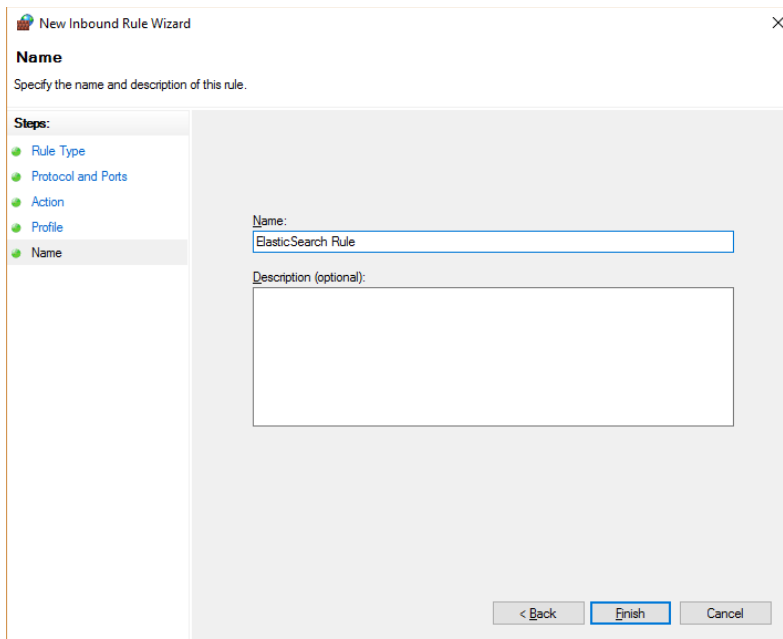
☒ **Domain**
Applies when a computer is connected to its corporate domain.

☒ **Private**
Applies when a computer is connected to a private network location, such as a home or work place.

☒ **Public**
Applies when a computer is connected to a public network location.

< Back Next > Cancel

9. At the name screen, enter a descriptive name for the rule; click **Finish**.



New Inbound Rule Wizard

Name

Specify the name and description of this rule.

Steps:

- Rule Type
- Protocol and Ports
- Action
- Profile
- Name

Name:
ElasticSearch Rule

Description (optional):

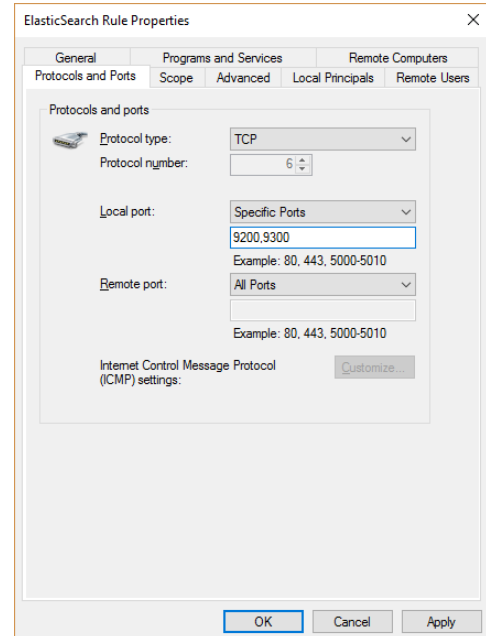
< Back Finish Cancel

Modifying a Preexisting Rule

If a rule has already been created and it needs to be modified you can go back to the Windows Firewall screen. Typically the modification involves adding an additional port number.

1. Open Windows Firewall.
2. On the left hand pane, click **Inbound Rules**.

3. Under the Inbound Rules pane, locate *ElasticSearch Rule*. Note that this is the name that was given to the rule when it was first created.
4. Right click *ElasticSearch Rule* and select *Properties* from the floating menu.
5. Click on the **Protocol and Ports** tab.
6. Configure the Protocol type as *TCP*.
7. Add another port specified for the ElasticSearch in the Local port parameter; select Specific Ports, and add **9300** to the 9200, separated by a comma and space.
8. Click OK.



The screenshot shows the 'ElasticSearch Rule Properties' dialog box with the 'Protocol and Ports' tab selected. The 'Protocol type' is set to 'TCP'. The 'Protocol number' is set to '6'. The 'Local port' is set to 'Specific Ports' with a text box containing '9200,9300'. The 'Remote port' is set to 'All Ports'. The 'Internet Control Message Protocol (ICMP) settings' section has a 'Customize...' button. The 'OK', 'Cancel', and 'Apply' buttons are at the bottom.

General	Programs and Services	Remote Computers
Protocols and Ports	Scope	Advanced
	Local Principals	Remote Users

Protocols and ports

Protocol type: TCP

Protocol number: 6

Local port: Specific Ports
9200,9300
Example: 80, 443, 5000-5010

Remote port: All Ports
Example: 80, 443, 5000-5010

Internet Control Message Protocol (ICMP) settings: Customize...

OK Cancel Apply