



# **Govern New Administration (GNA)**

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Harris Govern  
Govern New Administration (GNA)  
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## System Requirements



### Overview

This section lists the minimum hardware and software requirements for *Govern's eGovernment* solutions and *Microsoft .NET* applications.

### eComponent Requirements

Refer to the table below to determine which components and applications are required. Users with installed eComponents will only be able to view the components that they are licensed to use.

		eCOMPONENTS								
		ePortal	ePermit	eComplaint	eRenewal	eGrievance	eRequest for Services	eProfile	eRemittance	ePayment 2, 3
APPLICATIONS / MODULES	PC module	X	X	X	X	X	X	X	X	X
	LM module		X	X	X	X	X			
	AR module <sup>1</sup>		O	O	O	O	O	O <sup>4</sup>	O	X
	MB module							O <sup>4</sup>		O
	NA module							X	X	X
	SRT module								X	
	<i>Govern Security Manager 6.0 (GSM)</i>	X	X	X	X	X	X	X	X	X
	<i>Govern New Administration 6.0 (GNA)</i>	X	X	X	X	X	X	X	X	X
	<i>Govern for Windows 10.8</i>	X	X	X	X	X	X	X	X	X

**X - Mandatory**

**O - Optional**

*ePayment Solution* requires the following:

1. *Accounts Receivable (A/R) Module, with links to the sub-systems for which you are setting up payment collection*
2. *Supported ePayment EFT Provider Interfaces are as follows: Pay Connexion, Moneris, Nelnet, Paymentus, Pay Pal, Point and Pay, US Moneris, and Your Pay.*
  - *Credit Card / Debit Card / eCheck software<sup>1</sup>, installed and configured with valid merchant account*
  - *Automated Clearing House (ACH) agreement, in force with a bank if you are providing Electronic Funds Transfer (EFT) services. Refer to the GNA release 6.0 guide for a list of EFT interfaces / providers supported by Govern.*
  - *Govern for Windows™ Release 10.8 or greater sub-systems:*
3. *The Accounts Receivable (AR) Modules with links to the sub-systems to which you are setting payment / collection are required.*

**Note:** All sub-systems are required for ePayment collection

4. *Required if users are creating eSubscriber accounts from the Web.*

### Third Party Applications

The following *Microsoft* and Third Party Software are required for the *eGovernment* solutions:

- *Internet Information Server (IIS) with Secure Sockets Layer (SSL) certificates, installed*
- *Microsoft .NET Framework 4.5*
- *SAP Crystal Reports Runtime Engine 13.0.9.x for .NET Framework 4.5 (32-bit)*

**Note:** Users of Govern eComponents should note that there are issues with using the Report Viewer for the SAP Crystal Reports Runtime Engine v13.0.9.x for .NET Framework 4.5 (32-bit). With eComponents use the **v13.0.1.x** of the SAP Crystal Reports Runtime Engine the for viewing reports in a Web browser.

**Server and Client Operating Systems not Supporting Microsoft's .NET Framework 4.5**

Users should note that the .NET Framework 4.5 is not supported by any of the following:

**CLIENT OS:**

Windows 7 / 8 (32-bit and 64-bit)

**SERVER OS:**

Windows Server 2008 R2 SP1 (32-bit and 64-bit), Windows Server 2012

*Refer to the following link for full information:*

<http://msdn.microsoft.com/en-us/library/8z6watww.aspx>



## Server and Network Requirements

**Note:** It is recommended, but not mandatory, to set up three physical servers. The first server would be for the *Database*, the second for the *Application*, and a third would function as, if required, for the *Web*. If, however, you decide to use one physical server for both the *Application* and *Web*, you will need to revise the minimum recommended configuration.

**Note:** Deployments on the application server are maintained with the Deploy EZ application, ensure that this server has Web access and an open FTP port.

SERVER HARDWARE	
Hardware Type	Minimum Specifications
DATABASE SERVER	
Platform	Windows & Unix <sup>1</sup>
Database Package	Oracle <sup>2</sup> or Microsoft <sup>®</sup> SQL Server <sup>3</sup> 2008 R2, 2012, 2012 R2, 2014
CPU	2 GHz / 1 MB cache, 800 MHz FSB (2.4 GHz Quad-core 1.066 GHz FSB - Recommended)
RAM	16 GB DDR2 <sup>4</sup> (32 GB DDR2 or greater - Recommended) <i>Note that specified memory requirements are for the core Govern Applications alone, i.e. without 3rd party application integrations. Third party integrations can significantly impact system performance due to their individual requirements. A review of requirements of integrated applications should be performed prior to their installation. Also refer to A Note for users of Virtual Machines (VM's) below.</i>
Disk Space	Dependent upon the size of data to be managed; RAID V with a minimum of 500 GB of hard disk space is a recommended configuration. <i>Note that Disk Space is dependent upon Database and Disk Mirroring requirements</i>
Operating System	Microsoft <sup>®</sup> Windows <sup>®</sup> Server 2008 R2, Server 2012, or greater
Network	100 Mbit NIC (1 Gbps - Recommended)
Peripherals	DVD / CD ROM Drive

## Govern New Administration (GNA)

<b>SERVER HARDWARE</b>	
<b>Hardware Type</b>	<b>Minimum Specifications</b>
<b>WEB SERVER</b>	
<b>Platform</b>	Microsoft® Windows® 2008 R2, with IIS 7.5, Server 2012 R2 with IIS 8.5
<b>CPU</b>	3 GHz / 1 MB cache, 800 MHz FSB ( <i>2.4 GHz Quad-core 1.066 GHz FSB - Recommended</i> )
<b>RAM</b>	8 GB DDR2 ( <i>16 GB - Recommended</i> )
<b>Disk Space</b>	100 MB for each site being maintained. Additional space will be required for reports, and temporary space for submitting multimedia documents.
<b>Operating System</b>	Microsoft® Windows® Server 2008 R2, Windows® Server 2012, 2012 R2
<b>Network</b>	100 Mbit Network Interface Card (NIC) ( <i>1 GBit Recommended</i> )
<b>WEB SERVER HARDWARE</b>	
<b>Peripherals</b>	DVD / CD ROM Drive
<b>Other</b>	Redundant power supply and fans

### Server and Client Operating Systems not Supporting Microsoft's .NET Framework 4.5

Users should note that the .NET Framework 4.5 is not supported by any of the following:

#### CLIENT OS:

Windows Windows 7 / Windows 8/8.1 (32-bit and 64-bit)

#### SERVER OS:

Windows Server 2008, all editions

Windows Server 2008 R2 SP1 (32-bit)

Refer to the following link for full information:

<http://msdn.microsoft.com/en-us/library/8z6watww.aspx>

### A Note for users of Virtual Machines (VM's)

Users of Virtual Machines (VM's) should note that when multiple servers are being hosted in a Virtual Machine on the same physical servers, the requirements for each individual server must be carefully managed as it can impact use of system resources. For example, users may decide to host the *Database Server*, *Application Server*, and an *eGovern Web server* in a *VM* that is running on the same physical server. In such a situation, as a result of the varying requirements of each server, planning is required to address how shared system resources are allocated to the individual server, and the *VM*.

### Client and Network Requirements

CLIENT HARDWARE	
Hardware Type	Minimum Specifications
CLIENT WORKSTATIONS	
Platform	Microsoft® Windows®
CPU	Intel® Core™ i3 Processor
RAM	4 GB <sup>5</sup> (8 GB RAM - Recommended)
Disk Space	40 GB of hard disk space <sup>6</sup>
Network	100 Mbit Network Interface Card (NIC) <sup>7</sup> (1 GBit Recommended)
Operating System	Microsoft® Windows® 7 Professional (32-bit and 64-bit), or Windows 8.x Professional (32-bit and 64-bit)
Other	17" Display <sup>8</sup> WPF Direct 3D Graphics Card
MOBILE HARDWARE (Laptops / Tablets)	
Platform	Microsoft® Windows®
CPU	Intel® Core™ i3 Processor
RAM	2 GB Internal RAM - 4 GB Recommended (4 GB recommended for Open Forms Laptop / Tablet)

## Govern New Administration (GNA)

<b>CLIENT HARDWARE</b>	
<b>Hardware Type</b>	<b>Minimum Specifications</b>
<b>Operating System</b>	Microsoft® Windows® 7 Professional (32-bit and 64-bit), or Windows® 8.x Professional (32-bit and 64-bit) <sup>7</sup>
<b>Network</b>	100 Mbit Network Interface Card (NIC) <sup>8</sup>
<b>Peripherals</b>	Extra Battery, Docking Station in vehicle, plug in keyboard
<b>Other</b>	12.1" (1024 x 768) Display (Recommended 1280 x 1024) Colors: True Color (32 bit) <sup>9</sup>
<b>Disk Space</b>	160 GB of hard disk space
<b>Integrated Communications</b>	Optional Integrated Mobile Broadband  WiFi® 802.11 a/b/g/n  10/100/1000 Ethernet
<b>THIN CLIENT PC / SERVER</b>	
<b>Operating System</b>	Microsoft® Windows® 2008 Terminal Server <b>OR</b> Citrix Metaframe

- 1) The version of UNIX will be dependent upon the manufacturers recommended version of Oracle.
- 2) Oracle 11g, and 11g R2 and greater are supported.
- 3) Microsoft® SQL Server 2008, SQL Server 2008 R2, SQL Server 2012, SQL Server 2012 R2 are supported.  
**NOTE:** Although these servers are supported, the **Reference Database** for the OpenForms Models is only available as a SQL Server 2008 R2 database.
- 4) CPU and RAM requirement may vary depending upon the amount of users and the number of parcels managed by the application.
- 5) Minimum - 4 GB (recommended - 8 GB).
- 6) Govern requires a minimum of 40 GB of temporary storage used while running the application.
- 7) Internet Explorer must support HTML 3.0 or higher.
- 8) Govern's performance is dependent upon network bandwidth because files, reports, icons, images, and data are downloaded from servers.

9) *The minimum required resolution for Govern Release 4.0 or greater is 1024 x 768 (1280 x 1024 Recommended) - Minimum Colors: True Color (32 bit).*

### **Server and Client Operating Systems not Supporting Microsoft's .NET Framework 4.5**

Users should note that the .NET Framework 4.5 is not supported by any of the following:

#### **CLIENT OS:**

Windows Vista / Windows 7 / Windows 8 (32-bit and 64-bit)

#### **SERVER OS:**

Windows Server 2008, all editions

Windows Server 2008 R2 SP1 (32-bit)

*Refer to the following link for full information:*

<http://msdn.microsoft.com/en-us/library/8z6watww.aspx>

## Supported Web Browsers

**Note:** Internet browsers are continuously developed and upgraded, as a result compatibility issues may arise. The following list is by no means an exhaustive one, and cannot completely take into account the incompatibilities that can occur between browser versions and versions of operating systems.

<b>Web Browsers</b>	
<p>The <i>MS Govern eComponents</i> are compatible with the following versions of these popular Web browsers.</p> <p><i>It can be assumed that Web browsers that do not appear on this list are not supported.</i></p>	
<b>Browser</b>	<b>Compatible Version</b>
<b>Microsoft Internet Explorer</b>	9.0 and above
<b>Mozilla Firefox</b>	3.0 and above
<b>Google Chrome</b>	2.0 and above
<b>Apple Safari</b>	3.1 and above



## Govern New Administration (GNA)

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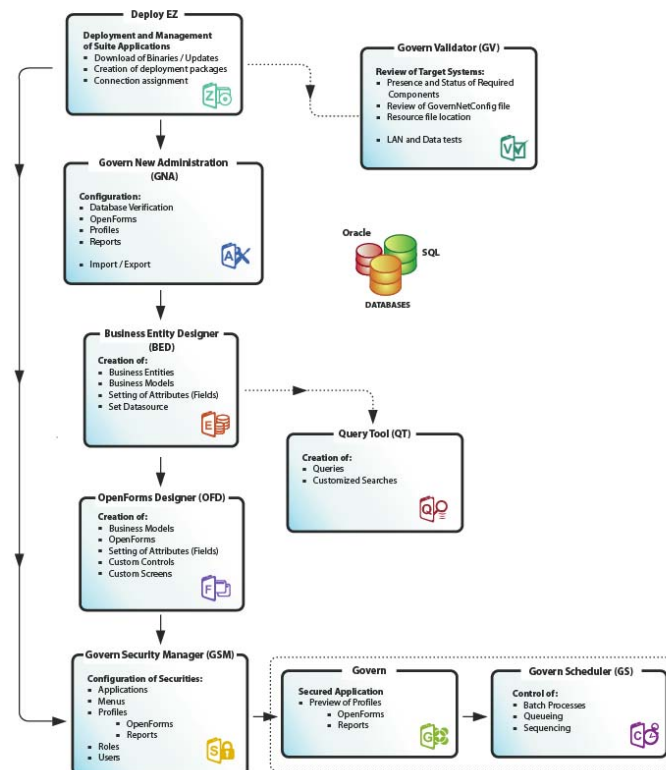


## Introduction

### Overview

The *Govern New Administration*, or **GNA** is the administration application used to configure *Govern*. The following are some of the features included:

- Database Management Utilities including management of multiple database connections. See *Managing Multiple Database Connections* on page 352.
- An extensive list of Editors to support the administrative requirements of *Govern*, as well as the end-user customization and integration requirements. See *Govern New Administration (GNA) Setup Editors* on page 143.
- Web Creation and Management Utilities that support the *eGovern - Public Self Service Portal*. See *Web Site Manager* on page 105, *Accessing Govern Web Configuration Tools* on page 104, *Search Configuration* on page 201, and others.
- Additional language support. See *Changing the Interface* on page 34.



## Administration of Govern for OpenForms

Although the administrative capabilities of *GNA* are extensive, there are configurations that need to be maintained in the *Govern for Windows GovAdmin* application. *Refer to the individual Govern Modules for administrative setup and configuration.*

Govern Release 6.0 is a significant update from the previous release 5.1. With this release, as part of the upgrade process, there are changes that users will need to acknowledge and confirm. In addition there are interface changes that streamline the user experience with other applications in the *Govern for OpenForms Release 6.0* suite.

# Upgrading from Govern Suite Release 5.1 to Release 6.0

*Govern* users that are upgrading from *Release 5.1* to *Release 6.0* will note the behavior of *Release 6.0* applications.

## Notable Changes

### Design Tools

The *Model Designer (MoD)* application is no longer a part of the suite. Design and Security of *Business Models* is now performed with the *OpenForms™ Designer (OFD)*. The *Business Entity Designer (BED)* is still used for designing *Business Entities*.

### Database Changes

Govern application versions that are prior to *Release 6.0* will be referred to as **legacy applications**. *Govern Databases* created for use with releases prior to 6.0 will be referred to as **legacy databases**. For *Release 6.0*, changes have been made to the structure of models used in the *Model Designer (MoD) Release 5.1* and the new *OpenForms™ Designer (OFD) Release 6.0*. As a result of these changes, the databases that are used by *Release 6.0 and above* applications are not compatible.

In order to assure the integrity of the 6.0 database, the *Govern* system will prevent the use of any legacy databases unless they have been created for, or upgraded to *Release 6.0*.

## How Govern Interacts with “Legacy” Databases

When launching an application, the *Govern* system performs a comparison between the version of the launched application and the database. This is

## Govern New Administration (GNA)

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carried out by looking at the value in the **NET\_DB\_VERSION** column of (Table: **USR\_KEY\_MASTER**).

**Note:** Prior to fully launching the application, i.e. prior to displaying the “*splash screen*”, a message box is displayed warning of an inconsistency between the application and the database. Upon user acknowledgement of the message, the launch of the application is terminated so as to minimize any calls to the database, and to maintain its integrity.

## Rules regarding Govern Legacy Applications

### Release 5.1 Applications

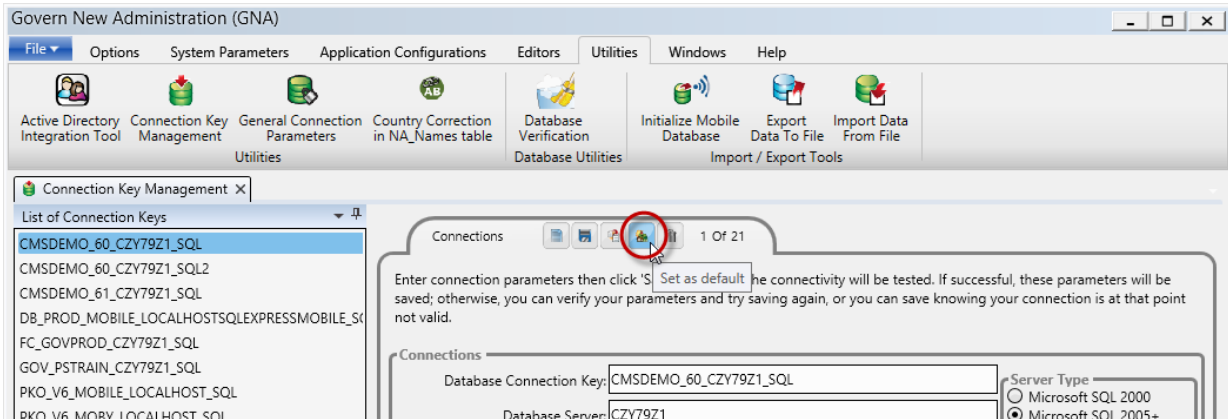
The following *Release 5.1* applications **WILL NOT** work with a *Release 6.0* database.

- Business Entity Designer (**BED**)
- Query Tool (**QT**)
- Security Manager (**SM**)
- Model Designer (**MoD**)
- Govern
- Govern New Administration (**GNA**)

### Release 5.1 Exception Application(s)

Users attempting to set a *Release 6.0* database as a **Default Connection Key** in the **Connection Key Management** form in the *Release 5.1 Govern New Administration (GNA)*, will be presented with a warning indicating that they cannot select a database version that is greater than *Release 5.1*. No change will be made to the default connection key.

Any user that tries to access any of the above applications will receive a warning message.



Refer to *Creating a Supplementary Connection Key* on page 340 in this user guide for details about changing the default *Connection Key*.

### Release 6.0 Applications

*Govern Release 6.0* applications **will not** run with a *Release 5.1* or lower database. The following is a list of the *Release 6.0* applications that will not work with a **legacy** database, i.e. a version prior to *Release 6.0*.

- Business Entity Designer (**BED**)
- Security Manager (**SM**)
- Query Tool (**QT**)
- Open Form Designer (**OFD**)
- Govern (*Release 6.0*)

Attempting to run any of the above *Release 6.0* applications will result in a warning being displayed.

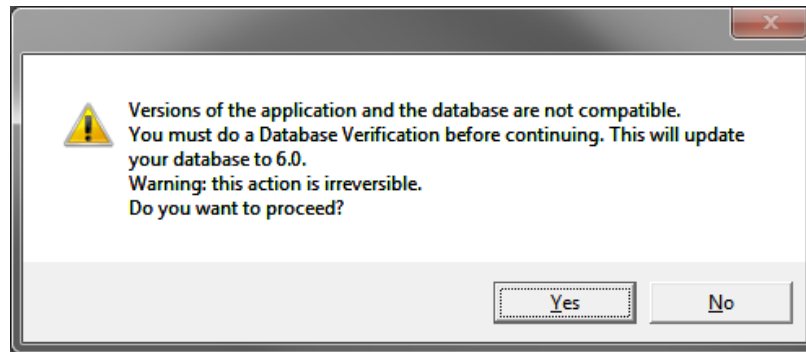
### Release 6.0 Exception Application(s)

Users attempting to set a *Release 5.1* database as a **Default Connection Key** in the **Connection Key Management** form in the *Release 6.0 Govern New Administration (GNA)*, they will be presented with a warning indicating that they cannot select a database version that is less than *Release 6.0*. If the user selects **Yes**, the system will run the **Database Verification** process and will

## Govern New Administration (GNA)

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update the selected database to a Release 6.0 version. See *Processing a Database Verification* on page 297 for details about this process.



**WARNING:** When users select the **Yes** option, GNA will display the **Database Verification** form to perform a **non-reversible** upgrade to their database. After the process is complete, the **NET\_DB\_VERSION** column in (Table: **USR\_KEY\_MASTER**) is updated.

**Note:** If errors are encountered during the *Database Verification* process, the conversion to a *Release 6.0* database will not be complete. Any errors will have to be addressed prior to the process being repeated.

## Upgrade Paths to Release 6.0

**WARNING:** Prior to any upgrade, it is recommended that a **complete backup** of the database prior to copying or upgrading should be performed.

Users that will be using Release 6.0 have two (2) paths to upgrade to *Govern Release 6.0* applications:

### OPTION 1 - Direct Upgrade

This path will immediately upgrade your current installation database from Release 5.1 to Release 6.0. The database upgrade process is irreversible and as such, **a complete database backup should be made prior to the upgrade**. Should it be necessary to roll back to your Release 5.1 database, the backup can be restored. The Deploy EZ application will be used to update

## Upgrading from Govern Suite Release 5.1 to Release 6.0

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the currently existing deployment. The deployment will consist of the Release 6.0 replacement applications.

**Note:** This Option 1 upgrade path will replace the Release 5.1 applications with their Release 6.0 versions.

### Upgrade Steps for OPTION 1

1. Open the *Govern New Administration (GNA) Release 5.1*.
2. Use the *Connection Key Management* form to ensure that the default connection key is set to your Release 5.1 database; close the GNA application when done. *Refer to Setting a Connection Key (CK) as a Default on page 343 for steps.*
3. Perform a complete backup of your current *Release 5.1* database with your *Database Management* application.
4. Update your current deployment with *Deploy EZ*; update the applications to the latest *Release 6.0* versions.
5. Run the *Govern New Administration (GNA) Release 6.0*.
6. At the prompt, click **Yes** to perform the database update.
7. When the process is complete, restart the application.

Upon completion of the process, the **NET\_DB\_VERSION** column in (Table: **USR\_KEY\_MASTER**) is updated. The database conversion is complete. Close GNA and restart the application.

### OPTION 2 - Parallel Install

This *Option 2* upgrade path is non destructive in that a new Release 6.0 Deployment is created; a name that reflects a Release 6.0 database is recommended.

**Note:** As with *Option 1* above, a full backup of the *Release 5.1* database is mandatory.

In addition to a full database backup a new *Connection Key (CK)* must be created to connect to the Release 6.0 database. Installing the applications in the Release 6.0 deployment will not overwrite any existing Release 5.1

## Govern New Administration (GNA)

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applications. The newly installed application will run independently of the legacy applications on a separate database.

**Note:** The **Option 2** upgrade path will leave the existing *Release 5.1* applications and database intact; as no upgrade is actually performed on existing *Release 5.1* applications. The database upgrade that is performed is on a duplicate database that is created from a backup of the *Release 5.1* version.

There is no synchronization of data between the old and new database; the 5.1 and 6.0 environments are independent of each other. If synchronization of data is required it will have to be performed by a qualified database administrator that is knowledgeable on the functioning of the *Govern* application and its database structure.

### Upgrade Steps for OPTION 2

1. Perform a complete backup of your current *Release 5.1* database with your *Database Management* application.
2. With you DB Management application, create a duplicate of the *Release 5.1* database; rename with a 6.0 designation, e.g. **mydbase\_60**
3. Open the *Govern New Administration (GNA) Release 5.1*.
4. Use the *Connection Key Management* form to create a connection key to the newly designated *Release 6.0* database.
5. Set the new connection key as the **Default** connection; close the *GNA* application when done. *Refer to Setting a Connection Key (CK) as a Default on page 343 for steps.*
6. Launch Deploy EZ.
7. Create a new deployment with a *Release 6.0* designation.
8. Create your deployment with the latest required *Release 6.0* applications.
9. Run the *Govern New Administration (GNA) Release 6.0*.
10. At the prompt, click **Yes** to perform the database update.
11. When the process is complete, restart the application.

Upon completion of the process, the **NET\_DB\_VERSION** column in (Table: **USR\_KEY\_MASTER**) is updated. The database conversion is complete the applications can be restarted.



### What's New

This section lists new features, or new ways of performing an old function in the Govern New Administration (**GNA**) release 6.0. These new features are indicated by the **NEW!** symbol.

#### Database Structure

Govern Release 6.0 has many changes. In order to accommodate new features and new applications, changes have been made to the structure of the *Govern Release 6.0* database structure. See *Upgrading from Govern Suite Release 5.1 to Release 6.0* on page 3 for database upgrade steps.

#### User Interface

The interface for the Govern New Administration (GNA) has been updated to have a similar look and feel navigation as other applications in the *Govern Release 6.0* suite. Refer to *GNA User Interface* on page 12 for interface details.

#### Open Forms Designer

Noticeably absent from the Govern Release 6.0 suite of applications is the *Govern Model Designer (MoD)*. This application for designing the *Business Models* that are required by *OpenForms* has been replaced with the *Govern Open Forms Designer (OFD)*. See the *OpenForms Designer Release 6.0* user guide for details.

#### Online User Help

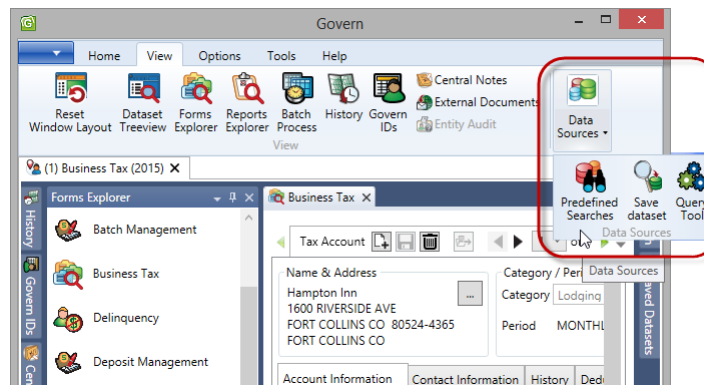
The user help for the GNA now follows the same convention as Govern and the OpenForms™ modules. Refer to *Configuring System Help* on page 410 for details.

#### Expressions Editor

Using the Expression Editor, it is now possible to design expressions, i.e. a combination of explicit values, constants, variables, operators, and functions that follow specific rules. Expressions are used throughout Govern to calculate, format, validate, set properties, etc. and are executed when a form is loaded or as soon as a change is detected. See *Expressions Editor* on page XXXXX for details.

# Grouping of Govern Ribbon Icons

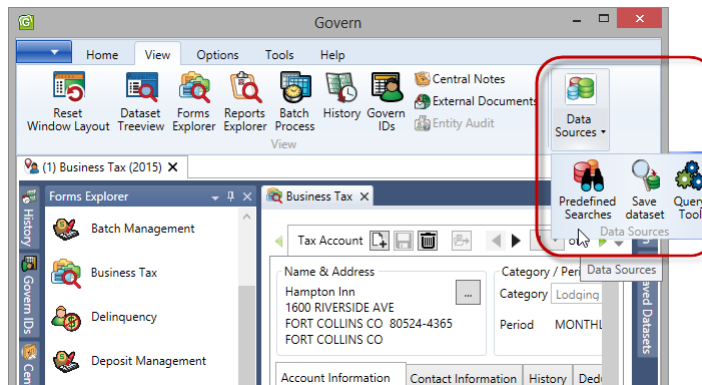
**NEW!** A new behavior is now observed when there are multiple Ribbon icons in an icon group, as the UI window is reduced in size, the icons within the group will be combined into a single icon. There will be a drop down group menu containing all icons within the group.



This behavior will allow the application UI to be flexible when the screen is resized by the user.

# Grouping of Govern Ribbon Icons

**NEW!** A new behavior is now observed when there are multiple Ribbon icons in an icon group, as the UI window is reduced in size, the icons within the group will be combined into a single icon. There will be a drop down group containing all icons within the group.



This behavior will allow the application UI to be flexible when screen resizing occurs.

# The Govern New Administration

## GNA User Interface

**Note:** Configuration interfaces that appear in the GNA may vary between users depending upon the security settings that have been applied to them. Menu items under the tabs in the ribbon are secured by the Govern Security Manager (GSM). *Refer to the Govern Security Manager Release 6.0 user guide for details about securing the GNA menu items.*

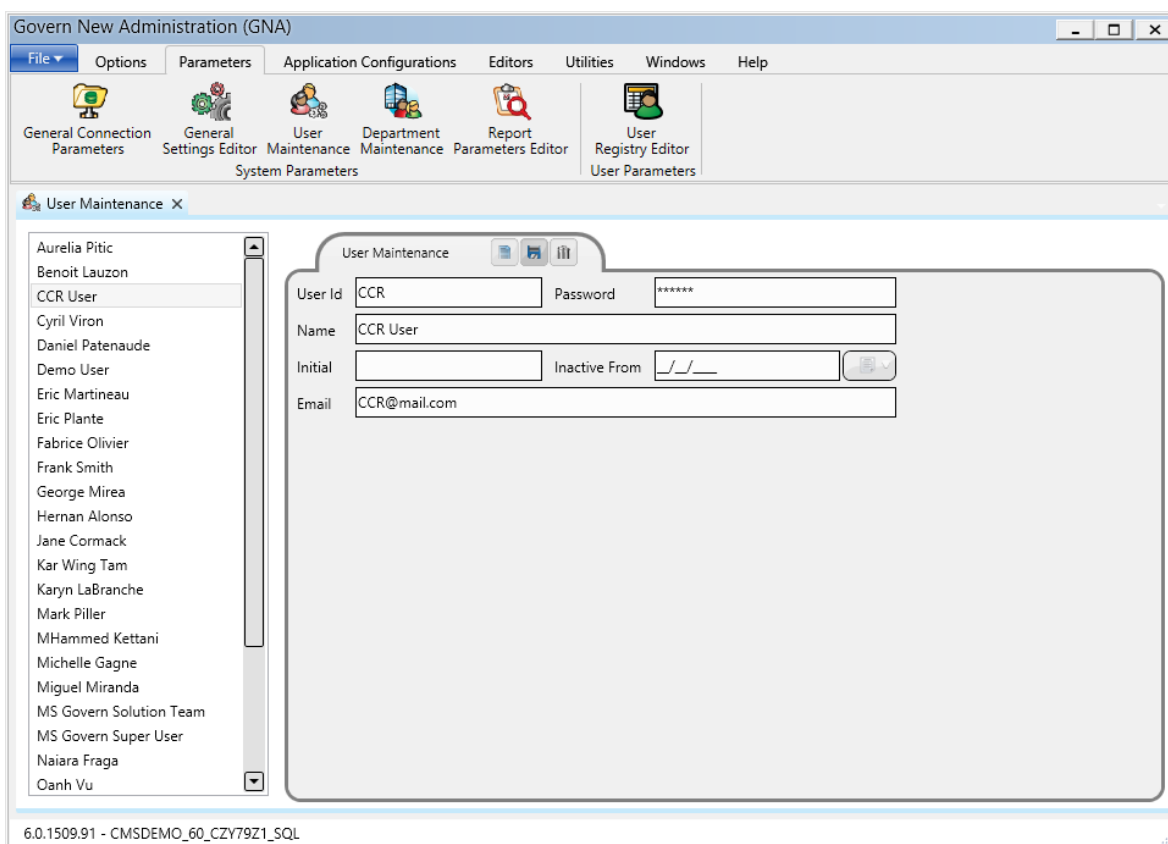
The Govern New Administration (**GNA**) user interface was redesigned for Release 6.0 and upwards. The interface uses ribbons for quick access to the required areas of the application. Forms are now accessible through **tabs** on the ribbons. Presentation of forms can be changed from the standard Multi-window forms, overlapped and staggered, to a tabbed layout.

GNA applications are arranged under the tabs that logically groups them by their function. With the exception of the **File** tab, GNA applications are found under one of the following:

- Options
- Parameters
- Applications Configurations
- Editors
- Utilities
- Windows
- Help

## Organization of the GNA Ribbon tabs

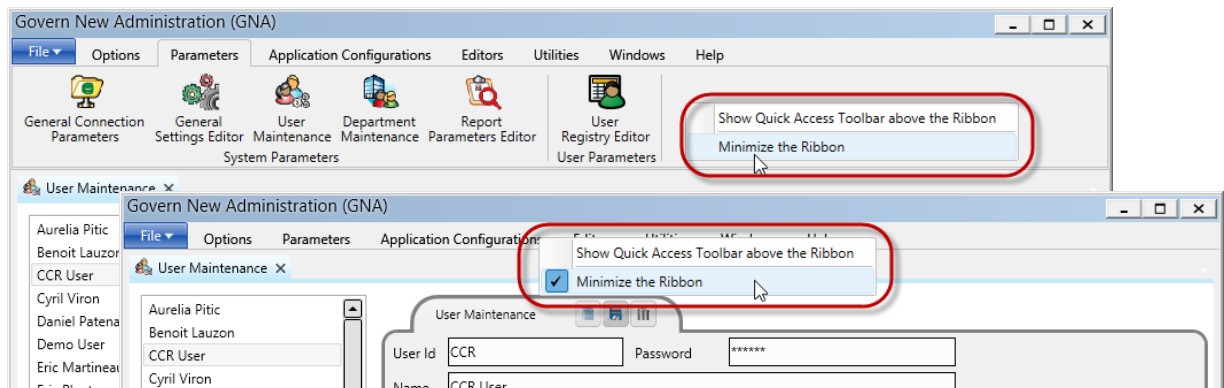
**Note:** The **Ribbon** of the *Govern New Administration (GNA)* Release 6.0 can be secured with the *Govern Security Manager (SM)* Release 6.0. After starting the GNA, if you are presented with an interface containing limited tabs and ribbon icons, verify with your system administrator that you have access to your required menus.



The GNA Ribbon has been arranged to group utilities with similar functions in a common location. In addition some ribbon icon options are mutually exclusive, i.e. when a selection is made, that selection will be removed from the list of available options. See *Language* on page 34 and *Mutually Exclusive Menu Options* on page 34.

## Space Saving features of the Ribbon

### Minimizing / Restoring the Ribbon



As is customary with application interfaces with ribbons, when space is limited, the ribbon may be minimized.

To minimize the Ribbon...

1. In the GNA interface, Right click on the Ribbon or on the row where the tabs are presented.
2. In the floating menu, select the **Minimize the Ribbon** option.

Restoring the Ribbon...

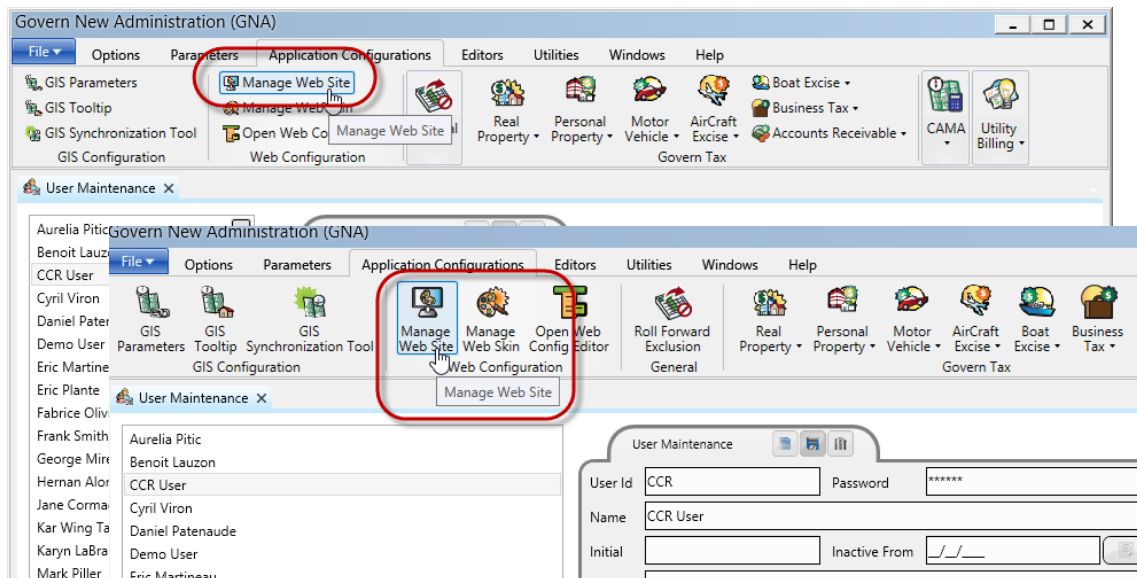
1. Right click on the row where the tabs are presented.
2. Select the checked **Minimize the Ribbon** option.

### Display Behavior of Ribbon and Ribbon Icons

Typically an application window with a ribbon will exhibit specific display characteristics when the width of the window is reduced. Display characteristics are as follows:

- A tab with multiple icons too numerous to display in the ribbon at full size will be displayed at a reduced size (approx. 50%). When the application

screen width is reduced, the application icons will be displayed with a text label (A).



- If the application group contains 2 or more icons, the group will be presented with a group icon (B) that can be accessed to display the items in the group.
- When ribbon space is extremely limited and there are multiple icons in a group, icons will be combined into sub groups. The sub group icons will be combined in groups of three, and presented without labels. The name of the icon will be displayed when the mouse pointer is hovered over the reduced size icon (C).

## File tab

The File tab is selected to access the **Exit** command. A click will close down the application.

## Options tab

The *Options* tab contains selection options to modify the user interface and to diagnose system errors and generate trace logs.

### Options

Under this tab are interface language choices. Selection options are *Mutually Exclusive*, i.e. when an option has been selected, that option will no longer be

## Govern New Administration (GNA)

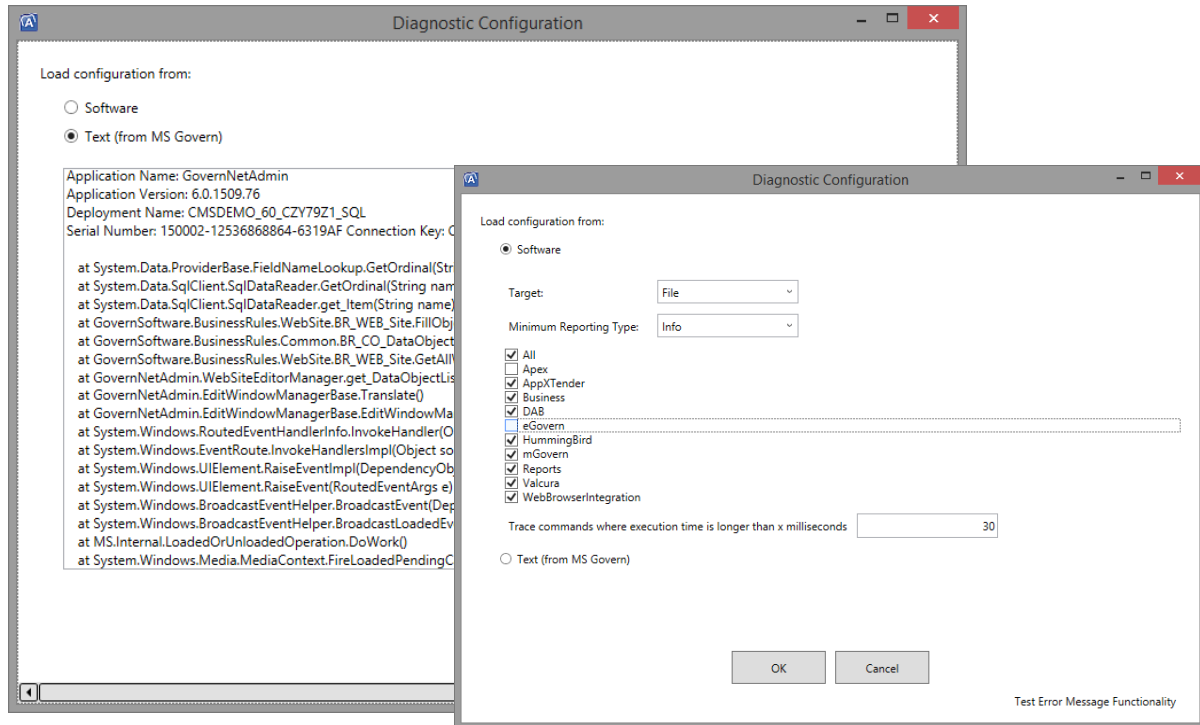
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displayed as a selection option. See *Mutually Exclusive Menu Options* on page 34

- *Switch Language to...; see Language* on page 34.



# GNA Trace Utilities



**Note:** When enabled trace functions can be instrumental in troubleshooting system issues, likewise in assisting Technical Support to resolve them.

The functionality of the *GNA* trace utility has been expanded in *Release 6.0*. In previous releases, trace logs were generated by setting individual keys for sections that a log was required for; e.g. *General*, *DAB*, *GIS*, *Mobile*, and so on. In the current *Release 6.0*, all trace activities are managed through the *Configuration Diagnosis* console.

## Default Trace Log Settings

By default, when enabled, a trace process will immediately begin to generate data that is written to a *Comma Separated Value (.csv)* log file in the Trace directory of the deployment folder. The trace file uses the following naming convention:

`userName_serverName_ckName_appName.csv`

where...

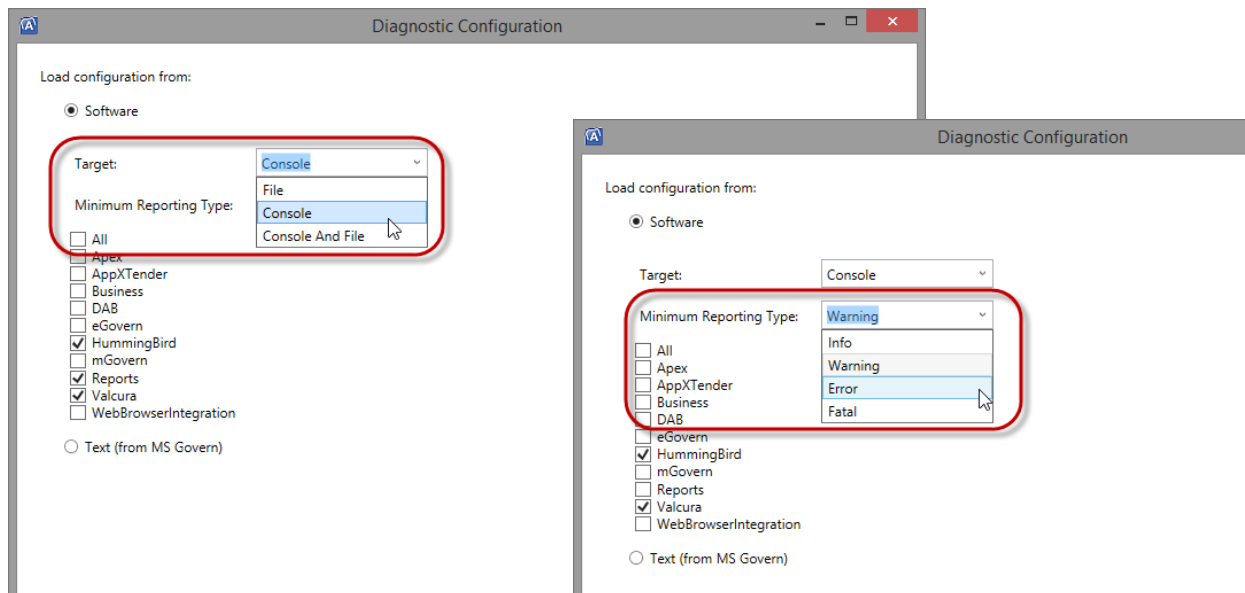
## Govern New Administration (GNA)

- **userName** = users login name
- **serverName** = name of the server that the application is installed
- **ckName** = the connection key name
- **appName** = the application that is being monitored

Ex.: jdoe\_JNMTL2\_GOVDB\_60\_JNMTL2\_SQL\_GovernNetAdmin.csv

**Note:** The trace file is self maintaining in that it will be deleted when it is older than 30 days. Alternatively, users may opt to delete the file manually, it will be regenerated the next time it is enabled.

## Software option



**Target:** The Target options allow the selection of how the trace information will be presented. The options are as follows:

- **File** - The **File** option will generate the trace information as a log file. This .csv file can be opened with any application that supports the format, e.g. *Microsoft Excel*.
- **Console** - When **Console** is selected, a console (output window) titled **NLog** is launched. The trace information is logged in the **NLog** window.
- **Console and File** - Selecting the Console and File option will display the trace information using both of the above means, the *NLog* console window will be displayed and the **.CSV** log file will also be generated.

When the Text option is selected, A text field is displayed. The intent is that any debugging information is pasted into the field.

**Minimum Reporting Type:** Selecting a minimum reporting type will determine what details are logged. For example:

- **Info** - Select the *Info* option to log general information about the application. This can include a list of the calls that are made by the application
- **Warning** - The *Warning* minimum level will log error messages that are of the type Warnings.
- **Error** - When a minimum level of *Error* is selected, the system will log all errors that are categorized as an Error. These are errors that will cause the application to halt its current process, but will not cause it to fail. In this situation data loss may occur.
- **Fatal** - This option will log all errors that are categorized as *Fatal*. These are errors that will cause the application to fail, i.e. a crash without the chance of a recovery. In this situation data loss may occur.

## Supported Modules

The list of supported modules are presented below the Min Level: option and pertain to the areas of the govern application, modules, and integrated 3rd party modules.

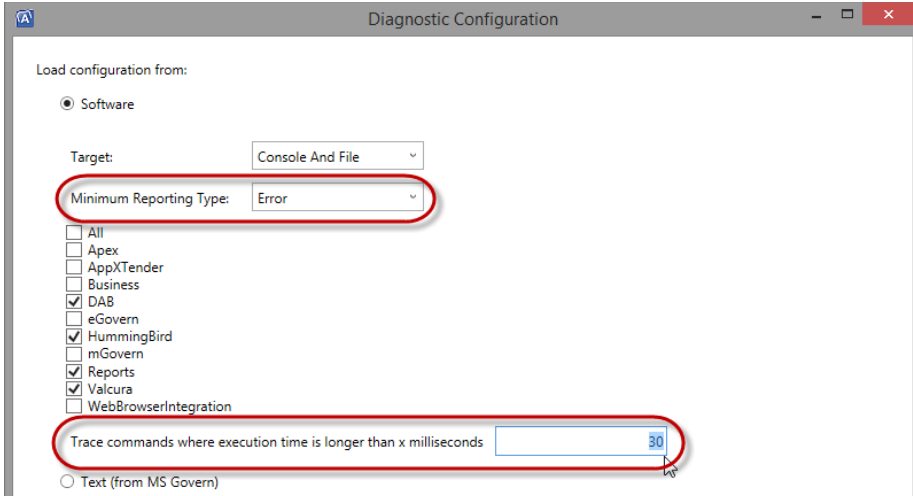
- **All** - Selecting All will log the errors generated by all modules. This will include traces of the errors generated by installed Govern suite applications; e.g. *MSGovern*, *GovernNetAdmin*, *BEDesigner*, *GovernSoftware.Security.UI.Manager*, *MSGovern.OFD*, and so on.
- **DAB** - Selecting the DAB option will log the activities that access the *Govern Data Access Block (DAB)*

**Note:** When the DAB option is selected, a new field called **Trace commands where execution time is longer than X milliseconds** will be displayed. See details below.

- **Trace commands where execution time is longer than X milliseconds** - Enter a value in milliseconds that will be used a threshold. Any actions or calls that take longer than this value will

## Govern New Administration (GNA)

be recorded in the log file. The default value for this field is **30** milliseconds

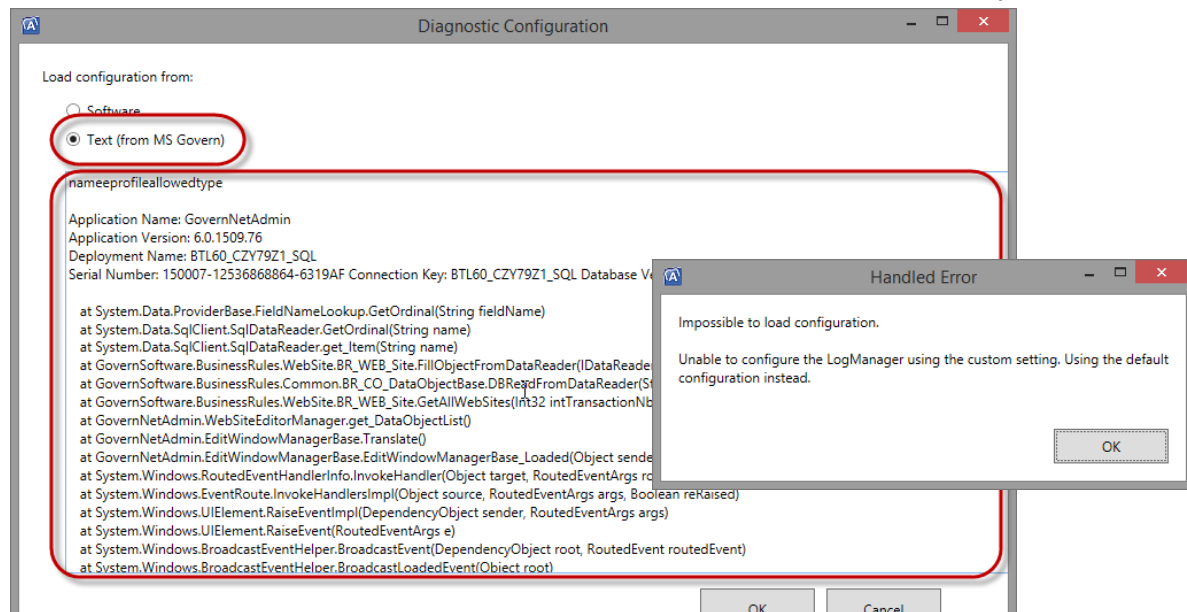


### Tracing Govern Applications

- **All** - Select the *All* option to obtain a trace log of all Integration applications
- **Apex** - The *Apex* option will trace issues that are related to integration with the Apex drawing tool.
- **AppXTender** - To troubleshoot or monitor issues related to integration involving the AppXTender document management system, select this option for a trace log.
- **Business** - When there are issues related to the Govern Business Tax module, select this option.
- **DAB** - Select the *DAB* option for trace logs related to the *Govern Data Access Block (DAB)*.
- **eGovern** - This option will trace errors related to the eGovern - Public Self Service Portal.
- **HummingBird** - Use this option to obtain a trace log for Hummingbird Document Management System integrations.
- **mGovern** - Selecting this option will provide trace information that is related to the mGovern mobile application
- **Reports** - When there are issues with reports, select this option to trace information related to reports.
- **Valcura** - Use this option to obtain log information related to the Valcura appraisal system integration.
- **Web Browser Integration** - Select this option to log errors generated by Web browser related integrations, i.e. integrations that make calls to the Web.

## Text (from MS Govern) option

The text option is reserved for entering debugging information that is generated by the system. When errors are generated by the system, the debug code can be copied and reviewed for insight into the issue. To further assist, when the “Load configuration from” **Text** option is selected, the debug code can be copied and pasted into the text field that is displayed.



If there is an incompatibility, an error window will be displayed.

## Parameters tab

In the Govern New Administration (GNA), the **System Parameters** tab is the location of the main configuration interfaces to the *Govern System Registry (General Settings Editor)*. In addition, interfaces to the *General Connections* and *Report Parameters* can also be located under this tab.

- *General Connection Parameters*, see *General Connection Parameters* on page 36.
- *General Setting Editor*, see *OpenForms™ General Settings* on page 40.
- *User Maintenance*, see *User Maintenance* on page 52.
- *Department Maintenance*, see *Department Maintenance* on page 55.
- *Report Parameters Editor*, see *Reports in the Govern New Administration (GNA)* on page 70.

## Govern New Administration (GNA)

### Application Configurations tab

The Application Configuration menu is the location of the configuration utilities for installed suite modules.

This menu contains configuration forms for the following:

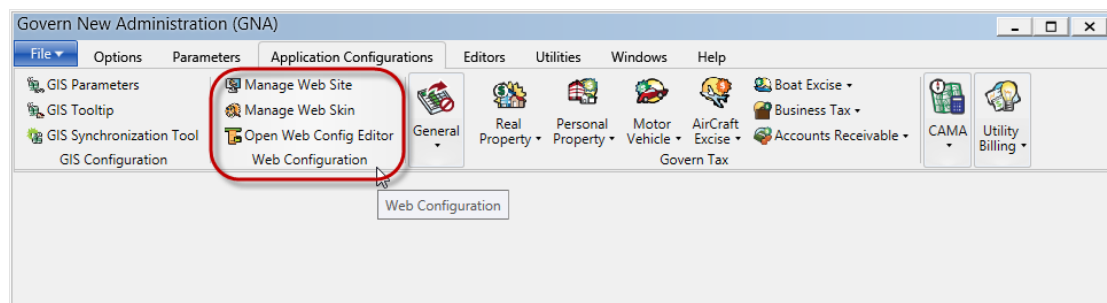
#### GIS Configuration group



Configuration parameters for users of the Govern GIS View module

- *GIS Parameters*; see *GIS Parameters Editor* on page 91
- *GIS Tool tip*; see *GIS Tooltip Editor* on page 96
- *GIS Synchronization*; see *GIS Synchronization Tool* on page 98

#### Web Configuration group



Configuration parameters related to the eGovern - Public Self Service Portal module

- *Manage Web Sites...*; see *Web Site Manager* on page 105
- *Manage Web Skin...*; see *Web Skin Manager* on page 106
- *Open Web Config Editor*; see *Web Configuration File Editor* on page 108

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## **Govern Tax Modules**

### **General**

The General group is reserved for system wide tools. Currently the Roll Forward Exclusion tool can be found in this location. *Refer to the Roll Forward Exclusion tool on page XXXXXX for details.*

### **Govern Tax group**

**Note:** Govern Tax modules for Govern 6.0 are currently in development. As modules become available they will be introduced into the application.

When the relevant *Govern Tax* module is present, The Govern Tax group under the Application Configurations tab will allow users to access the *Tax* form editors within the modules. *Refer to the appropriate tax module for details.*

### **Real Property**

When the *Real Property Tax* module is present, users will be able to access the parameters that are relevant to the *Real Property Tax* module; i.e. *General Parameters*, *Levy Codes*, *Exemption Groups*, and others.

### **Personal Property**

Users with the *Personal Property Tax (PP)* module installed can access *Self Reported Tax* configuration parameters and editors. *Currently this module is in development...*

### **Motor Vehicle**

When the *Motor Vehicle Tax (MV)* module is present, this menu will allow users to access *Motor Vehicle Tax* configuration parameters and editors. *Currently this module is in development...*

### **Aircraft Excise**

The *Aircraft Excise Tax (AC)* menu will allow users to access *Aircraft Excise Tax* configuration parameters and editors. *Currently this module is in development...*

## Govern New Administration (GNA)

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### Boat Excise

Users with the *Boat Excise Tax (BT)* module installed can access *Boat Excise Tax* configuration parameters and editors. *Currently this module is in development...*

### Business Tax (Self Reported Tax)

Users with the *Business Tax (BT)* module installed can access *Self Reported Tax* configuration parameters and editors. *Currently this module is in development...*

### Accounts Receivable

When the *Self Reported Tax (SRT)* module is present, this menu will allow users to access *Self Reported Tax* configuration parameters and editors. *Currently this module is in development.*

### CAMA group

#### Mass Appraisal

The *Mass Appraisal Validation Tables for Building Structural Elements (BSE)* are displayed on the *Building Structural Elements* form in Govern. All the BSE tables are set up in a similar fashion. The interface to create new BSE Templates is found in the BSE Templates form. *Refer to the Mass Appraisal Release 6.0 user guide for details.*

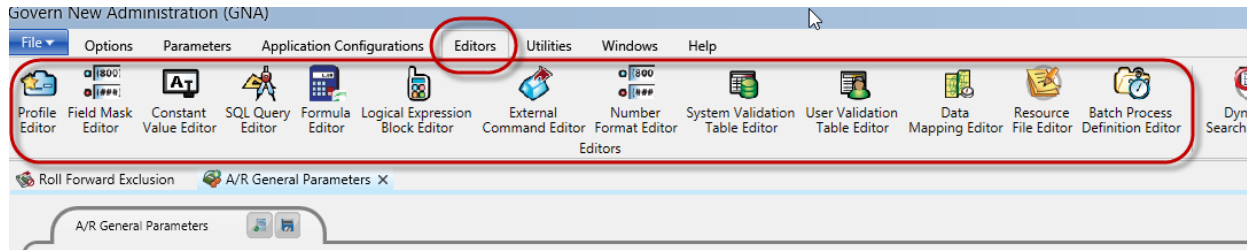
### Utility Billing group

#### Utility Billing

The Utility Billing system was designed to handle multiple types of services including water, sewer, refuse, electrical, gas and more. The system maintains a single account number for ease of use and customer inquiries. A many-to-many relationship exists so that multiple meters and reading devices can be linked to an account. *Refer to the Utility Billing Release 6.0 user guide for details.*



## Editors tab



### Editors group

Editors and Configuration tools for, OpenForms™. See *Govern New Administration (GNA) Setup Editors* on page 143.

- *OpenForms Profile Editor. See Profile Editor on page 110.*
- *Field Mask Editor*
- *Constant Value Editor*
- *SQL Query Editor*
- *Formula Editor*
- *Logical Expression Block Editor*
- *External Command Editor*
- *Number Format Editor*
- *System Validation Table Editor*
- *User Validation Table Editor*
- *Data Mapping Editor*
- *Resource File Editor*
- *Batch Process Definition Editor. See Batch Process Definition Editor on page 144.*

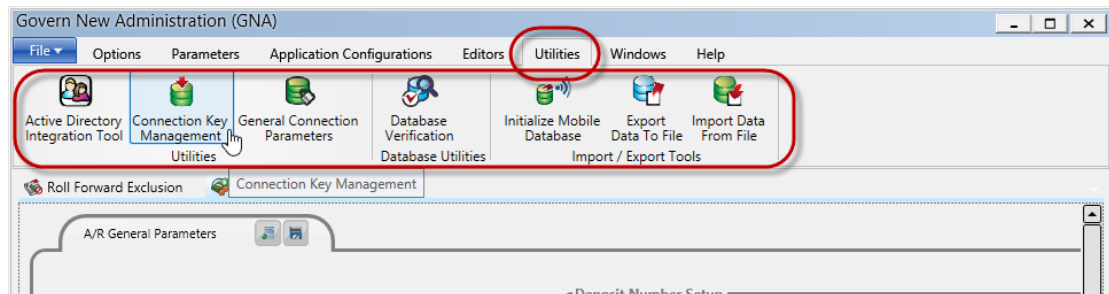
### Dynamic Search Configuration group

These are the Dynamic Search editors used for search configurations that are accessible in Govern and the Web.

- *Dynamic Search Objects*
- *Dynamic Search Styles*
- *Dynamic Search Groups*

## Govern New Administration (GNA)

### Utilities tab



### Utilities group

#### Active Directory Integration Tool

The *Active Directory MSGovern Integration Tool* allows administrators to import users from *Active Directory* into *Govern*'s user database.

#### Connection Key Management

This form is used to create or modify the parameters for a Connection Key (CK). This feature is useful in an environment with multiple databases.

#### General Connection Parameters

Use the parameters in the *Connection Key General Parameters Management* form only when instructed by *Govern Technical Support*.

#### Country Corrections in NA\_NAMES table

This tool is used to clean up text fields used in earlier versions of *Govern for Windows*.

### Database Utilities group

#### Database Verification

Select this menu to locate the tools that are used for Active Directory Integration, managing *Connection Keys*, and all database utilities including import and export tools. See *GNA Utilities* on page 292.

- *Create MS Govern System Stored Procedures - In Verify*
- *Create only Tables necessary to the Dynamic Search component*

### Import / Export Tools group

- *Initialize Mobile Database*

The following two utilities are collectively referred to as the Enterprise Management tool (**EMT**)

- *Export Data to File*
- *Import Data from File*

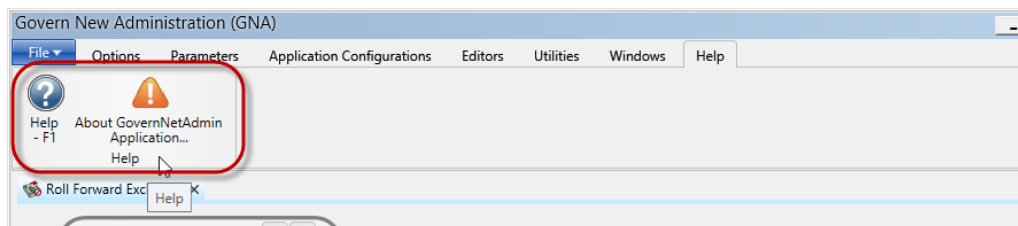
## Windows tab

### Windows group

Under the *Windows* menu are options to change how forms and windows that are opened in the *GNA* interface are displayed.

- *Cascade*
- *Tile Horizontally*
- *Tile Vertically*
- *Layout - Users should note that selection options are Mutually Exclusive, i.e. when an option has been selected, that option will no longer be displayed as a selection option in the menu list.*
  - **Standard**
  - **Tabbed**

## Help tab



### Help group

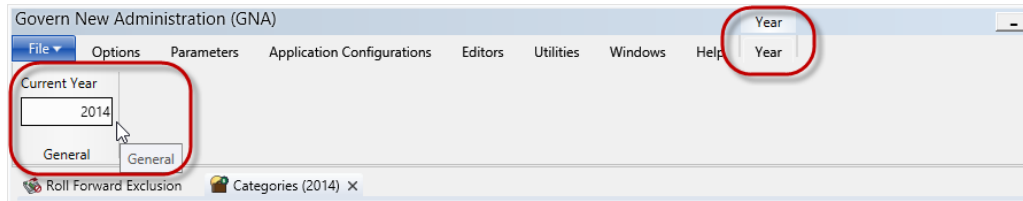
Select *Help* to view user help documentation for the *Govern New Administration (GNA)*.

- *Govern Net Admin Help - F1*
- *About Govern Net Admin Application*

## Govern New Administration (GNA)

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### Year tab



**Note:** The appearance of this tab is conditional upon the displaying of configuration forms that are based upon the active year, e.g. SRT Categories, or modules that use exemption codes, and so on.

The **Year** tab is used to display the parameter for the Current year. The value appearing is the Active or Current Fiscal year. *For details about this option, refer to the Global Information group section of the Govern General Information user guide.*

# Tools found in the Govern New Administration (GNA)

## Database Connection and Verification Tools

Tools for defining Database connection parameters and configuring Web sites associated with the Database, are found under the *Utilities (tab)* and the *Editors (tab)*. See *Connecting to a SQL Database Server on page 341* and *Web Configuration File Editor on page 108* for details. The tool used to update Govern's reference database is located under *Utilities > Database Utilities* menu. See *Processing a Database Verification on page 297* for details.

## Dynamic Search Configuration Tools

*Governs Search Configuration* tools are used to design and configure search pages for *eProfiles*, *eComponents*, and *Govern*.

These tools are located under the *Editors (tab) > Dynamic Search Configuration* menu. They are titled, **Dynamic Search Objects**, **Dynamic Search Styles**, and **Dynamic Search Groups**. Once you have created your search styles and style groups, you can link them to an *eProfile*, *ePayment*, or *ePermit* through menu options or reports. This is done through the *eProfile* tab of the *Menu Setup* form in *Govern Admin*. See *Search Configuration on page 201* for details.

## Web Configuration Tools

These are tools for managing the look and feel of the *eProfile* and *eComponent* Web sites; the *Web Skin Manager* and the *WebSite Manager* are submenus under *Application Configurations (tab) > Web Configuration...*. See *Accessing Govern Web Configuration Tools on page 104* for details.

### Web Skin Manager

The *WebSkin Manager* is used to create and preview customized WebSkins and define the look and feel of the *eProfile* and *eComponents*. This tool defines general layout, title, and sections of the web page such as the *head*, *header*, *footer*, left and right margins, and *body*. These sections are defined as "skins", assigned a name and ID, and can be applied to the *eProfile* or

## Govern New Administration (GNA)

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eComponent with the Web Site Manager. See *Govern Web Configuration Tools* on page 104 for details. See *Web Skin Manager* on page 106 for details.

### Web Site Manager

After setting up *WebSkins*, the *Web Site Manager* is used to assign *WebSkins* to the *eProfile* and each *eComponent* associated with the Web Site. Each application can be assigned a different skin for a different look/feel navigation. Alternatively, you may assign the same skin to all components. See *Web Site Manager* on page 105 for details.

## Batch Process Setup Tools

This form allows you to define the batch processes that are used in *Govern.NET*. See *Batch Process Definitions User Interface* on page 273 for details.

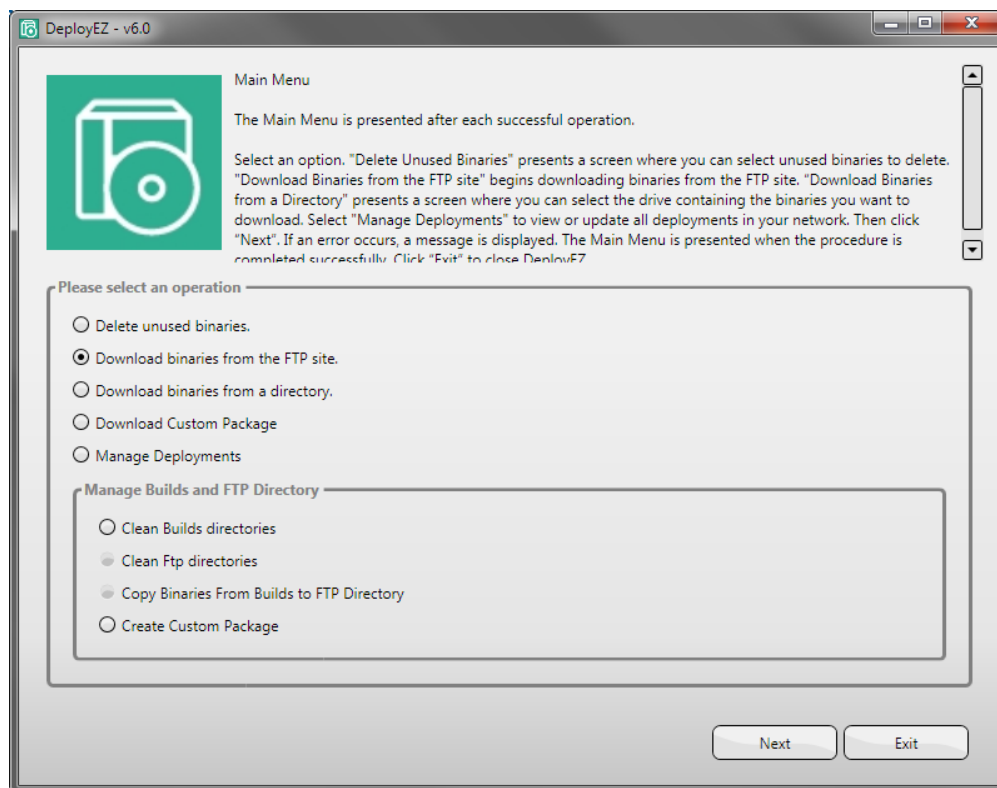
# Installing the Govern New Administration

## Overview

### Govern New Administration (GNA) Installation

The *Govern DeployEZ™ Deployment Manager* is the application that is used to deploy all *Govern .NET* solution applications, and legacy *Govern for Windows* applications. As a result, administrators should refer to the *Govern DeployEZ™ Installer* guide for pre-installation activities, and installation instructions.

When a deployment that includes the *Govern New Administration (GNA)* has been created, the user will be provided with a network link or URL indicating the location of the installation package.

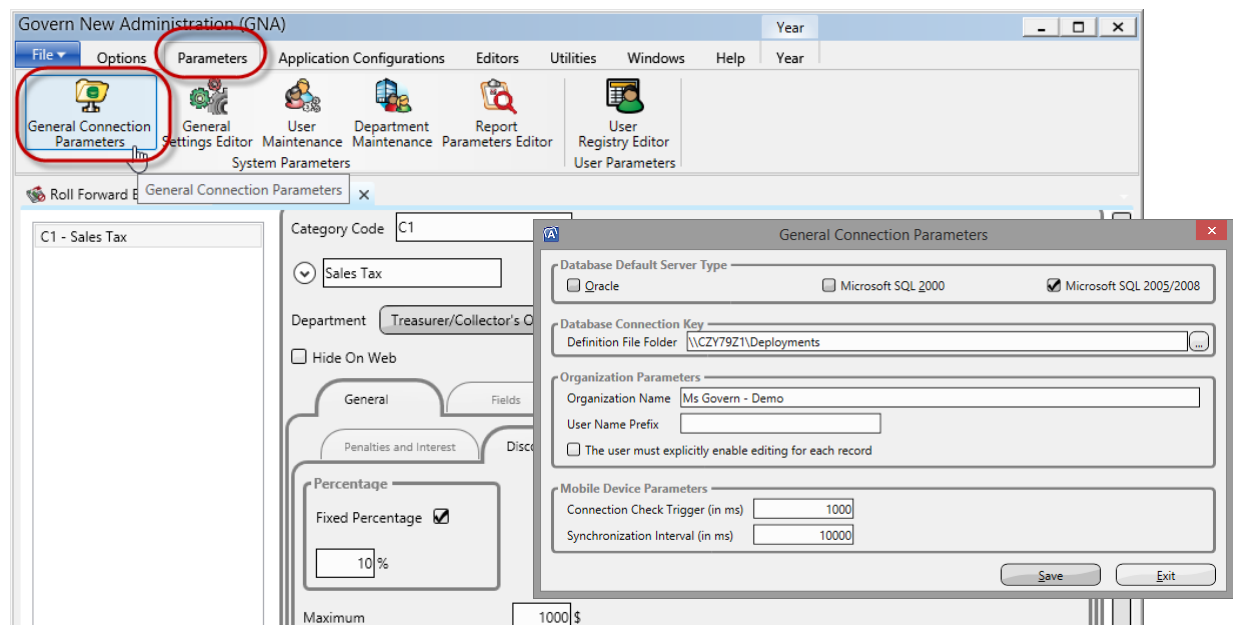


## Govern New Administration (GNA)

# Getting Started

## Overview

In this section of the *Govern New Administration (GNA)* user guide is a description of the configuration tools that are found in the *GNA*, and how to set up supplemental database connections.



## Accessing the Govern New Administration

**Note:** Oracle users should first review procedures in *Connecting to an Oracle Database Server* on page 350 before proceeding.

After the installation of *GNA* from a *DeployEZ™* Deployment, icons will be created in the *MS Govern* group under the *Windows Start* button.

To access *GNA*...

1. Click *Start > Programs > MS Govern > DeploymentName - MS Govern System Configuration Administrator*; where *DeploymentName* is the name of the *Deployment* that was used.



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# Managing Connections

## The Connection Key

When first introduced, the Govern *New Administration (GNA)* was the principal application used to create a *Connection Key*. This key allows you to communicate with what is referred to as your **principal** or **primary** database. The *DeployEZ™ Publisher™* is used for deploying the Govern applications, when *Deployments* are created, they can be pre-configured with a connection key.

Should a connection key be required to connect with additional, i.e. secondary, or tertiary databases, *GNA* is used to generate one. See *Creating a Supplementary Connection Key on page 340 below for details*.

## Oracle Users and Connection Keys

Oracle users requiring a *Connection Key* will need to first exit from *GNA* and follow the setup procedures recommended for *Oracle* databases. See *Connecting to an Oracle Database Server on page 350, before proceeding*.

## Microsoft SQL Users

*Microsoft SQL* users should refer to *Creating a Supplementary Connection Key on page 340*; follow the steps indicated.

# Changing the Interface

## Mutually Exclusive Menu Options

In *Govern New Administration (GNA)* some menu selection options are *mutually exclusive*, i.e. when a selection is already made, it will no longer be available for selection in the list. This provides a cleaner presentation of the *Language* menu option.

## Language

The *Govern New Administration (GNA)* interface language, i.e. Culture, can be changed as needed; currently the two languages supported are English and French.

To change the interface language:

Select *Options (tab)* > *Options group* > **Culture (Select the language of choice)**

Additional languages will be supported in future releases of Govern.

**Note:** The text that appears in the GNA interface can be modified with the **MS Govern Resource Editor**. Refer to *Modifying Text in the Resource File Editor* on page 195 for details.

After defining, testing, and saving the connection parameters for each database, complete the *Web Configuration* for each Web site. These procedures are found in the next section of this guide. See *Web Configuration File Editor* on page 108 for details.

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# System Parameters

Under the Parameters tab are the forms required to configure suite applications. General Installation parameters such as specifying the Organization Name, or specifying whether a user is given the option to choose a database connection key upon startup are found here.

The GNA system parameter forms can be found by selecting the *Parameters* tab > “**Name of the System Parameter form**”

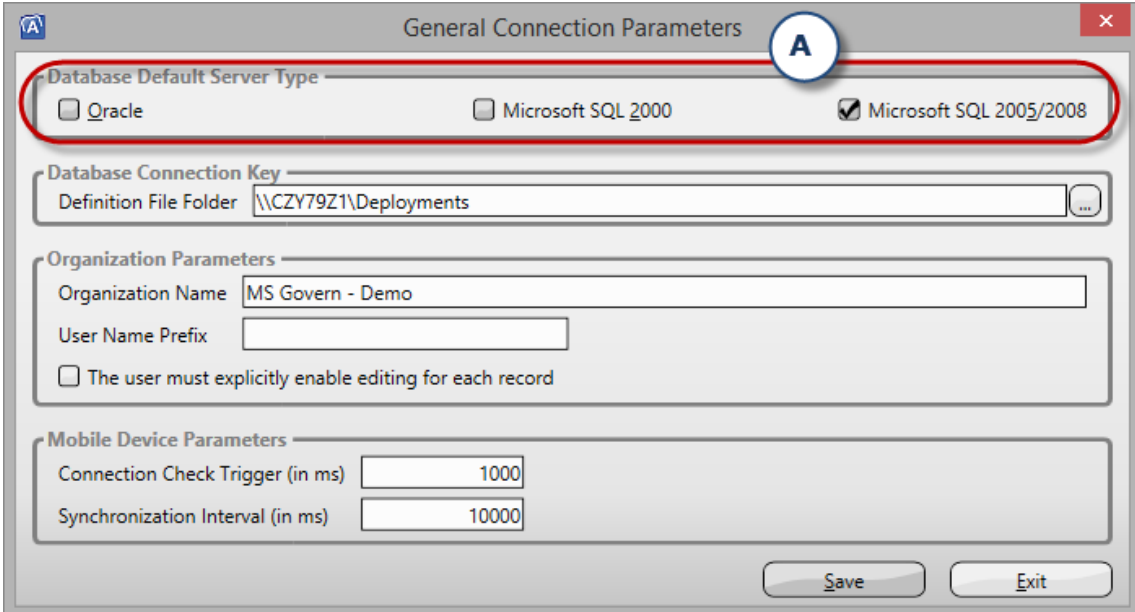
- **General Connection Parameters...** - Used to modify installation parameters, i.e. some settings that are set during preparation of deployment. See *General Connection Parameters* on page 36.
- **General Settings Editor...** - Used to define Property Control, Multimedia, GIS, and System Registry parameters, and the parameters used to access Crystal Reports. See *OpenForms™ General Settings* on page 40.
- **User Maintenance** - This form is used to maintain user data. In this form, new users can be created or deleted. See *User Maintenance* on page 52.
- **Department Maintenance** - The Department Maintenance form is used to define the profile for each department. See *Department Maintenance* on page 55.
- **Report Parameters Editor...** - This form is used to configure individual reports. See *Reports in the Govern New Administration (GNA)* on page 70.

## General Connection Parameters

In the *General System Parameters* form, you are presented with database details about the currently selected connection key, configuration parameters for controlling how users access the application, and synchronization and refresh parameters for mobile installations.

### Database Default Server Type Information

In the *Database Default Server Type* group (A) you will see the database server type of the currently selected connection key.



**Note:** This area is informational and cannot be modified.

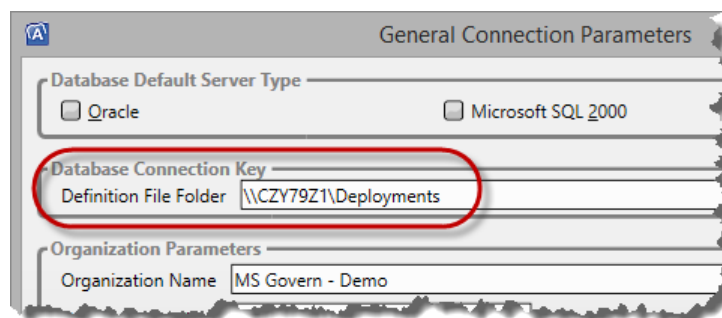
### Specifying Connection Key Source Folder at Startup

As a time saver users starting up GNA can specify a connection key source folder; i.e. a location for the list of *Connection Keys*. This feature is useful in multiple database environments where users need to frequently switch between databases. By default GNA will maintain a lock on the location of the last selected *Connection Key*. The file that the GNA will obtain its list of connection keys from is (File: **GovernDABConfig.xml**)

## Database Connection Key parameters

The list of *Connection Keys* are obtained from the *GovernDABConfig.xml* file. If an administrator would like to provide an alternate *GovernDABConfig.xml* file containing *Connection Keys*, this information can be specified.

**Definition File Folder:** Type in a new path to the connection keys definition folder, i.e. location of the **GovernDABConfig.xml** file, or click “...” to browse for a folder.



## Organization Parameters

In the *Govern New Administration (GNA)*, it is possible to modify the parameters that were entered at installation. In the *Organization Parameters* group, you can modify the Organization name.

**Organization Name:** Enter your organization name. This is the name that appears in the *GovernNetConfig.xml* document.

**User Name Prefix:** The *User Name Prefix* field is used to enter a text string that is added to the beginning of the User ID. This feature allows for backwards compatibility with *Govern for Windows*. The specified prefix is concatenated with the user name, encrypted, and stored. Since it is appended to the password after a user enters their assigned password, they are not aware of it. The use of this method means that users will never see their real database *UserID*.

**User Name Prefix:** If required, enter a prefix into this optional field.

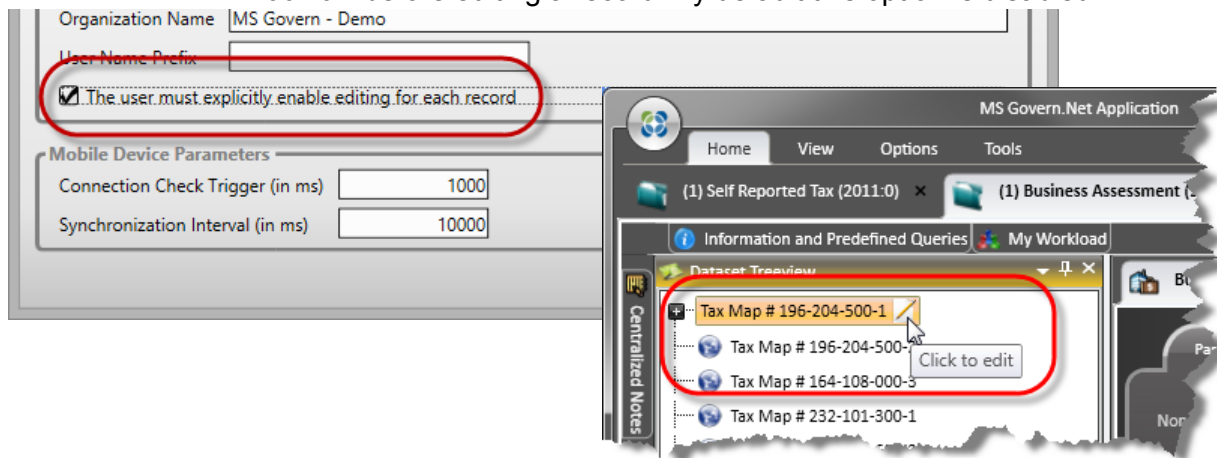
To specify an *Organization Name* and a *User Name prefix*...

1. Select *System Parameters* > **General Installation Parameters...**

## Govern New Administration (GNA)

2. In the *Organization Parameters* group, enter an *Organization* name, and a user name prefix.
3. Click **Save** to confirm your changes.

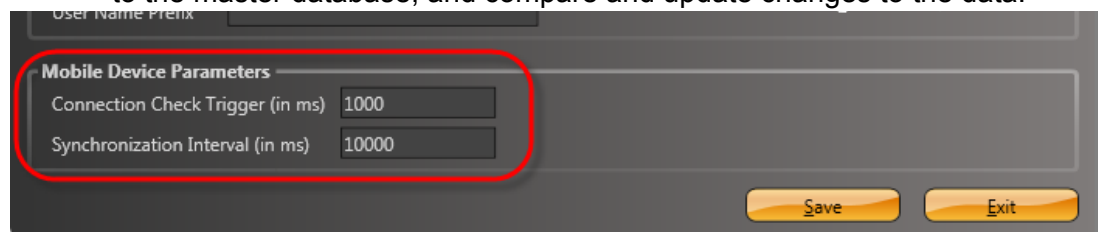
**The user must explicitly enable editing for each parcel:** When selected the user must click on the *Edit* icon in the Govern.NET *Dataset Treeview* before editing a record. By default this option is disabled.



**Note:** This option is designed to minimize errors when selecting a record to edit in Govern. When a record is selected in the Dataset Treeview, a conscious effort must be made to click the **Click to Edit** icon a second time, and unlock the record for editing.

## Mobile Device Parameters

**Mobile Device Connection Check Trigger (in ms):** After installing a mobile deployment, one of its functions is to continually check the connection to the master database, and compare and update changes to the data.



**Connection Check Trigger (in ms):** The *Connection Check Trigger* value determines the length of the interval, in milliseconds, between each check to verify the availability of the connection to the main database. The default is value 1000 milliseconds.

**Synchronization Interval (in ms):** The value in this field is the interval that will be used to force a synchronization of data between the mobile database and the main system database when Govern.NET's automatic synchronization option is selected. This option is set on the mobile devices *Govern.NET* install.

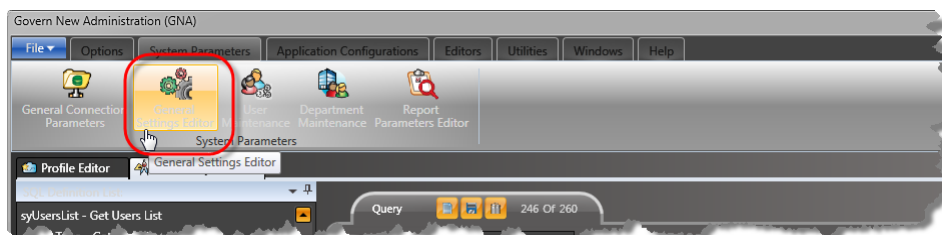
**Note:** For details about Mobile Device configuration, refer to the Govern Mobile Release 5.1 user guide.

# OpenForms™ General Settings

## Overview

The *OpenForms General Setting* form is the administration application used for configuration of *Govern*'s applications and related integrations. Users that are familiar with the *Govern for Windows* applications can equate its functioning with the *System Registry Maintenance* form in the *Govern System Administration (GovAdmin)* application.

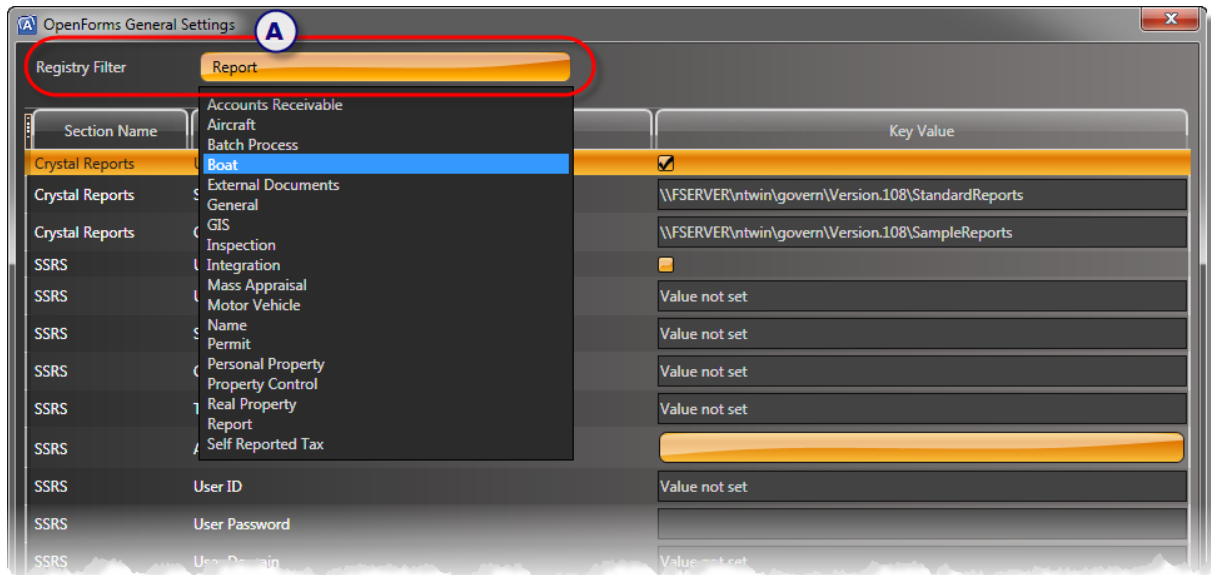
The *OpenForms General Settings* form is the administrative interface for configuring parameters required for *General settings*, *GIS*, *Installed modules*, *Tax functionality*, *Reports*, i.e. *Crystal Reports™* and *SQL Server Reporting Services (SSRS)™*, and others.



**Note:** Users of *Crystal Reports* will need to install the *Crystal Reports 2015* runtime on the server hosting the application, and on each client computer. Refer to the *Crystal Report Runtime* section of the *Govern DeployEZ™ Installer Guide* for details.



The parameters that are accessible through the *Registry Filter* (A), can include the following:



**Note:** The options and modules that are displayed in the Registry Filter drop down menu are dependent upon the modules installed, or security settings enforced by the *Govern Security Manager (GSM)*.

Registry Filter	Description	Reference
<i>Accounts Receivable</i>	These are the parameters that are related to the A/R and Tax	See <i>OpenForms General Settings - Accounts Receivable option parameters</i> on page 43.
<i>Aircraft</i>	Used for Aircraft tax parameters.	Go to the <i>OpenForms General Settings - Aircraft option parameters</i> on page 43.
<i>Batch Process</i>	Parameters for the <i>Govern Scheduler (GS)</i> .	See <i>OpenForms General Settings - Batch Process option parameters</i> on page 43.
<i>Boat</i>	Configuration of Boat tax parameters.	Go to the <i>OpenForms General Settings - Boat option parameters</i> on page 43.
<i>External Documents</i>	Used for managing interfaces for external documents that are supported by applications integrated with Govern.	Refer to the appropriate <i>Govern Integration user guide</i> . E.g. <i>SIRE</i> , <i>AppXTender</i> , etc.

Registry Filter	Description	Reference
<i>General</i>	These are parameters used for internal messages. For notifications, memos to employees, internal alerts; all within the organization.	<i>See OpenForms General Settings - General option on page 44.</i>
<i>GIS</i>	Parameters used to configure the GIS server.	<i>Refer to OpenForms General Settings - GIS option on page 46.</i>
<i>Inspection</i>	Specify default Inspection parameters.	<i>Go to the OpenForms General Settings - Inspection option on page 46.</i>
<i>Integration</i>	Connection parameters for Hummingbird Multimedia Integration, iNovah Integration, and other integrations.	<i>Refer to OpenForms General Settings - Integration option on page 47.</i>
<i>Mass Appraisal</i>	Mass Appraisal and Comparable parameters.	<i>See OpenForms General Settings - Mass Appraisal option on page 47.</i>
<i>Motor Vehicle</i>	Configuration of <i>Motor Vehicle</i> tax parameters.	<i>Go to the OpenForms General Settings - Motor Vehicle option on page 47.</i>
<i>Name</i>	Used to set default account number names, formats, and barcode parameters.	<i>Refer to OpenForms General Settings - Name option on page 47</i>
<i>Permit</i>	<i>Land Management, Permitting</i> parameters.	<i>See the Govern Permits &amp; Inspections Release 5.1 user guide for details.</i>
<i>Personal Property</i>	<i>Personal Property</i> parameters as related to tax.	<i>Go to the OpenForms General Settings - Personal Property option on page 48.</i>
<i>Property Control</i>	Parameters used to configure <i>Property Control</i>	<i>See the Govern Property Control Release 5.1 user guide for details.</i>
<i>Real Property</i>	<i>Real Property</i> parameters as related tax.	<i>See the Govern Real Property Release 5.1 user guide for details.</i>
<i>Report</i>	Configuration of access parameters as they relate to <i>Govern</i> Configuration support for SQL Server Reporting Services ( <b>SSRS</b> )	<i>Go to the OpenForms General Settings - Report option on page 49. For SSRS refer to the Govern SSRS user guide for details</i>
<i>Self Reported Tax</i>	Parameters that are related to <i>Self Reported Tax</i>	<i>See the Govern Self Reported Tax Release 5.1 user guide for details.</i>

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## OpenForms General Settings command buttons

**Save:** Complete the parameters and click **Save** to save the general connection settings.

**Exit:** Click **Exit** to close the form without saving the information or making modifications to existing settings.

## OpenForms General Settings - Accounts Receivable option parameters

Under the **Accounts Receivable Registry Filter** option are the configuration parameters required for *Govern's Accounts Receivable* module. See the *Govern Accounts Receivable Release 6.0 guide* for details.

## OpenForms General Settings - Aircraft option parameters

Under the **Aircraft Registry Filter** option are the configuration parameters required for *Govern's Aircraft* tax module. Refer to the *Govern Tax user guide* for details.

## OpenForms General Settings - Batch Process option parameters

Under the **Batch Process Registry Filter** option (**A**) are configuration parameters required for *Govern's Scheduler*. Refer to the *Govern Scheduler Release 6.0 user guide* for details.

## OpenForms General Settings - Boat option parameters

Under the **Boat Registry Filter** option are the configuration parameters required for *Govern's Boat* tax module. Refer to the *Govern Tax user guide* for details.

## OpenForms General Settings - External Documents option parameters

Parameters for specifying external document types are displayed under this registry filter; e.g. AppXTender, SIRE, and so on.

## OpenForms General Settings - General option

The *General* option contains multiple configuration parameters for the various modules of *Govern*. As a result of the nature of the form, parameters required due to being customized are also displayed. Descriptions for these parameters are not described in this document. Parameters for each specific module can be seen under the *Section Name* and *Key Name* columns.  
General Option - Default Section Name parameters

**Country Format:** The country code formats the mailing information, according to the standards of the country from which the mail is sent. This code sets the default. The user can override the default, for the current record, on the Name and Address Maintenance function in *Govern*. (Table: VT\_SY\_MAILFMT)

**Format Name Proper Case:** Select one of the following options to set a default of whether, and how field names are to be formatted.

- **1st Letter (N&A)** - Saves the first letter of each field in upper case
- **No** - Select to save the data as entered
- **Ucase** - This saves the Name & Address, Property Location, and forms from the NA\_NAMES and PC\_ADDRESS tables, and any data that is masked in other tables, in upper case.
- **Ucase (N&A)** - This will save the Name & Address data (from the NA\_NAMES and PC\_ADDRESS tables) in upper case.

### General option - General Section Name parameters

**County:** This is an optional field that is customized for specific organizations, this code will be provided by *Govern*. If required, enter your *County Code* in this optional field.

**Customer Code:** Enter a *Govern* three (3) letter customer code if instructed by *Govern Customer Support*; e.g. WAL - Waltham.

**Database Date:** Select one of three (3) formats for saving dates in the database.

**Flag to automatically open high/low/normal priority messages:**

Refer to *Global Messages* and the *User Registry* section of the *Govern General Information guide Release 5.1*.

**Help Folder Structure Type:** See *Help Content Directory Structure on page 411* for details.

**Login Prefix:** In this optional field, enter a code to add to the beginning of the User ID. This information is invisible to the user. If the database login is automatic, using a prefix provides increased security since the users will never see their full, complete, database UserID.

**Notification flag for high/low/normal priority messages:** Refer to the *Displaying Notification* section of the *Govern General Information guide Release 5.1* for additional details about the *Govern Global Messages* notification system.

**Primary Activation Key:** This parameter is intended for use by users whose licenses were issued with Govern for Windows Release 8.5 or earlier. At the time, the structure of the license was as follows:

- organization name=**databaseName**
- serial number=**123456-12345678987-654321**
- primary activation key=**1234**
- secondary activation key=

**State:** Enter a two (2) letter state name; e.g. **ma** for *Massachusetts*

## **General option - SMTP Section Name parameters**

Users that are familiar with the settings of *Govern* will note that there are two (2) locations for entering SMTP information. The first is here in the General section, the other is the *GNA Web Site Editor under the General tab*. Refer to

*the MS Govern eGovern - Public Self Service Portal Release 5.1 guide for details.*

**Note:** It is recommended that these system registry parameters be used for internal messages, i.e. messages sent to users that are located within the network **DMZ**.

**SMTP Default Sender Address:** Enter the E-Mail address that will be used to send responses that do not require a reply from the destination. These can be system status messages, e.g. Notification of Outages, Maintenance Notifications, etc.

**SMTP Host:** Enter the name of the internal SMTP host, e.g. smtp.mycompany.com

**SMTP Password:** This is the password that is used to access the server. Text entered into this field will appear “cloaked”, i.e. typed letters will be displayed as asterisks “\*\*\*\*\*” to hide the typed letters.

**SMTP Port:** Type the port number that is dedicated to SMTP messages.

**SMTP User:** This is the user name that will be used to access the SMTP account.

## OpenForms General Settings - GIS option

The *GIS* option contains the parameters that are required to configure the GIS server. *For the GIS configuration instructions, refer to the Govern GIS Integration user guide.*

## OpenForms General Settings - Inspection option

Under the **Inspection Registry Filter** option are the configuration parameters required for Govern's Permits & License module. *See the Govern Permits & Licenses user guide for details.*

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## OpenForms General Settings - Integration option

Under the **Integration Registry Filter** option are the configuration parameters required for Governs' integration applications and services. Refer to the user guide for each specific integration. Current integrations include the following:

- **Hummingbird** - *For details about Hummingbird Integration, refer to the Govern Hummingbird Integration Release 5.1 guide.*
- **iNovah** - *Details for iNovah integration can be found in the Govern iNovah Integration user guide.*
- **Melissa Data** - *Refer to the Melissa IMB Integration Release 5.1 user guide for details.*

## OpenForms General Settings - Mass Appraisal option

Under the **Mass Appraisal Registry Filter** option are the configuration parameters required for the Govern CAMA modules. *See the Govern CAMA Buildings, CAMA General Information, CAMA Income, CAMA Land, CAMA Misc. Structures, CAMA Sales & Comparable Sales, Release 6.0 user guide.*

## OpenForms General Settings - Motor Vehicle option

Under the **Motor Vehicle Registry Filter** option are the configuration parameters required for Governs' Motor Vehicle Tax module. *Refer to the Govern Tax user guide for details.*

## OpenForms General Settings - Name option

### Name option - Intelligent Barcode Name parameters

The Intelligent Mail barcode (formerly known as the *4-State Customer Barcode*) is used to sort and track letters. *Intelligent Mail* barcode technology, combines the capabilities of the **POSTNET™** barcode and the **PLANET Code®** barcode into one unique barcode.

Under the **Name Registry Filter** option are the configuration parameters required for configuring the *Intelligent Mail Barcode*. *Barcode* formats that are supported are **IMB\_31** and **IMB\_65**.

**Barcode ID:** Enter the ID of the Barcode (2 digits; 2nd digit must be 0-4)

**Generate Mail Barcode on Save:** Select this option to automatically generate a barcode when a new name is created or an update is made in the Name & Address Maintenance function.

**Mailer ID:** Enter a Mailer Identifier (6 or 9 digits)

**Service Type ID:** Type the *Service ID* in this field (3 digits).

**Serial Number:** Specify a serial number, this is a 9 digit code when used with a 6 digit *Mailer ID*, or a 6 digit code when used with a 9 digit *Mailer ID*.

## OpenForms General Settings - Personal Property option

Under the **Personal Property Registry Filter** option are the configuration parameters required for Govern's Personal Property module. *See the Govern Tax: Personal Property Tax Billing & Collection user guide for details.*

## OpenForms General Settings - Property Control option

Selecting the **Property Control** option in the *Registry Filter* will display the *System Registry* options that are available for the *Govern Property Control* module. These Registry Keys also include the Property Control **Split / Merge / Remap** process. *Refer to the Govern Property Control Release 6.0 user guide for details about these parameters.*



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## OpenForms General Settings - Report option

**Note:** Users of *Crystal Reports* will need to configure the following parameters to access the reports. See *Providing Database Access for Crystal Reports* on page 50 for steps.

### Report option - Crystal Reports Section Name parameters

**Use Crystal Reports:** Select this option to enable the system for Crystal Reports.

**Standard Report Path:** Specify the *UNC* path to the standard reports.

**Custom Report Path:** Enter a *UNC* path to any custom reports.

**Note:** It is possible to configure access on a report by report basis; this level of granularity is accomplished through the *Report Editor*, see *Reports in the Govern New Administration (GNA)* on page 70

**Note:** Users of *Crystal Reports* will need to install the *Crystal Reports 2015* runtime on the server hosting the application, and on each client computer. Refer to the *Crystal Report Runtime* section of the *DeployEZ™ Installer Guide* for details.

## Reports and Database Access

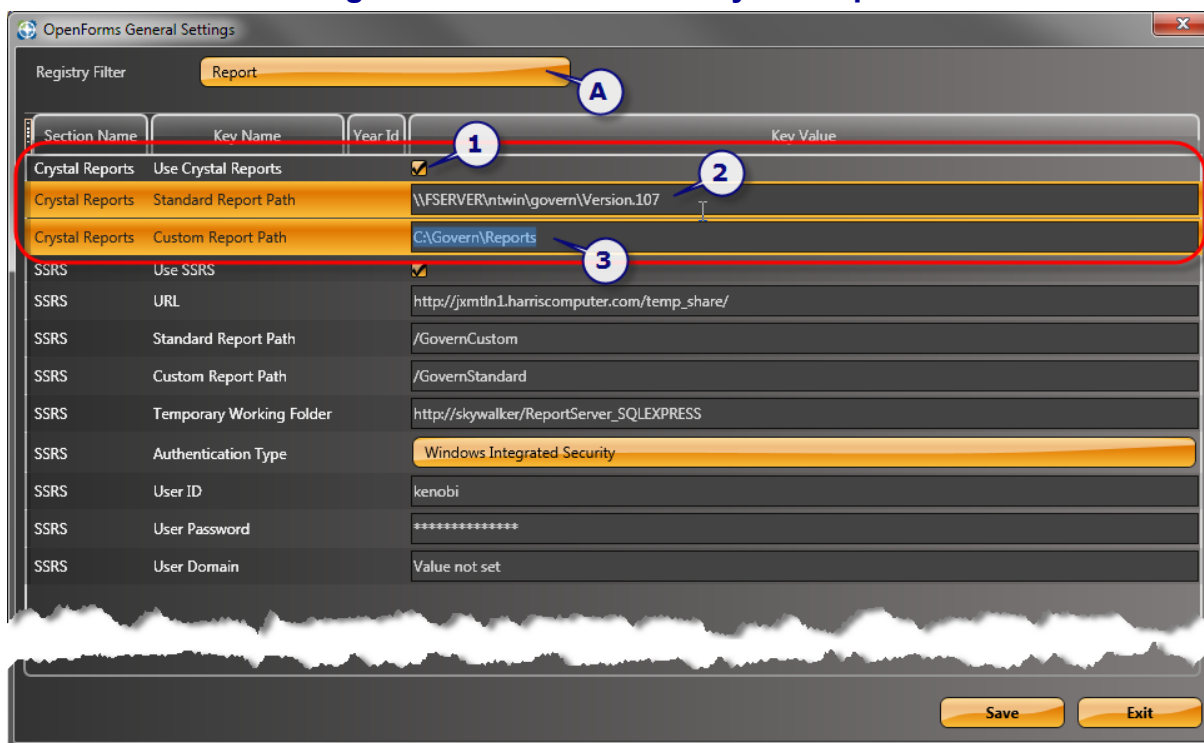
### Reports Connecting to the Database

Legacy *Reports* from *Govern for Windows* connected to a database using an *Open Database Connectivity (ODBC)* connection string. In *Govern* release 6.0 *ActiveX Database Object (ADO)* connections are used. The conversion for an ODBC string to ADO occurs at runtime.

Standard reports that came with *Govern for .NET* will use the default connection key, or an override, when one is specified in the *Report Editor* form. See *Intelligent Scanning of reports in Reports Editor* on page 72.

## OpenForms General Settings - Reports option for Crystal Reports™

### Providing Database Access for Crystal Reports



Section Name	Key Name	Year Id	Key Value
Crystal Reports	Use Crystal Reports	<input checked="" type="checkbox"/>	
Crystal Reports	Standard Report Path		\\FSERVER\ntwin\govern\Version.107
Crystal Reports	Custom Report Path		C:\Govern\Reports
SSRS	Use SSRS	<input checked="" type="checkbox"/>	
SSRS	URL		http://jxmtn1.harriscomputer.com/temp_share/
SSRS	Standard Report Path		/GovernCustom
SSRS	Custom Report Path		/GovernStandard
SSRS	Temporary Working Folder		http://skywalker/ReportServer_SQLEXPRESS
SSRS	Authentication Type		Windows Integrated Security
SSRS	User ID		kenobi
SSRS	User Password		*****
SSRS	User Domain		Value not set

To allow *Crystal Reports* to access your database...

1. In *GNA*, select the *System Parameters* tab > **General Settings Editor...**
2. In the *OpenForms General Settings* form, select **Reports (A)** from the *Registry Filter* parameter
3. Click to select the **Use Crystal Reports (1)** option.
4. Under the *Crystal Reports* tab enter the *Standard Report Path (2)*.
5. If applicable enter a *Custom Report Path Name (3)*.

For additional information on using *Crystal Reports* in *Govern Release 6.0*, i.e. use of formulas, Best Practices, and so on, refer to *Crystal Reports* on page 401.

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## OpenForms General Settings - Reports option for SSRS

Users of *SQL Server Reporting Services (SSRS)* should refer to the **SSRS Release 6.0** user guide for installation and configuration details.

## Notes for Govern for Windows Users

In *Govern*, a *Profile* is the equivalent of a *Department* in *Govern for Windows*. Inside a department there would be *Functions* and *Reports*. In *Govern*, this same analogy can be applied. *Functions* are referred to as *OpenForms*. In a *Profile*, we would have *OpenForms* and *Reports*. In *Govern for Windows*, inside a department we can have Functions for tasks like Permitting, Complaints, Offences or obtaining Property Information.

# User Maintenance

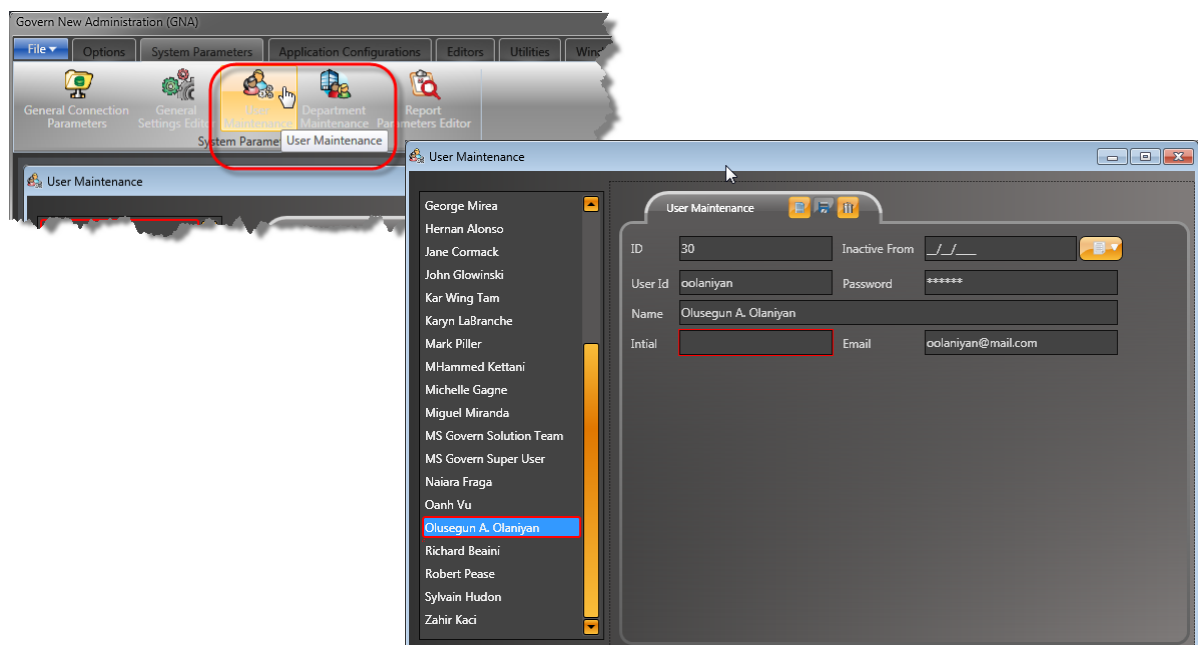
## Overview

The **User Maintenance** form maintains user data. In this form, new users can be created, their access passwords can be set, or user profiles that are inactive can be removed.

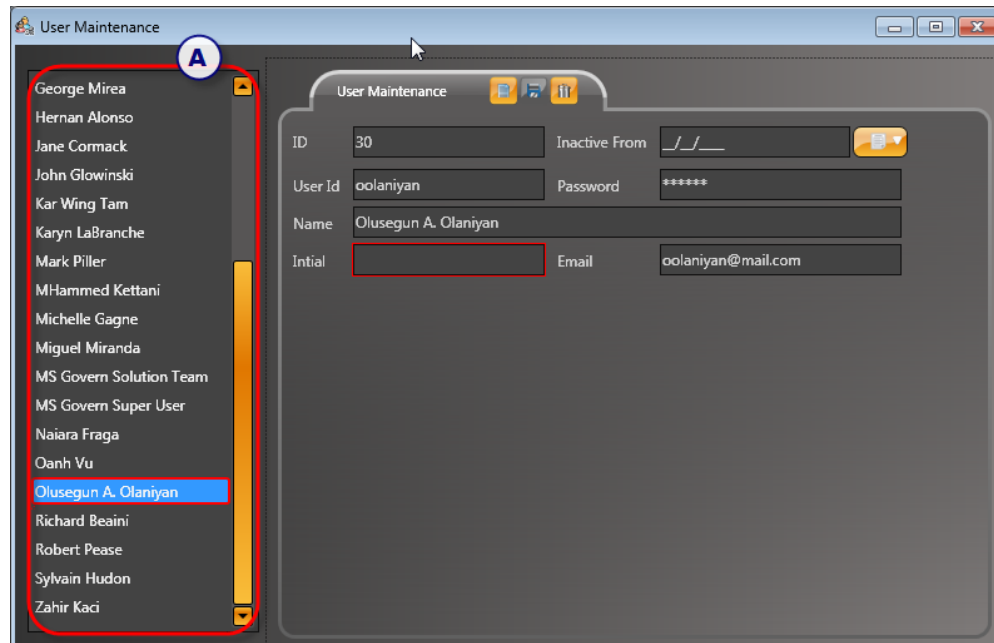
Access rights can be set in the *Govern Security Manager (GSM)*.

To access this form, from the *Govern New Administration (GNA)*...

1. Select the System Parameters tab in the GNA ribbon.
2. Click to select **User Maintenance**..



## User Maintenance command buttons



**Browsing User Records:** In the *User Maintenance* form, the list of existing user profiles can be seen on the *left hand side (LHS)*.

**Creating a User:** Click New to clear the form and create a new user profile.



**Canceling Changes / Creation of a User:** To cancel the creation of a user, click the Cancel Changes icon. This icon is similar to the **Create a New Item** icon during the creation process. A confirmation message appears if there are any unsaved modifications.



**Saving a User Record:** Click **Save the Current Item** to save a new user profile or modifications to an existing one.



**Deleting a User:** Click **Remove the Current Item** to remove the current user record.



## User Maintenance parameters

These are the parameters that are located in (Table: **USR\_USERFILE**).

**ID:** This informational field displays the unique *user ID* (**U\_ID**) of the current record; this information cannot be modified.

**Inactive From:** Enter the expiration date for the account; i.e. the date after which the account is no longer active. Dates are entered in the following format: **DD/MM/YYYY**. The date may be entered manually, or the date control can be used. (Table: **USR\_USERFILE.INACTIVE\_DATE**)

**User ID:** The User ID is the user identification required for login. (Table: **USR\_USERFILE.USR\_ID**)

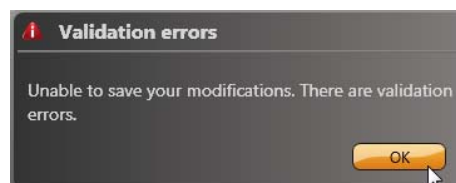
**Password:** Enter the password for the user; passwords will be cloaked, i.e. appear as an *asterisk* “\*” when being entered. This value is encrypted in the database. (Table: **USR\_USERFILE.PWD**)

**Name:** For this parameter, enter the full name of the user. This field supports up to 32 characters; spaces are included in the count. (Table: **USR\_USERFILE.NAME**)

**Initial:** Enter the initials of the user; a maximum of three (3) letters are supported. (Table: **USR\_USERFILE.INITIAL\_NAME**)

**Email:** Enter the email address contact for the user. This e-mail address is used in the Messaging System function within the Permits & Inspections subsystem. (Table: **USR\_USERFILE.EMAIL**)

Any modifications to a record, or creation of a record are presented with the option to **Save**. Click **Yes** to accept the changes. When there are Validation issues with the record, the **Validation Errors** form is presented. Click **OK** to continue.



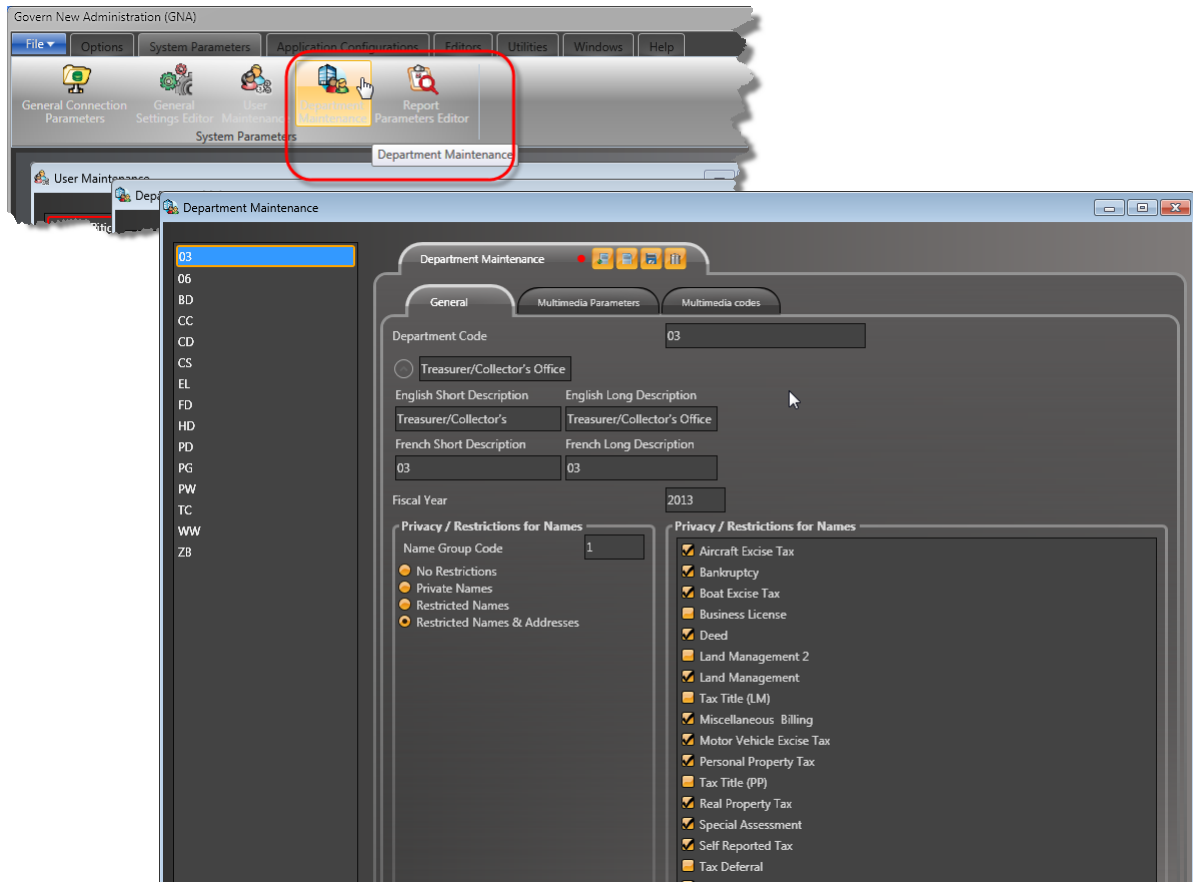
# Department Maintenance

## Overview

The **Department Maintenance** form is used to define the profile for each department. This includes the fiscal year used by the department, access to the Govern data entry functions and access to Accounts / Receivable data. This form also contains the Multimedia Parameters and Multimedia Codes.

To access this form, from the *Govern New Administration (GNA)*...

1. Select the System Parameters tab in the GNA ribbon.
2. Click to select **Department Maintenance**..



The screenshot shows the Govern New Administration (GNA) application window. The 'System Parameters' tab is selected in the ribbon, and the 'Department Maintenance' option is highlighted. The 'Department Maintenance' form is open, displaying the 'General' tab. The form includes fields for Department Code (03), English Short Description (Treasurer/Collector's Office), English Long Description (Treasurer/Collector's Office), French Short Description (03), French Long Description (03), and Fiscal Year (2013). There are also sections for 'Privacy / Restrictions for Names' with a list of checkboxes for various taxes and fees.

## Department Maintenance command buttons

**Browsing Records:** In the *Department Maintenance* form, the list of existing department profiles can be seen on the *left hand side (LHS)*.



**Creating a Department:** Click **New** to clear the form and create a new department profile.



**Canceling Changes / Creation of a Department:** To cancel the creation of a Department, click **Cancel changes** icon. This icon is similar to the **Create a New Item** icon during the creation process. A confirmation message appears if there are any unsaved modifications.



**Saving a Department Record:** Click **Save the Current Item** to save a new department profile or modifications to an existing one.



**Deleting a Department:** Click **Remove the Current Item** to remove the current department record.

## Department Maintenance - General tab parameters

**Department Code:** This code is used to Identify the department. All links to this department will use this code. All alphanumeric characters are valid.

**English Short Description:** In the **English Short Description** field (or the Short Description field for your first language), enter a description using a maximum of 25 characters.

**Note:** When a *Short Description* is entered and you click in the *Long Description* field, it is copied into the *Long Description* field.

**English Long Description:** In the **English Long Description** field, enter a description up to a maximum of 50 characters.



**French Short Description:** In the **French Short Description** field (or the Short Description field for your first language), enter a description using a maximum of 25 characters.

**Note:** When a *Short Description* is entered and you click in the *Long Description* field, it is copied into the *Long Description* field.

**French Long Description:** In the **French Long Description** field, enter a description up to a maximum of 50 characters.

Any modifications to a record, or creation of a record are presented with the option to **Save**. Click **Yes** to accept the changes. When there are Validation issues with the record, the **Validation Errors** form is presented. Click **OK** to continue.



**Fiscal Year:** This field will display the fiscal year that the current department will work in; when creating a new department, this will be the fiscal year that the department will be working in.

**Note:** This field must be modified manually when the department changes to a new fiscal year.

### Modifying the Fiscal Year

To modify the Fiscal Year value, click in the field, select the existing year and overwrite the value.

### Privacy / Restrictions for Names

**Name Group Code:** You can create a *Name Sharing Group* in order to extend access rights to the name and address records, created by your department, to one or more of the other departments, within your organization.

Use the options in this group to set up access rights for *Name and Address* records; to do this you need to define the following:

To create a Name Sharing Group, enter a code of one or two characters in this field. Then, enter the same code when you set up the other departments in this group.

Next, select one of the following options to define the access rights for the departments included in the Name Sharing Group and for those outside of it.

The code of the Name Sharing Group and the type of security permissions are displayed on the Name and Address Maintenance function in Govern, unless the records are private to another department. If the name is restricted, it is grayed out and cannot be modified. Similarly, if the address is restricted, it is also grayed out and cannot be modified.

There are four (4) levels of security for name and address records.

- **No Restrictions** - There are no restrictions to the *Name and Address* portions of the records, they can be searched, modified, or deleted. Other users are equally unrestricted.
- **Private Names** - *Name and Address* records, are private to the department or *Name Sharing Group*, where they were created. Other users can't search, modify, or delete these names. They can only view them if they are already link to other *Govern* functions
- **Restricted Names** - *Names* in the *Name and Address* records are restricted to the department or *Name Sharing Group*, where they were created. Other users can view the names can't modify or delete them. They are still able to search for the records and modify the addresses.
- **Restricted Names and Addresses** - Both the name and address portions, of the Name and Address records, are restricted to the department or Name Sharing Group where they were created. Other users can perform a search for these records but cannot modify or delete them.

## Name & Address Security Grid

Department in the Same Group															
	Private					Restricted					Restricted				
	Search	Link	Modify Name	Modify Address	Delete Name	Search	Link	Modify Name	Modify Address	Delete Name	Search	Link	Modify Name	Modify Address	Delete Name
Full Access															
Create / Modify / Delete															
Create / Modify															
Inquiry															

The two (2) grids below should serve as a guide to the users level of access when they are Within a Department in a group, or Outside of the Name Group. For example in the *Name & Address* form, a user that is in the *Building Department*, and is a member of the *Create/Modify/Delete* group, within their department, for *Names* that are designated as *Private*, will be able to *Search* for the name, *Link* to the name, *Modify Addresses*, and *Delete Names*. Although note that according to the system rule, this user is not able to Modify (A) the name. Outside of their name group they have no access (B). Refer to the grids below for details.

Outside the Name Group															
	Private					Restricted					Restricted				
	Search	Link	Modify Name	Modify Address	Delete Name	Search	Link	Modify Name	Modify Address	Delete Name	Search	Link	Modify Name	Modify Address	Delete Name
Full Access															
Create / Modify / Delete															
Create / Modify															
Inquiry															

The following grid should serve as a guide to system imposed user restrictions for *Name Sharing* groups.

Department in the Same Group																				
	Private					Restricted					Restricted					No				
	Search	Link	Modify Name	Modify Address	Delete Name	Search	Link	Modify Name	Modify Address	Delete Name	Search	Link	Modify Name	Modify Address	Delete Name	Search	Link	Modify Name	Modify Address	Delete Name
Full Access																				
Create / Modify / Delete																				
Create / Modify																				
Inquiry																				



Allowed



Not Allowed

Outside the Name Group																				
	Private					Restricted					Restricted					No				
	Search	Link	Modify Name	Modify Address	Delete Name	Search	Link	Modify Name	Modify Address	Delete Name	Search	Link	Modify Name	Modify Address	Delete Name	Search	Link	Modify Name	Modify Address	Delete Name
Full Access																				
Create / Modify / Delete																				
Create / Modify																				
Inquiry																				



Allowed



Not Allowed

## Name & Address Maintenance Security

After creating a *Name Sharing Group*, you can further refine name and address maintenance by setting access permissions for each user.


Security for the *Name & Address Maintenance* function is more complex than for the other functions due to the important and sensitive nature of the data.

There are four levels of user access that can be set for each Govern function that typically provide the following rights:

- **Inquiry Only:** The user is only able to view the data for the specified function.
- **Create and Modify:** The user can view, create and modify data for the specified function.
- **Create, Modify, Delete:** The user can view, create, modify and delete data for the specified function.
- **Full Access Rights:** The user can view, create, modify and delete data and could also modify and delete **historical data** for the specified function.

**Note:** Super Users are automatically given Full Access Rights to all functions.

However, in order to grant the permission to create names to any user, including a *Super User* or a user with *Full Access Rights* to the *Name & Address Maintenance* function, the **Allow Creation of Names** option must be selected on the *User Maintenance* form in Govern Admin.



Allow Creation of		
<input type="checkbox"/> Parcels	<input checked="" type="checkbox"/> Names	<input type="checkbox"/> Flags

The following tables display the different levels of access security for the *Name & Address Maintenance* function, according to the following tasks:

- **Search:** the right to search for a name and address record through the various search screens; for example the *Name Search* or the *Name & Address Search*. Refer to the *Property Control guide* for further details.
- **Link:** the right to link a name and address record to another function; for example, a *Permit* function, the *Owner Information*, *Occupant / Business*, *Related Lien Names*, *ACH Information by Name* or the *Real Estate* or

*Utility Billing Mailing Index*, provided the user has access rights to these functions.

- **Create:** the right to create a new name and address record.
- **Modify Name:** the right to change name data: i.e., first name, last name, company name or formatted line\_1.
- **Modify Address:** the right to change the address part of the record.
- **Delete Name and Address:** the right to delete name and address records.

The following conventions are used in these tables:

Symbol	Definition
✓	The user has permission to perform the task.
✗	The user does not have permission to perform the task.

## Restriction Level: Private Names

Permission Levels		Ability to Perform Name & Address Maintenance Tasks					
Access Type	Name Sharing Group	Search	Link	Create	Modify		Delete
					Name	Address	
Super User or Full Access Rights	Member	✓	✓	*	✓	✓	✓
	Non-Member	✗	✗		✗	✗	✗
Create, Modify and Delete	Member	✓	✓		✗	✓	✓
	Non-Member	✗	✗		✗	✗	✗
Create, Modify	Member	✓	✓		✗	✓	✗
	Non-Member	✗	✗		✗	✗	✗
Inquiry Only	Member	✓	✗		✗	✗	✗
	Non-Member	✗	✗		✗	✗	✗

\* The permission to create names is granted if the **Allow Creation of Names** option is selected on the *User Maintenance* form, in Govern Admin. Users can then create names within their primary department and within the *Name*

*Sharing Group*, selected for the department. Otherwise, users do not have permission to create names, regardless of their department, regardless of the *Name Sharing Group* in which the department is a member and regardless of *User Access Type*.

## Restriction Level: Restricted Names & Addresses

Permission Levels		Ability to Perform Name & Address Maintenance Tasks					
Access Type	Name Sharing Group	Search	Link	Create	Modify		Delete
					Name	Address	
Super User or Full Access Rights	Member	✓	✓	*	✓	✓	✓
	Non-Member	✓	✓		✗	✗	✓
Create, Modify and Delete	Member	✓	✓		✗	✓	✓
	Non-Member	✓	✓		✗	✗	✓
Create, Modify	Member	✓	✓		✗	✓	✗
	Non-Member	✓	✓		✗	✗	✗
Inquiry Only	Member	✓	✗		✗	✗	✗
	Non-Member	✓	✗		✗	✗	✗

## Restriction Level: Restricted Names

Permission Levels		Ability to Perform Name & Address Maintenance Tasks					
Access Type	Name Sharing Group	Search	Link	Create	Modify		Delete
					Name	Address	
Super User or Full Access Rights	Member	✓	✓	*	✓	✓	✓
	Non-Member	✓	✓		✗	✓	✓

Permission Levels		Ability to Perform Name & Address Maintenance Tasks					
Access Type	Name Sharing Group	Search	Link	Create	Modify		Delete
					Name	Address	
Create, Modify and Delete	Member	✓	✓		x	✓	✓
	Non-Member	✓	✓		x	✓	✓
Create, Modify	Member	✓	✓		x	✓	x
	Non-Member	✓	✓		x	✓	x
Inquiry Only	Member	✓	x		x	x	x
	Non-Member	✓	x		x	x	x

### Restriction Level: No Restrictions

Permission Levels		Ability to Perform Name & Address Maintenance Tasks					
Access Type	Name Sharing Group	Search	Link	Create	Modify		Delete
					Name	Address	
Super User or Full Access Rights	Member	✓	✓	*	✓	✓	✓
	Non-Member	✓	✓		✓	✓	✓
Create, Modify and Delete	Member	✓	✓		x	✓	✓
	Non-Member	✓	✓		x	✓	✓
Create, Modify	Member	✓	✓		x	✓	x
	Non-Member	✓	✓		x	✓	x
Inquiry Only	Member	✓	x		x	x	x
	Non-Member	✓	x		x	x	x



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### Summary

1. Only users with *Full Access Rights* on the *Name and Address Maintenance* function can modify a name even within their *Name Sharing Group*.
2. Even with *Full Access Rights*, users can modify a name, outside of their *Name Sharing Group*, only if the **No Restrictions** option is selected on the *Department Setup* form.
3. Users with *Full Access Rights*, *Create*, *Modify*, *Delete* or *Create*, *Modify* rights can always modify an address within their name sharing group.
4. These users can modify an address created outside their *Name Sharing Group* only if the **Restricted Name** or **No Restrictions** option is selected on the *Department Setup* form.
5. Users with *Full Access* or *Create*, *Modify*, *Delete* rights can delete name and address records even though they may not be granted permission to create or modify them.
6. All users can view and search for a name and address records unless **Private** names is set for the department and the department is outside their *Name Sharing Group*.
7. Users can create names if the **Allow Creation of Names** option is selected on the *User Maintenance* form, regardless of whether or not the user's department is a member of the *Name Sharing Group* and regardless of the user's *Access Type*.

If this option is selected users can create names within their primary department and within the *Name Sharing Group*, selected for the department.

## Access to Accounts / Receivable Information

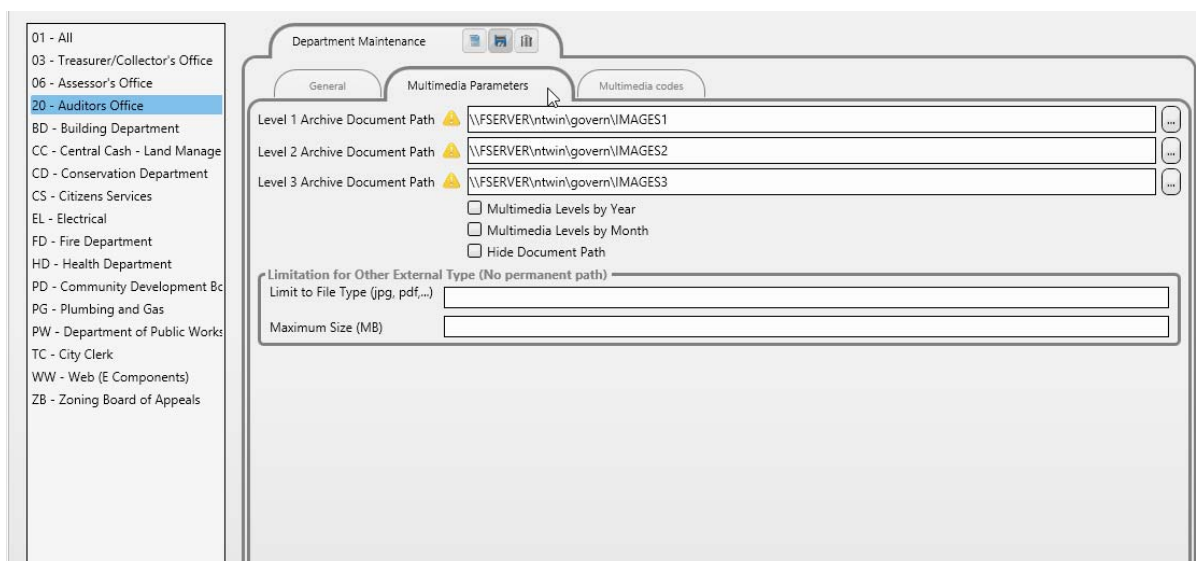
**A/R Sub Systems Allowed:** The department has access to the Accounts Receivable (A/R) data of each selected subsystem. Users can view, update and process these data through the Accounts / Receivable functions, including *A/R Inquiry*, *Payment Data Entry* and *Cash Collection Posting*.

## Access to the Govern Functions

### Forms / Functions group

In *Govern*, users will access functions by first logging into a department. Only the functions that are selected for the department, on this form, will be accessible to those users.

## Department Maintenance - Multimedia Parameters tab



The screenshot shows the 'Department Maintenance' window with the 'Multimedia Parameters' tab selected. On the left is a list of departments, with '20 - Auditors Office' highlighted. The main area contains the following fields and options:

- Level 1 Archive Document Path:** \\FSERVER\ntwin\govern\IMAGES1
- Level 2 Archive Document Path:** \\FSERVER\ntwin\govern\IMAGES2
- Level 3 Archive Document Path:** \\FSERVER\ntwin\govern\IMAGES3
- ☐ Multimedia Levels by Year
- ☐ Multimedia Levels by Month
- ☐ Hide Document Path
- Limitation for Other External Type (No permanent path):**
  - Limit to File Type (jpg, pdf,...):** [Empty text box]
  - Maximum Size (MB):** [Empty text box]

The Multimedia Parameters tab contains the parameters that are required to specify the paths for multimedia files for the various Profiles.

Often a single location for all department multimedia storage requirements may not be practical. For example, the Building Department may have need of a location that offers large storage capacity and processing power due to its extensive use of high resolution images and video files. In contrast, the needs of the Treasurers Department may be more modest. In addition maintenance cycles, i.e. backup of files, will vary for these different departments. With the Multimedia Department Setup option, it is possible to specify a separate path for multimedia files for each department.

**Note:** If no setup is specified for a department, then the multimedia settings from the System Registry Maintenance form will be used by default.

---

## Multimedia Document Path

When configured, Multimedia document attachments will be stored using the following directory structure:

`\\server\department\yyyy\mm` *where...*

- **department** - This is the configured department
- **yyyy** - The current year
- **mm** - This is the current numeric month (i.e. Jan. = 01, Feb. = 02, etc.)

An example file path using this structure for the building department on a server designated as 'Apollo' might be as follows:

`\\apollo\bldg_dept\2010\04`

**Level 1 Archive Document Path:** This path will contain all the multimedia documents. The system creates a new directory in this path each time you save a multimedia document. The directory name is the date you have saved a document, for example, 20150430: April 30th 2015. All the documents you save during the course of a day will be saved under the same directory.

**Level 2 Archive Document Path:** This path will contain all the archived multimedia documents from Level I after running the Archive Multimedia Batch Process.

**Level 3 Archive Document Path:** This path will contain all the archived multimedia documents from Level II after running the Archive Multimedia Batch Process.

**Multimedia Levels by Year:** Select this option to create an additional folder for archiving your multimedia images. A directory named by the current year will be added to the end of the multimedia image paths at each level.

**Multimedia Levels by Month:** Select this option to create an additional folder for archiving your multimedia images. A directory named by the current Month will be added to the end of the multimedia image paths at each level.

**Hide Document Path:** When selected this option will hide the full path to the document on the users screen.

**Note:** The hide Document Path option can serve as a security feature that when enabled, will restrict users from locating the file and accessing it from applications other than within Govern.

### Restrict External File Types

When specifying the Multimedia Document Path for each department, you are able to apply limitations to external file types. You can specify which external file types are displayed based upon their extension, i.e. which file types are

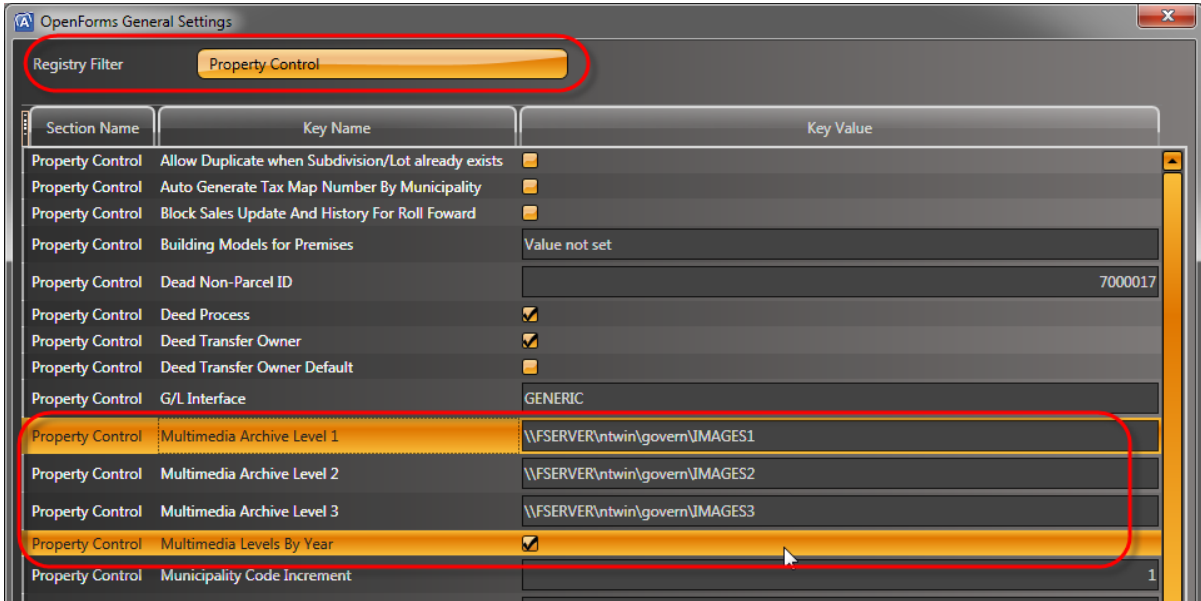
previewed by the system, in addition you can limit the size of the file that is being saved for better storage management.

#### Limitation for Other External Type (No permanent path) group

**Limit to File Type (jpg, pdf,...):** With this text string you can specify which external file types are displayed based upon their extension, i.e. which types are previewed by the system.

**Maximum Size (MB):** With this option, each department within the system can limit the size of the Multimedia document that is being saved.

## Multimedia Archive Path at System Registry Level



OpenForms General Settings

Registry Filter: **Property Control**

Section Name	Key Name	Key Value
Property Control	Allow Duplicate when Subdivision/Lot already exists	<input type="checkbox"/>
Property Control	Auto Generate Tax Map Number By Municipality	<input type="checkbox"/>
Property Control	Block Sales Update And History For Roll Forward	<input type="checkbox"/>
Property Control	Building Models for Premises	Value not set
Property Control	Dead Non-Parcel ID	7000017
Property Control	Deed Process	<input checked="" type="checkbox"/>
Property Control	Deed Transfer Owner	<input checked="" type="checkbox"/>
Property Control	Deed Transfer Owner Default	<input type="checkbox"/>
Property Control	G/L Interface	GENERIC
Property Control	Multimedia Archive Level 1	\\FSERVER\ntwin\govern\IMAGES1
Property Control	Multimedia Archive Level 2	\\FSERVER\ntwin\govern\IMAGES2
Property Control	Multimedia Archive Level 3	\\FSERVER\ntwin\govern\IMAGES3
Property Control	Multimedia Levels By Year	<input checked="" type="checkbox"/>
Property Control	Municipality Code Increment	1

The Multimedia Archive Path can be set at the *System Registry* level through the *OpenForms General Settings* form. When a UNC path is specified at the System Registry level, it will be used as the default. If a different path is specified in the Department Maintenance form, it will override the System Registry settings.

# Reports in the Govern New Administration (GNA)

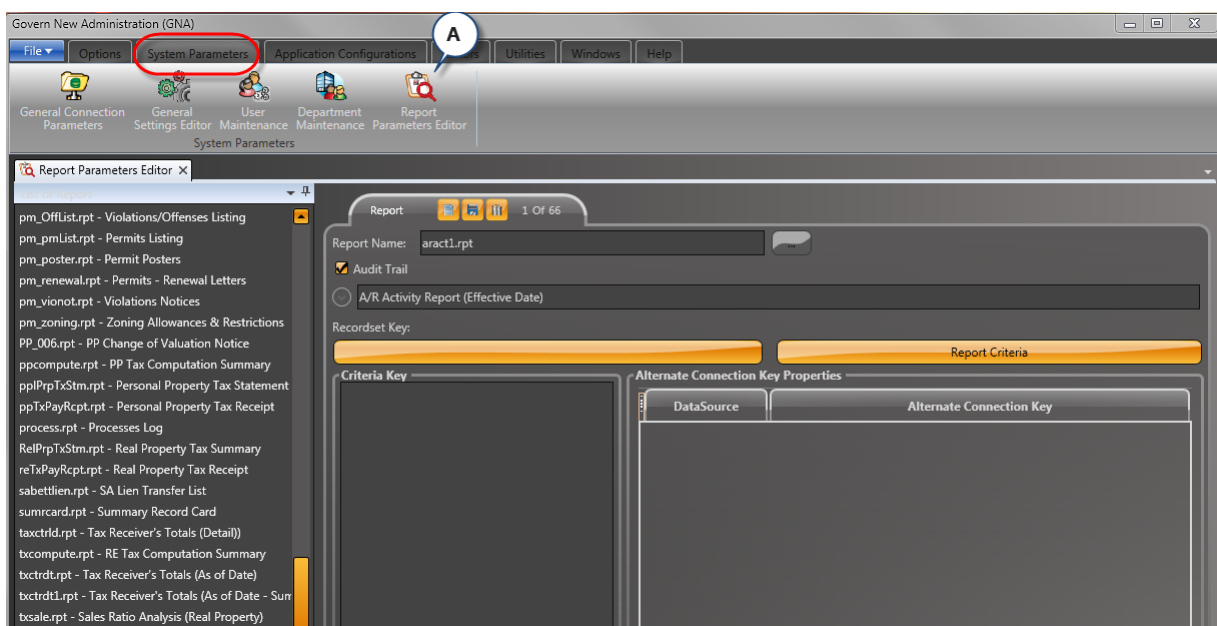
## Overview

The *Report Parameters Editor* form is used to configure reports on an individual basis. These reports display query results found in the fields of tables within the data source.

Reports are given access through the default connection key. If required, they may also be configured using an alternate connection key. As long as the alternate connection key has been defined in the *Connection Key Management* form, it will be available in the *Alternate Connection Key* list. See *Alternate Connection Key Properties* group on page 75 for details about alternate connection keys. In Release 6.0 of GNA, there is enhanced support for SQL Server Reporting Services (SSRS)<sup>™</sup>. SSRS reports and *Crystal Reports<sup>™</sup>* are configured in the *OpenForms General Settings* form, see *OpenForms<sup>™</sup> General Settings* on page 40 for details.


To access the *Report Parameters...*


1. In the GNA ribbon, select the *System Parameters* tab.
2. Click the **Report Parameters Editor** icon (A)..

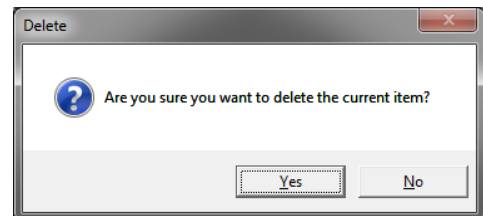



## Report Parameters Editor Command Buttons

**Create a new item:** Click **Create a new item**  to add a new report to the *List of Reports* column on the left hand side.

**Note:** When you click on New the button changes to Cancel ; this will allow you to cancel the creation of the current record. The Cancel button is present until the new record is saved.

**Delete:** Select a report from the *List of Report List*; click **Delete**  to remove the report from the list. A confirmation window will appear, click yes to continue.



**Save:** After modifying parameters of a report, click **Save**  to save the changes.

## Report Parameters Editor - Report Tab parameters

**Report Name:** Enter a name for the report; the length of the name is limited to a maximum of 15 characters.

**Audit Trail:** When this option is selected, log entries are made that track the number of times that the report is run.

**English Short Description:** This is the English description that will be used for fast data entry and look-ups where space is limited on forms.

**English Long Description:** Enter the English description that will be displayed for look-ups on forms, and normally used for reporting.

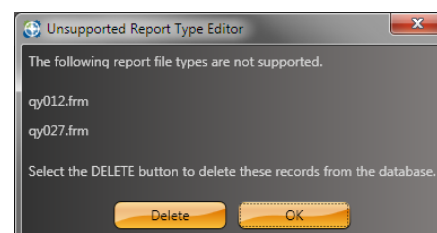
**French Short Description:** This is the French description that will be used for fast data entry and look-ups where space is limited on forms.

**French Long Description:** Enter the French description that will be displayed for look-ups on forms, and normally used for reporting.

## Intelligent Scanning of reports in Reports Editor

There is an underlying intelligence in the functioning of the Reports editor. Both *SQL Server Reporting Service (SSRS)* and *Crystal Reports* reports are read, and the data sources are scanned.

Connection options to the database are by default specified as the current connection. If required, secondary sources can be selected from a list of alternate *Connection Keys*. During the initial scanning phase, if a report is determined to be invalid, i.e. incompatible, a warning is displayed in the form of a window with a list of the offending reports.

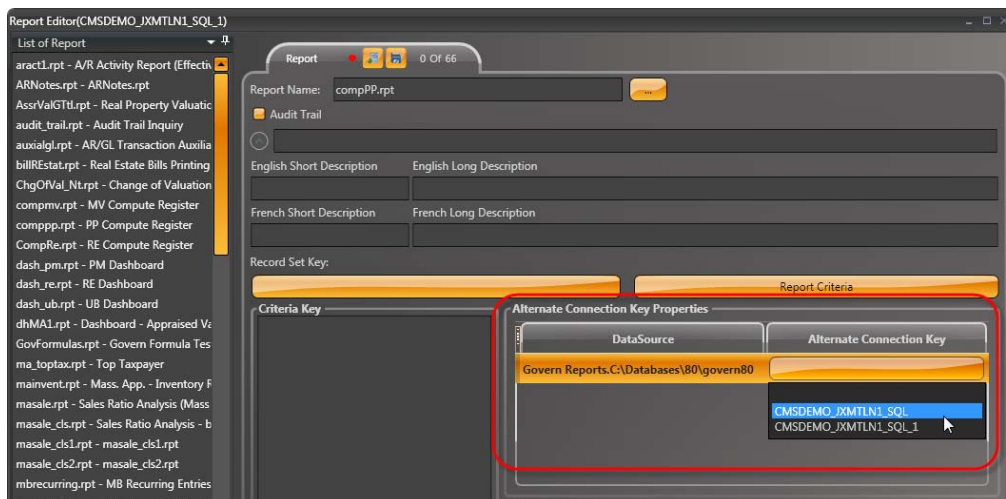


**Note:** When there is no backward compatibility with a report the default connection setting will be used.

## Details of the Report Scanning Process

When the Report Editor is launched, each report that is selected from the *List of Reports* list is scanned. The report connection key is tested. When the system encounters either a Crystal Report or an SSRS report that is not associated with a Govern connection key, the system will ask to associate the report with....:

- The current *Connection Key* (Default) **OR**
- The user can see the path to the data source, and may select a connection key from the list of available *Alternate Connection Keys*.





### During the “Database Verification” process...

After performing an update / general maintenance, or defining database connections, running the *Database Verification* process is recommended as it will update the database for access by Govern applications. When this process is run in GNA, during the Misc. Corrections phase a script performs the following:

- Conversion of *Alternate Connection Key* information (i.e. server, database names, etc.) into the *Connection Key* in the new table.

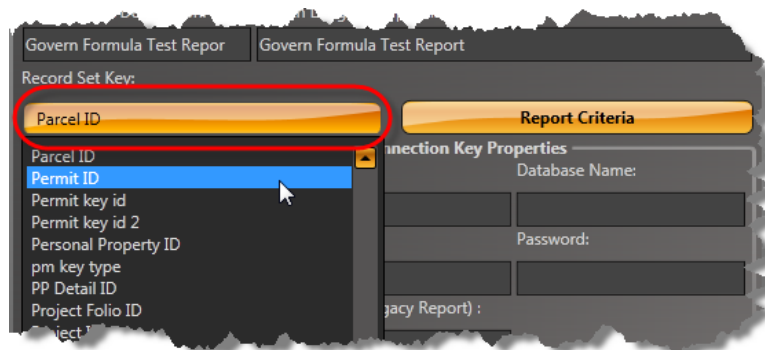
The following four (4) fields will be set to NULL:

- [DTSRC\_SERVER]
- [DTSRC\_DBNAME]
- [DTSRC\_UID]
- [DTSRC\_PASSW]

**Note:** In the SY\_REGISTRY screen, four key names were removed,

- [DTSRC\_SERVER]
- [DTSRC\_DBNAME]
- [DTSRC\_UID]

**Recordset Key:** This option provides the ability to run the report by dataset, e.g. current P\_ID, current dataset, or database. In the drop down menu list, select the primary key that will be used by this report, otherwise the user will not be prompted to select a dataset for the report.

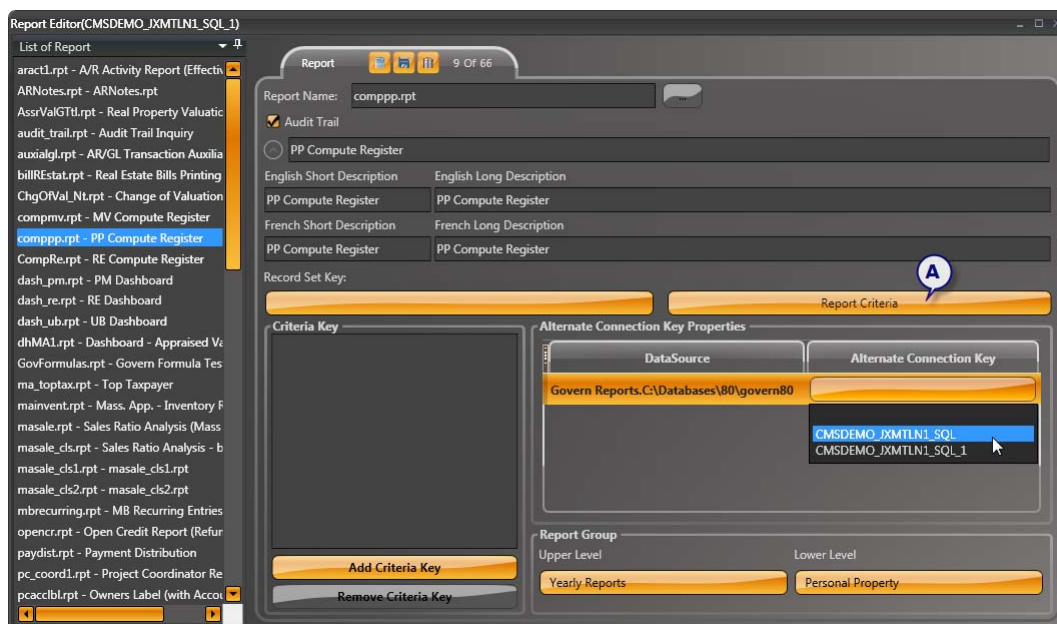


**Note:** A Record Set Key should be specified.

The report dataset will be filtered with a list of values for the selected key.

**Example:** SELECT \* FROM pc\_parcel WHERE p\_id = '123' OR p\_id = '456' etc.

**Report Criteria:** Click *Report Criteria* (A) to display the editor. The *Report Criteria Editor* is used to configure prompts for reports that require user input. See *Report Criteria Editor* on page 77 for details on configuring prompts.



The report dataset will be filtered with a unique value for the selected keys.

## For Example...

SELECT \* FROM pc\_parcel WHERE p\_id = '123'

## Criteria Key group

**Add Criteria Key:** Click **Add Criteria Key** to display the criteria key list; select one or more criteria to be added, click **OK** or **Cancel**.

**Remove Criteria Key:** Select a criteria key from the *Criteria Key* list and click **Remove Criteria Key** to remove it from the list.

## **Alternate Connection Key Properties group**

Although database connection parameters are set in the *Govern DeployEZ™*, they can be overridden on a report by report basis. If required, each report can be configured with an alternate connection key.

**Note:** All settings made in this section override the current, default, connection key. Users should ensure that they alternate connection key required has been entered in the *Connection Key Management* form. See *GNA and Connection Keys (CK)* on page 340.

**Data Source:** This is the path to the server that the report will be accessing.

**Alternate Connection Key:** Select an alternate Connection Key from the list.

**Note:** *SQL Server Reporting Services (SSRS)* can have a different alternate connection key for each data source found in the Report

## **Report Group**

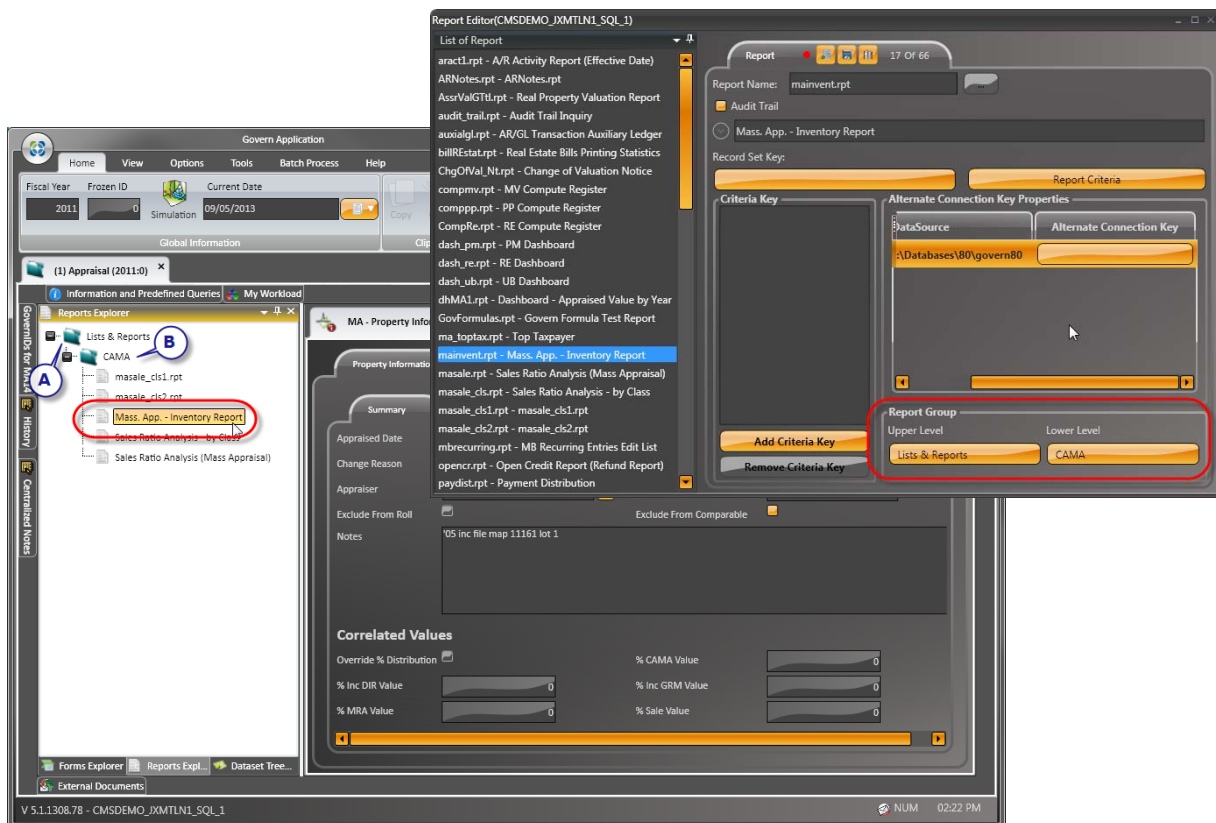
This parameter contains the Report Grouping for the *Report Explorer* in Govern.

**Upper/Lower Level:** Click to configure these parameters to indicate the location of the report in the Treeview pane in Govern.

### **For Example...**

When the following report, **Mass App.- Inventory Report** is configured to appear in the following Report Group; Upper Level: **List & Reports**, and

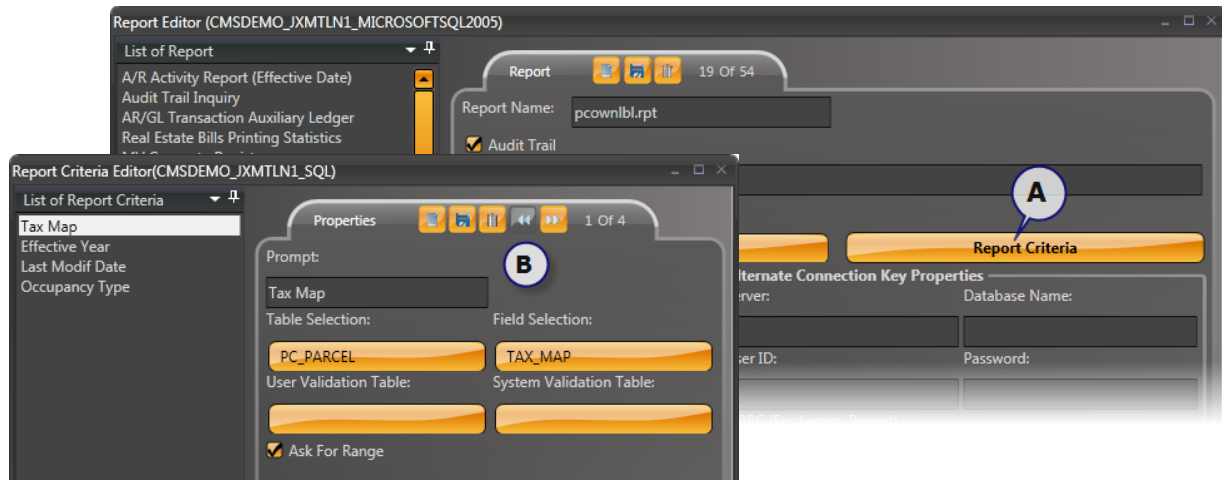
Lower Level: **CAMA**. In Govern, the report will appear in the **List & Report** upper folder (A) and **CAMA** lower folder (B):



# Report Criteria Editor

## Overview

User designed *Crystal Reports™* are generated from data obtained from the data source. In some instances user input requested by a prompt is required to filter the data, e.g. entering a date range, specifying a fiscal year, etc. In other instances the data must first be extracted and “preprocessed”. For these types of reports it is necessary to configure the preprocessing. This configuration is in the form of prompts for the user to enter required criteria.



**Note:** Attempting to run reports without configuring required prompts will result in an error.


**Note:** Users of *Crystal Reports* will need to install the *Crystal Reports 2015* runtime on the server hosting the application, and on each client computer. Refer to the *Crystal Report Runtime* section of the *DeployEZ™ Installer Guide* for details.


To display the *Report Criteria Editor*...

1. In the GNA ribbon, select the *System Parameters* tab.
2. Click the **Report Parameters Editor** icon.
3. Select a report from the *List of Reports* column on the left hand side.
4. In the *Report Editor*, click **Report Criteria (A)**.


In the *Report Criteria Editor (B)*, you are able to configure any required user prompts. See *Adding one or more Criteria to a Report on page 79* for details about adding prompts.


## Report Criteria Editor - Properties tab Command Buttons


 **Create a new item:** Click **Create a new item** to add a new criteria to the *Report Criteria* column on the left hand side.

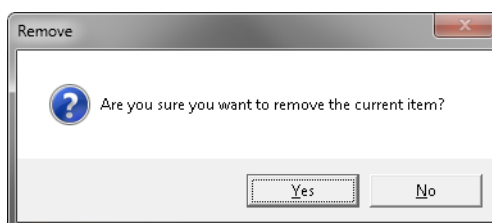
 **Cancel the creation of a new entry:** When you click on the **New** button to create a new entry record, the **New** button changes to the **Cancel** button. Click this button to cancel the creation of the current record.

 **Save the current item:** Click **Save the current item** to save a record to the database.

 **Up:** When there are two (2) or more criteria in the *Report Criteria* column, you are able to define the order that each criteria will be displayed in the user prompt. Click to select the criteria that is to be moved up in the list; click **Up**.

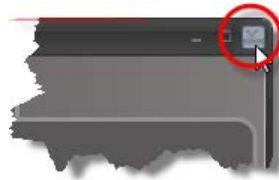
 **Down:** When there are two (2) or more criteria in the *Report Criteria* column, you are able to define the order that each criteria will be displayed in the user prompt. Click to select the criteria that is to be moved down in the list; click **Down**.

 **Delete:** Select a criteria from the *Report Criteria* column; click **Delete** to remove the criteria from the list. A confirmation window will appear, click **Yes** to continue.



**Modify:** Make modifications to any of the parameters that; click **Modify** to confirm the modifications.

## Exiting from the form



To close the form, click the **Close** button (X) in the upper right hand corner of the form if changes have been made to any of the properties, you will be presented with a prompt; select **Yes** to accept the changes.

## Report Criteria Editor Parameters

**Report Criteria:** The *Report Criteria* column displays the list of criteria that are associated with the report. When a criteria is selected, its parameters are displayed in the *Report Criteria Editor*.

## Report Criteria Properties group

**Prompt:** Enter a name that will appear in the title bar of the user prompt.

**Table Selection:** Select the table that data is being selected from using the drop-down menu.

**Field Selection:** In the drop-down menu, select the field within the table that is being selected.

**User Validation Table:** If the criteria has to be validated with a user validation table, select the table from the drop-down menu.

**System Validation Table:** If the selected criteria is to be validated with a system validation table, select one from the drop-down menu.

**Ask for Range:** Select **Ask for Range** to display a range prompt; e.g. entering a date range.

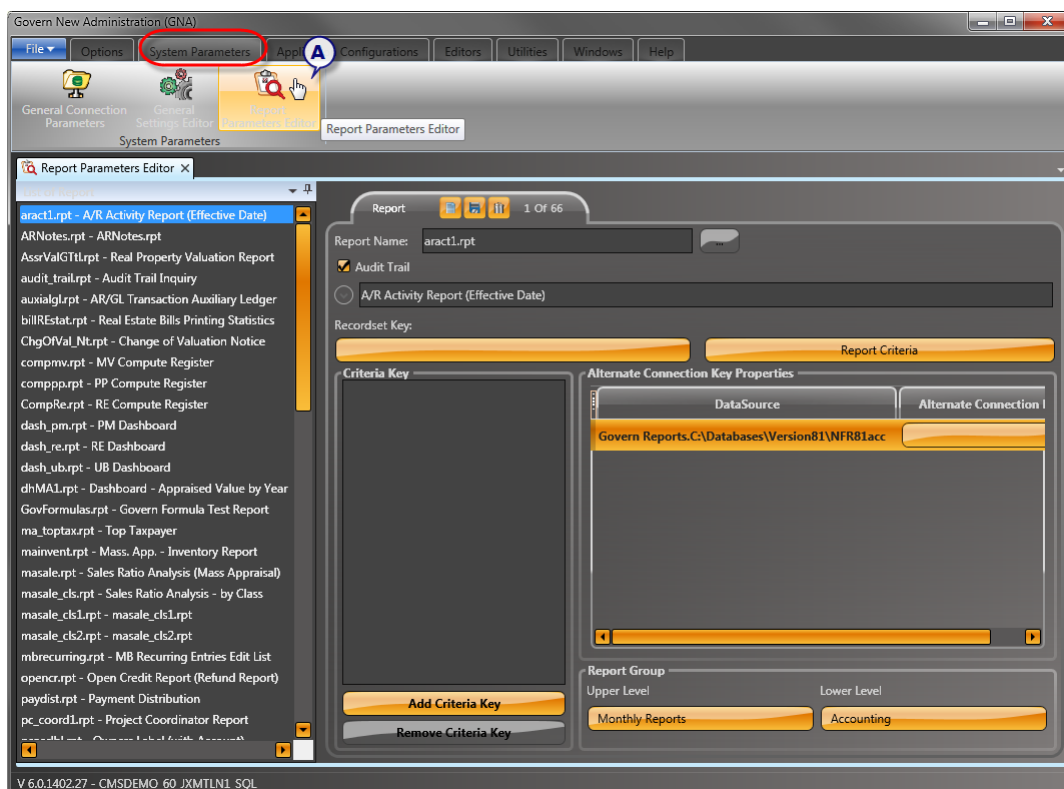
## Adding one or more Criteria to a Report

When linking reports to a profile, it may be necessary to customize the report to make it more interactive. This can include requesting that the user enter a

date range to define the scope of the report. For example, we can include a report for an Audit Trail Inquiry, but we will need to specify the criterion that we want to user to enter.

To specify the criteria for a report...

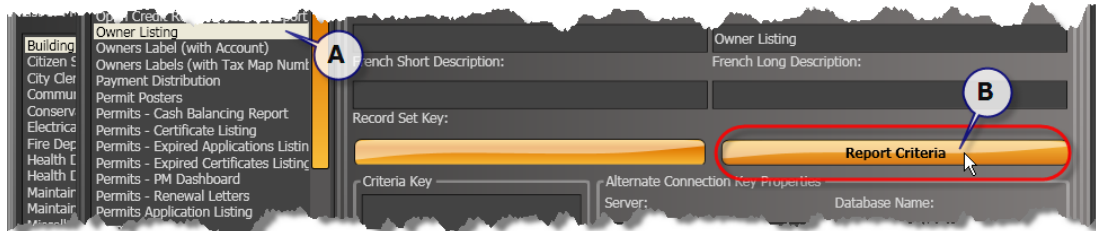
1. In *GNA*, click the *System Parameters* tab. Click the icon for the **Report Parameters Editor (A)**.



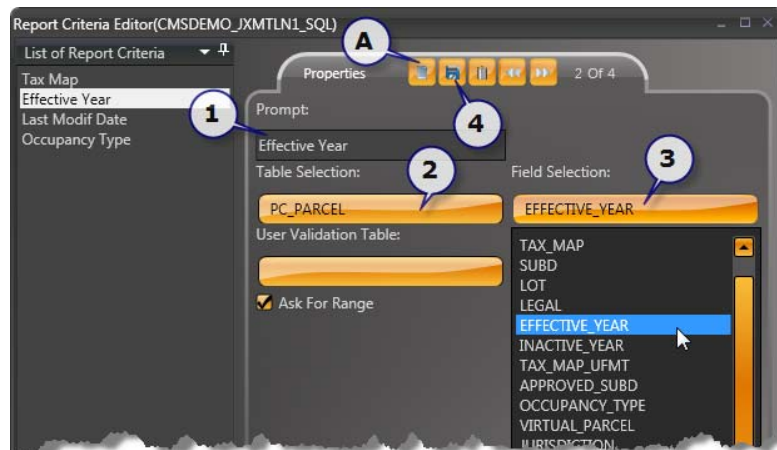
2. In the *Report Editor*, click to select a report from the **List of Reports: (A)**; for this example we will be modifying the *Owner Listing* report.
3. By default the report has a criteria called **Tax Map Number**. For our report we would like to be able to search for a *Last Name* as well as a *First Name*.



- Click **Report Criteria (B)** to display the *Report Criteria Editor*.



- In the *Report Criteria Editor*, click **New (A)** to begin adding your criteria. Under the *Prompt* parameter, enter **First Name (1)**.
- For *Table Selection*, select **na\_names (2)**.
- Under *Field Selection*, we are looking for the **FIRST\_NAME (3)**; we will not be using any **user** or **system** validation tables.



- Do not select the **Ask for Range** option because it is required for these parameters.
- Click **Add (4)** to add the criteria to the *Report Criteria* list.
- Repeat the above steps to add a criteria called **Last Name**.

## Change the order of appearance of the criteria

Should you want to change the order that the criteria are presented to the user on the form in *Govern*...

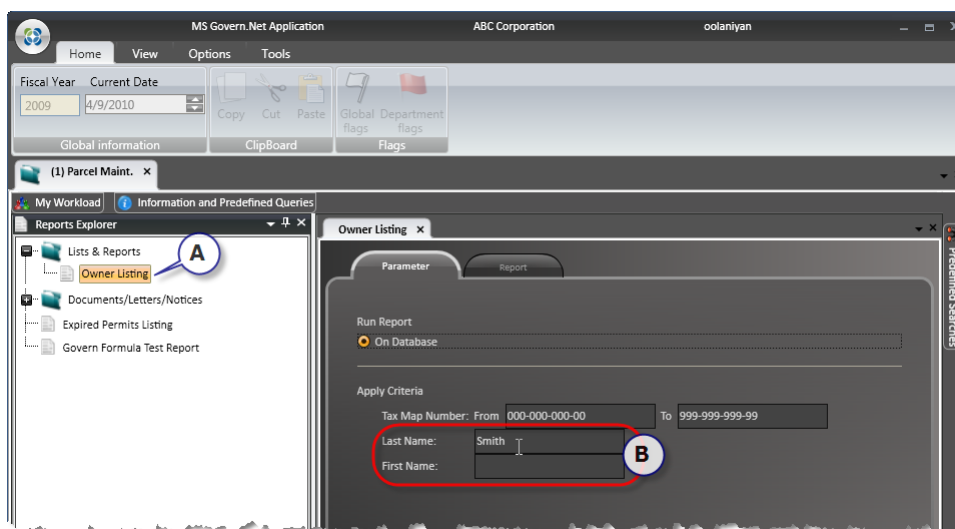
- Select the criteria under the *Report Criteria* list (1).

- Click **Up** or **Down** (2) to move them.



- When complete, click **Save**.
- Click the **Close** button (3) to return to the *Report Editor*.
- In *Report Editor*, click **Save** and exit from the form.

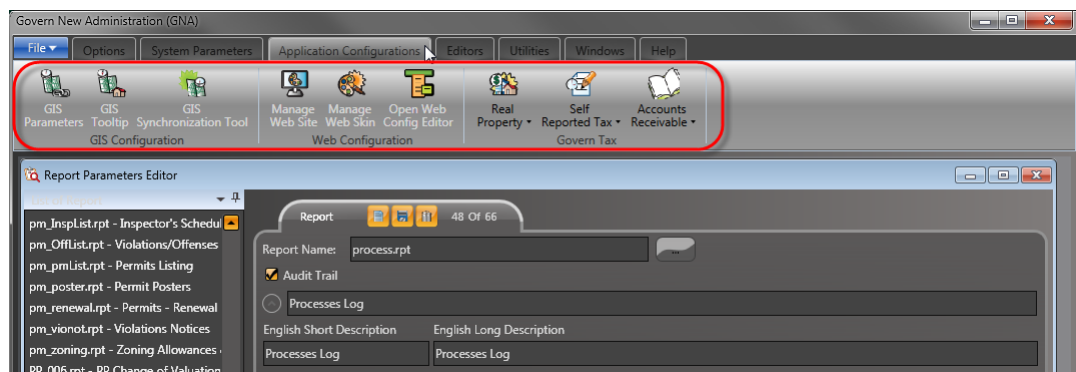
In *Govern*, you can preview your updated profiles. Reports are viewed under the *Reports Explorer*. The two (2) added criteria appear on the form. Users can now perform a search for specific first names and/or last names in addition to the tax map number (A), (B).



# Configuring Applications

## Overview

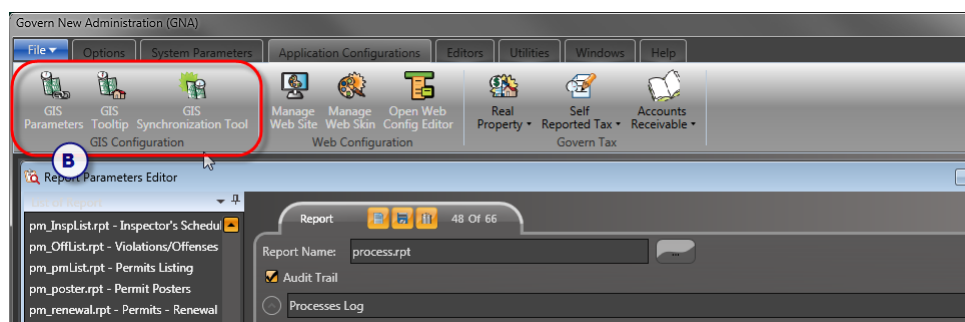
The Govern suite can be enhanced with modules designed to extend functionality. There are modules for providing GIS functionality, Self Reported Tax, Web, i.e. Internet/Intranet functionality through the *eGovern Public Self Service Portal*. Configuration parameters for these modules can be found under the *Application Configurations* tab.



## GIS Configuration group

**Note:** Full GIS integration involves the use of the Property Control GIS Web services. Users should ensure that their Username and Password are entered in the USR\_USERFILE table.

GIS Configuration forms are located under the *Application Configurations* tab > *GIS Configuration* group (B) > “Name of the GIS form”



## GIS Parameters

Enter the parameters used to publish the Service Map and the locations of the various services used by the GIS View application. See *GIS Parameters Editor on page 91*

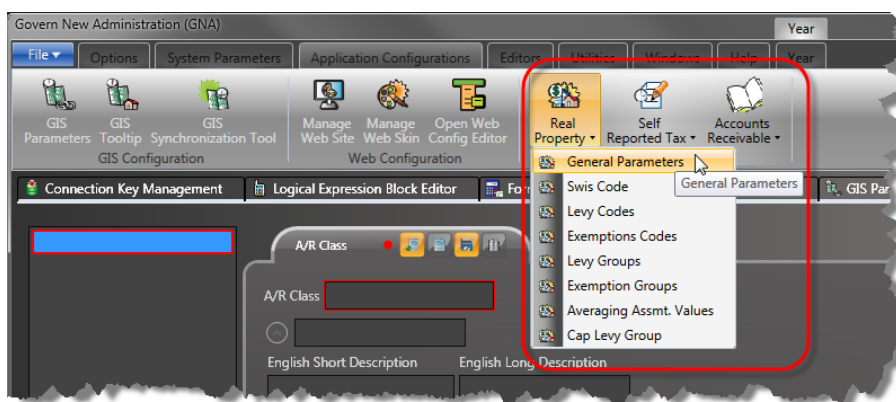
## GIS Tooltip

Use this form to enter the “tooltips” that will appear in the GIS Application. See *GIS Tooltip Editor on page 96*.

## GIS Synchronization Tool

Use this form to synchronize your GIS View data to the MS Govern database. Parcels from the GIS will be linked and imported to MS Govern's database. See *GIS Synchronization Tool on page 98*.

# Govern Tax



## Real Property

The following forms found under the Real Property icon in the Govern Tax group, are used to configure the *Govern Real Property Tax* module.

- General Parameters
- Swis Codes
- Levy Codes
- Exemption Codes
- Levy Groups

- Exemption Groups
- Averaging Assmt. Values
- Cap Levy Group

Refer to the *Govern Real Property Release 6.0* user guide for details about configuring the respective forms.

## **Self Reported Tax**

The Self Reported Tax form is used for designing the layouts of *Self Reported Tax* entry forms in the *Self Reported Tax OpenForm*.

- SRT General Parameters
- SRT Categories
- SRT Periods

## **Accounts Receivable**

The form(s) found under the Accounts Receivable icon in the Govern Tax group, is/are used to configure the *Govern Accounts Receivable* module.

- A/R Class

*Refer to the Govern Accounts Receivable Release 6.0 user guide for details about configuring the respective forms.*

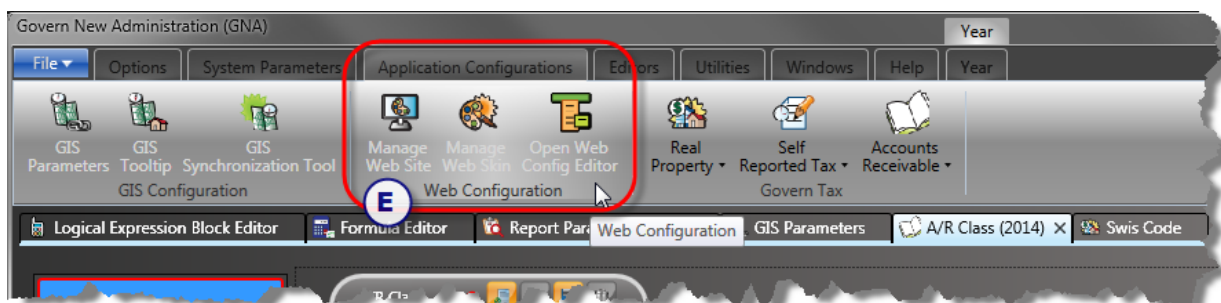
## **Govern Web Configuration Tools**

The *Web Configuration* tools allows you to modify the look and feel of the *eGovern Public Self Service Portal* Web sites. They are used to design and maintain the Web page templates that are used by the Web Search components. The editors offer basic web page editing capabilities and access to required configuration parameters.

A feature of the *Govern New Administration (GNA)* is its ability to manage multiple web sites within the same database, i.e. you are able to manage multiple sites and their respective files within the same database. For example, a municipality may require two (2) web sites, one for the city, the other for the county.

## Accessing Govern Web Configuration Tools

Web configuration editors can be found on the GNA ribbon under the *Application Configuration* tab; locate the *Web Configuration* group (E) > “Any of the Web Configuration Tools below”



- **Manage Web site** - Used to create and manage the Web site.
- **Manage Web Skin** - This editor creates and previews the “skin” i.e. appearance of the Web site.
- **Open Web Config Editor** - Manage eComponent functionality through the **Web.config** file.

## Web Site Manager (Manage Web Site)

After you set up your WebSkins, you can use the Web Site Manager, to assign WebSkins to the eProfile and the eComponents associated with the Web site. Each application can be assigned a different skin to provide a different look and feel or you can assign the same skin to all components. See *Web Site Manager* on page 105 for details.

## Web Skin Manager (Manage Web Skin)

The WebSkin Manager can create customized WebSkins to define the look and feel of the eProfile and eComponents. This has tools for defining general layout, title, and sections of a Web page like the head, left and right margins, and the body. These sections are defined as a skin, assigned a name and ID, and applied to the eProfile or eComponent with the Web Site Manager. With the WebSkin Manager, since all your styles and formatting are centrally located, it is easy to preview your site and make modifications. See *Creating a Web site* on page 109 for details.

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## **Web Config File Editor (Open Web Config Editor)**

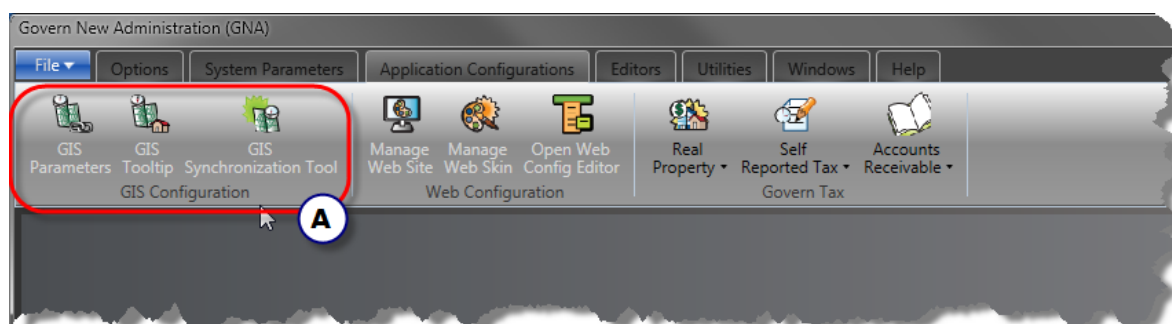
Web Configuration editor is used to define and manage configuration parameters of Govern's eComponents. See *Web Configuration File Editor on page 108 for details*.

## GIS Configuration

**Note:** Full GIS integration involves the use of the *Property Control GIS Web Services*. Users should ensure that their *Username* and *Password* are entered in the *USR\_USERFILE* table.

The following parameters are used for the configuration of the Govern GIS View application.

*GIS Configuration* editors are located in GNA under the *Application Configurations* tab; locate the *GIS Configuration* group in the ribbon (A).



Enter the parameters used to publish the Service Map and the locations of the various services used by the *GIS View* application.

**Note:** The queries used in the GIS configuration are created and saved in the SQL Queries Editor. Refer to the *Govern GIS View release 4.5* guide for additional details.

## Arc GIS Server 9.3.1 / 10.0 Installation Notes

The following steps are for installing the Arc GIS Server. This is a prerequisite installation for the functioning of the GIS View application. Refer to the *Govern GIS View release 4.5* guide for the system requirements for the *Arc GIS Server 9.3.1 / 10.0*.

### ArcGIS 9.3.1 Installation

After installing the prerequisites listed under System Requirements, you can begin installing the ArcGIS Server software on each machine in your system. As you navigate through the ArcGIS Server Setup wizard, you will see a panel



that allows you to choose which components, or features, of ArcGIS Server to install. For a single machine deployment, choose to install all the components.

The *ArcGIS Server Installation Guide* contains detailed information about the software installation process. It also contains a list of system requirements and prerequisites for ArcGIS Server. You can open the guide by clicking the Install Guide button from the first panel of the ArcGIS Server Setup wizard.

For details about the installation process, click the following link:

<http://webhelp.esri.com/arcgisserver/9.3.1/dotNet/>

## ArcGIS 10.0 Installation

*ArcGIS Server 10* for the Microsoft .NET Framework has two setups:

- **ArcGIS Server 10 - GIS Services** installs the *Server Object Manager (SOM)*, *Server Object Container (SOC)*, *Services Manager*, and *Web Services (SOAP/REST)* components.
- **ArcGIS Server 10 - Web Applications** installs the *Applications Manager* and *Software Developer Kit (SDK)* components.

If you intend to only create, publish, and host services (map services, search services, etc.) on your GIS server, you will only need to install *ArcGIS Server 10 - GIS Services*. If you intend to develop and host Web Mapping Applications (WMAs) on your GIS server, you will need to install both *ArcGIS Server 10 - GIS Services* and *ArcGIS Server 10 - Web Applications*.

For more details on the installation process click the following link:

[http://help.arcgis.com/en/arcgisserver/10.0/help/arcgis\\_server\\_dotnet\\_help/index.html](http://help.arcgis.com/en/arcgisserver/10.0/help/arcgis_server_dotnet_help/index.html)

## Installing eUtilities

Before you create a map service, you need an *ArcMap* map document (.mxd) that resides in a shared location visible to all server object container (SOC) machines in your GIS server. The SOC account you created during post installation must also have permissions to read the map document and all the data that the map document references.

Follow these steps to create your first map service:

1. Start ArcGIS Server Manager and log in. For additional help with this step, see Logging in to Manager.
2. Click the Services tab.
3. Click Publish a GIS Resource.
4. Use the Resource drop-down list to browse to the map document (.mxd) that you want to publish.
5. Type a name for the service in the Name text box. The name cannot be more than 120 characters long and may contain only alphanumeric characters and underscores.
6. Accept the default folder level by clicking Next.
7. Click Next again to accept the default capability Mapping.
8. Review the information about the service you are about to create and click Finish to create the service.

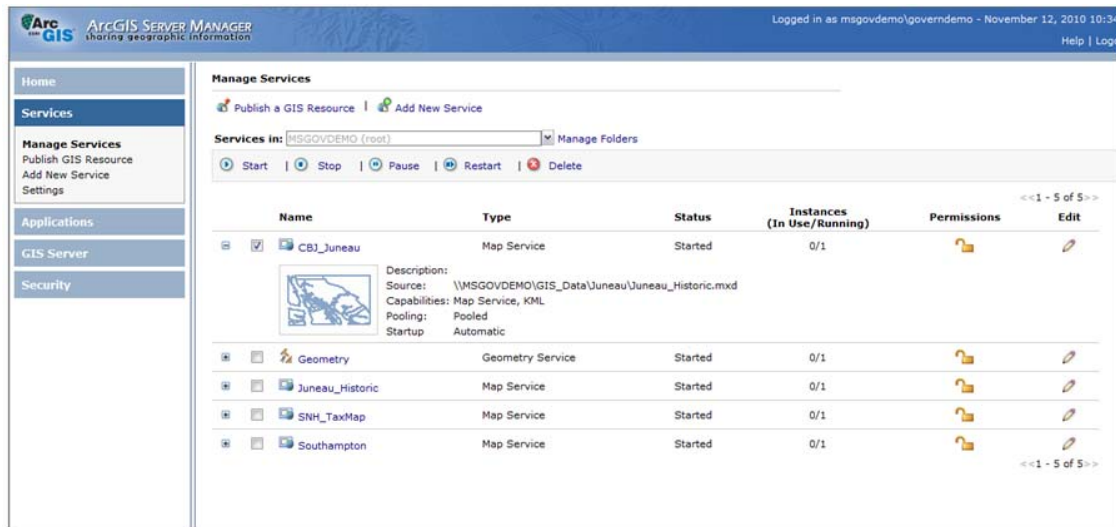
## Verification Steps

To ensure that the service is working correctly, follow these steps:

1. Click the Services tab in Manager.
2. Make sure the Services in the drop-down list contains your server name, i.e. the root level of the server, and not a folder name.
3. Click the plus (+) button to expand the information about the service you just published. If you can see a preview image after a few seconds, your service is running correctly.

Click the following link to get more details about the map service:

[http://help.arcgis.com/en/arcgisserver/10.0/help/arcgis\\_server\\_dotnet\\_help/index.html#/Tutorial\\_Publishing\\_a\\_map\\_service/00930000000p000000/](http://help.arcgis.com/en/arcgisserver/10.0/help/arcgis_server_dotnet_help/index.html#/Tutorial_Publishing_a_map_service/00930000000p000000/)



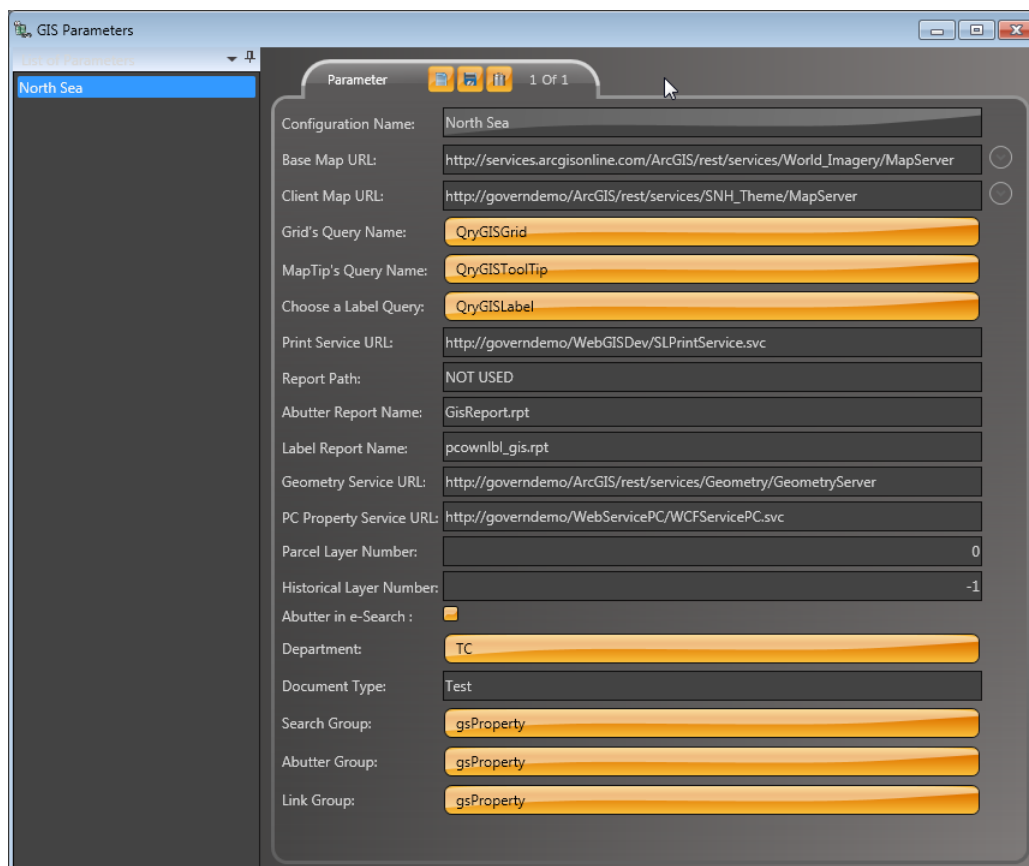
## GIS Parameters Editor

### GIS Configuration in Govern New Administration (GNA)

After publishing the service map, the following configuration steps are performed in *Govern New Administration (GNA)*.

To configure the *GIS Parameters* in the *Govern New Administration (GNA)*...

1. Click to select the Application Configurations tab.
2. In the *GNA* ribbon locate the *GIS Configuration* group.
3. Select the **GIS Parameters** icon.



4. Complete the following parameters. All are required.

**Configuration Name:** Enter the name of GIS configuration. This is the view that the user sees on logging in.

**Base MAP URL:** Enter the URL of the base map used by your organization. The base map provides background for the GIS information and increase the speed for zooming in and out on selected parcels or other map areas.

Base maps are purchased by the organization or can be selected from the ESRI Web site; for example:

[http://server.arcgisonline.com/ArcGIS/rest/services/ESRI\\_Imagery\\_World\\_2D/MapServer](http://server.arcgisonline.com/ArcGIS/rest/services/ESRI_Imagery_World_2D/MapServer)

**Client Map URL:** Enter the URL of your Map Service that you published in the ArcGIS Server.

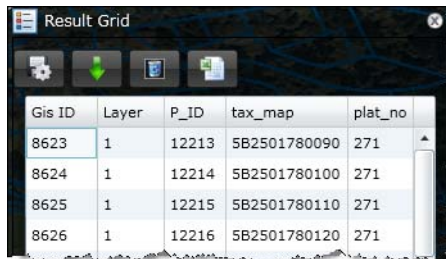
The client map is automatically updated when changes are made to the database.

To locate this URL:

1. Go to the ArcGIS services directory:  
<http://yourServerName/arcgis/rest>
2. Click on the link that has your Map Service's Name:  
<http://yourServerName/arcgis/rest/services/yourMapService/MapServer>

**Grid Query Name:** Select the query used for the Result Grid.

The database columns displayed in the Result Grid are defined by this query.



Gis ID	Layer	P_ID	tax_map	plat_no
8623	1	12213	5B2501780090	271
8624	1	12214	5B2501780100	271
8625	1	12215	5B2501780110	271
8626	1	12216	5B2501780120	271

**Map Tip Query Name:** Select the query used for the map tips.

The columns defined in this query are the columns that are displayed in the Information palette. This is shown when you select a parcel.



**Label Query Name:** Select the query for the labels. These are columns displayed in the Label Features palette.

**Print Service URL:** Enter the name of the service for the Abutter's report.

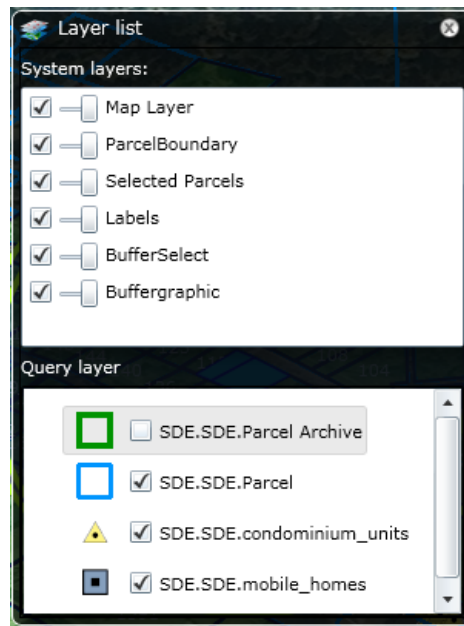
**Report Path:** Enter the path to the *Crystal Reports* used for the *Abutter's* report.

**Geometry Service URL:** Enter the URL for the buffer for the Abutter's selection.

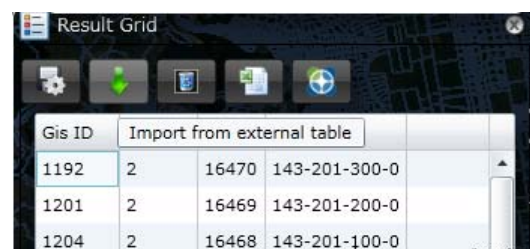
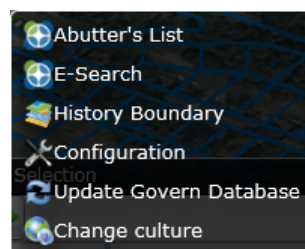
**PC Property Service URL:** Enter the URL for the service to be used

**Parcel Layer Number:** Enter the position of the *Parcel Layer* on the map and under the *Query List* section of the Layer List in *Govern GIS View*. This is SDE.SDE.Parcel in the following screen shot.

**Historic Layer Number:** Enter the position of the *History Layer* on the map and under the *Query List* section of the Layer List in *Govern GIS View*. This is SDE.SDE.Archive in the following screen shot.



**Abutter in Dynamic Search:** Select this option to add the Abutter's List option to the Dynamic Search menu. Otherwise, the Abutter's List appears as an icon in the **Results Grid**.



**Department:** Multimedia documents include a code for the department. Select the department for saving the multimedia documents from the Abutter's List and reports.

**Document Type:** Enter the accepted document type for multimedia documents if required.

**Search Group:** Select the query to be used for the Dynamic Search.

**Abutter Group:** Select the query to be used for the Abutter's List.

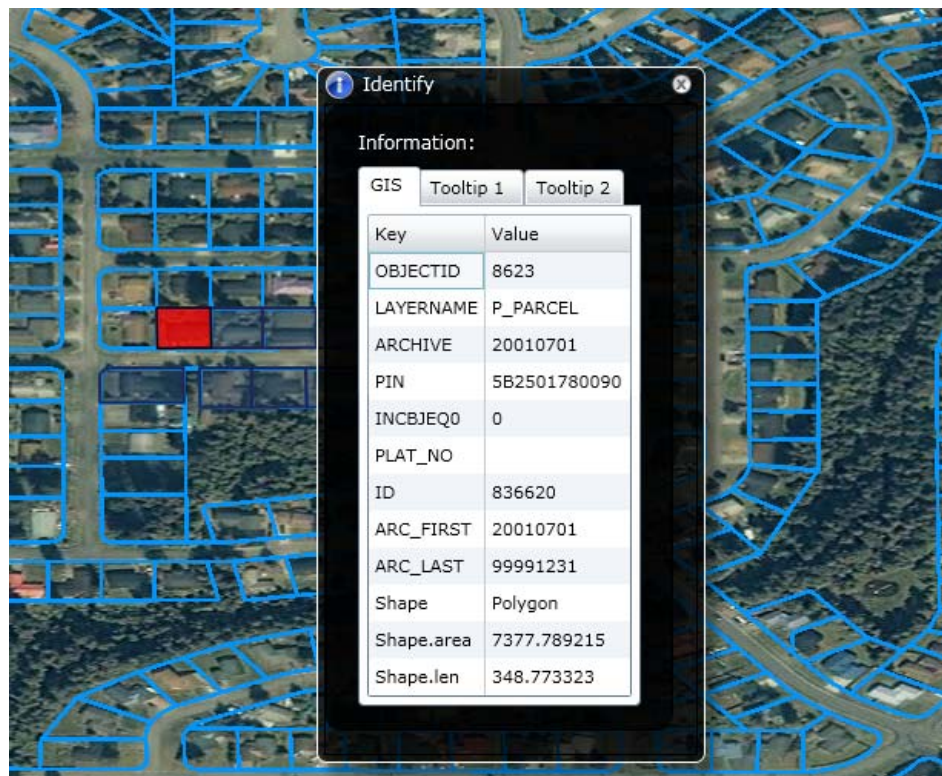


**Link Group:** Select the query to be used for the link between the Govern database and the geodatabase.

## GIS Tooltip Editor

### Defining the GIS Tooltip for Identifying Parcels

The next step is to define the GIS Tooltip for viewing information on the parcels. This is the information displayed when the user performs a search; then, selects a parcel and clicks the Identify icon.

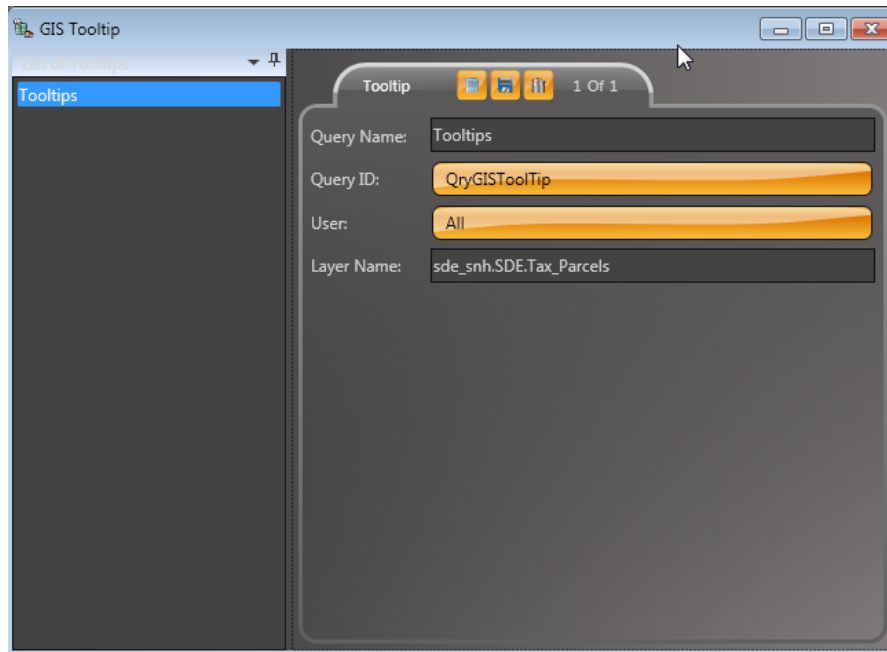


To define the GIS Tool tip;

1. Click to select the Application Configurations tab.
2. In the *GNA* ribbon locate the *GIS Configuration* group.



3. Select the **GIS Tool tip** icon.



4. Enter the following parameters:

- **Query Name:** Enter a name to identify the query.
- **Query ID:** Select the query you want to use from the drop down list. Queries are created and saved in the
- **User:** Select **All** or select the name of the user who can see the information.
- **Layer Name:** Enter the name of the layer under which the query will be visible.

5. Click the **Save** icon .

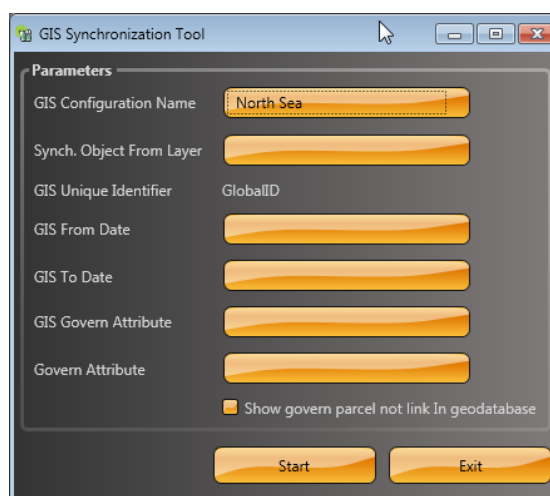
## GIS Synchronization Tool




### Import and Link Data from Geodatabase to Governs database

After configuring the GIS Parameters and setting up the *GIS Tooltip*, you need to run the *GIS Synchronization Tool* to synchronize the *Govern* database with the geodatabase. This synchronization is preformed by the *GIS Synchronization Tool*.

To configure the *GIS Synchronization Tool*:

1. Click to select the *Application Configurations* tab.
2. In the *GNA* ribbon locate the *GIS Configuration* group.
3. Select **GIS Synchronization Tool** icon.
4. Complete the following parameters.
  - **Choose a GIS Configuration Name:** Enter the name of the geodatabase.
  - **Synch Object from Layer:** Select the name of the layer for the synchronization.
  - **GIS ID Field:** Enter the name of the field in the geodatabase that you are using for the link; for example, enter OBJECTID.
  - **GIS From Date / To Date:** If the layer includes historical data, enter a range of dates.
  - **Link Field:** Enter the name of the field on which the link between the two databases: the geodatabase and the *Govern* database will be made; for example, the tax map number.
  - **Table:** Enter the name of the database table in the *Govern* database that contains the field you are using to link the databases.
  - **Field:** Enter the name of the field in the *Govern* database on which you are making the link.



5. Click **Import and Link** button  to link to import the data from the geodatabase into the Govern.
6. Click the **Get PIDs not linked** button  to generate a report showing the parcels that exist in Govern but are not linked to the geodatabase.
7. Click the **Export Log** button  to export the information to an Excel document.

## Web Site and Web Service

The final step is to deploy the *GIS Web site* and the *Web service* that will access the data in both databases.

### Create an Application Pool

*Application Pools* isolate sites and applications to address reliability, availability, and security issues. Application Pools should be created for any one of the following reasons:

- Grouping sites and applications that run with the same configuration settings.
- Isolating sites and applications that run with unique configuration settings.
- To increase security by using a custom identity to run an application.
- Preventing resources in one application from accessing resources in another application. For example, ISPs might create individual application pools for each customer's sites and applications. Separating customer content in this manner can prevent one customer's resources from accessing resources on another customer's site, even though both customers' sites are on the same Web server.
- Improving performance by separating unstable applications from well-behaved applications.

It is strongly recommended to create an *Application Pool* for this solution.

### Web Service Configuration and Deployment

For the deployment of the *Web service* you should publish the *Web Service* in *IIS*, in addition there are two (2) keys in the **Web.config** file that need to be filled:

1. **GovernNetConfig**: The path to the Govern.NET configuration file on the network.
2. **SDE connection key**: Fill the alternate connection key for the Geodatabase.



```
<?xml version="1.0"?>
<configuration>
  <system.web>...</system.web>
  <!-- When deploying the service library project, the content of the config file must be added to the host's
  app.config file. System.Configuration does not support config files for libraries. -->
  <appSettings>
    <add key="MSGovern.GovernNetConfig" value="\\mtldev01\MS Govern\Victor\GovernNetConfig.xml"/>
    <add key="GovernSoftware.ConnectionKeySde" value="CBJ_GEODATABASE_CARRERADEV2005_SQL"/>
    <add key="ClientSettingsProvider.ServiceUri" value="" />
  </appSettings>
  <system.serviceModel>...</system.serviceModel>
</configuration>
<startup><supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.0"/></startup></configuration>
```

## Web site Configuration and Deployment

For the deployment of the GIS Terminal you should publish the Web Site into the IIS, and also there are 13 keys in the Web.config that should be filled:

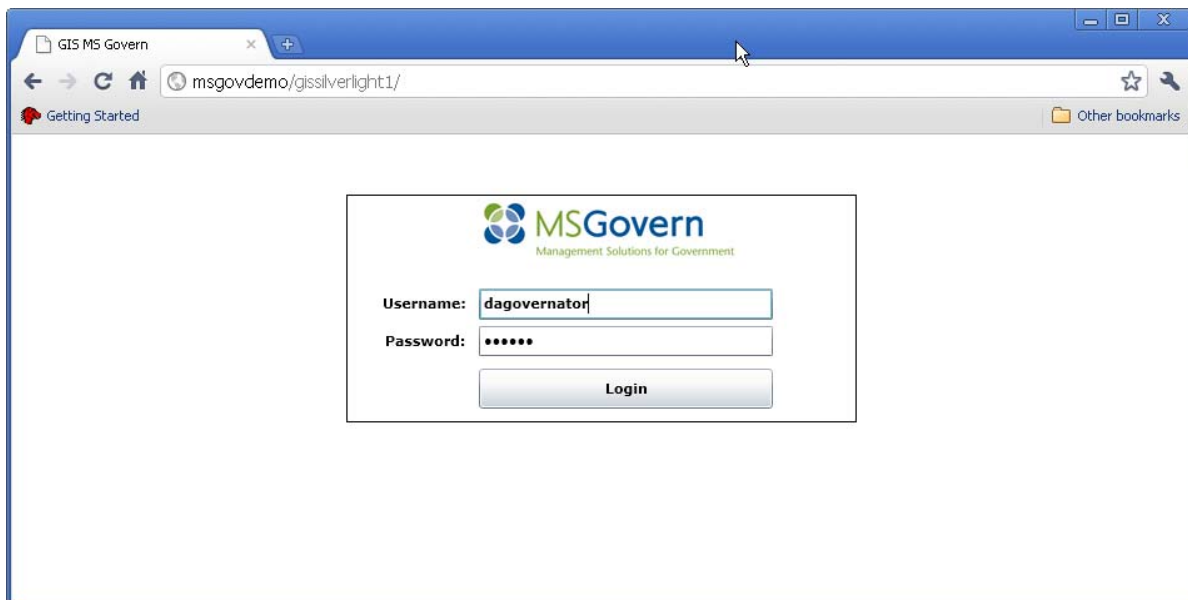


```
<?xml version="1.0"?>
<configuration>
  <appSettings>
    <add key="MSGovern.BusinessRules" value="http://msgovdemo/BusinessRulesJuneau/BusinessRulesService.SV_BusinessRules.svc"/>
    <add key="MSGovern.GovernNetConfig" value="\\mtldev01\MS Govern\Victor\GovernNetConfig.xml"/>
    <add key="MSGovern.DefaultConfig" value="0"/>
    <add key="MSGovern.Supported" value="false"/>
  </appSettings>
  <connectionStrings>
  </connectionStrings>
  <system.web>
    <!--
    ABLIST
    Set compilation debug="true" to insert debugging
    symbols into the compiled page. Because this
    affects performance, set this value to true only
    during development.
    -->
    <compilation debug="true" targetFramework="4.0">...</compilation>
    <authentication mode="Windows"/>
    <httpHandlers>...</httpHandlers>
    <pages controlRenderingCompatibilityVersion="3.5" clientIDMode="AutoID"/></system.web>
  </configuration>
```

1. **BusinessRules**: The URL to the WCF service configured on the step 3.4.1.
2. **GovernNetConfig**: The path to the Govern.NET configuration file in the network.
3. **DefaultConfig**: The default configuration for your web site.
4. **Supported**: The supported configurations available for the user.

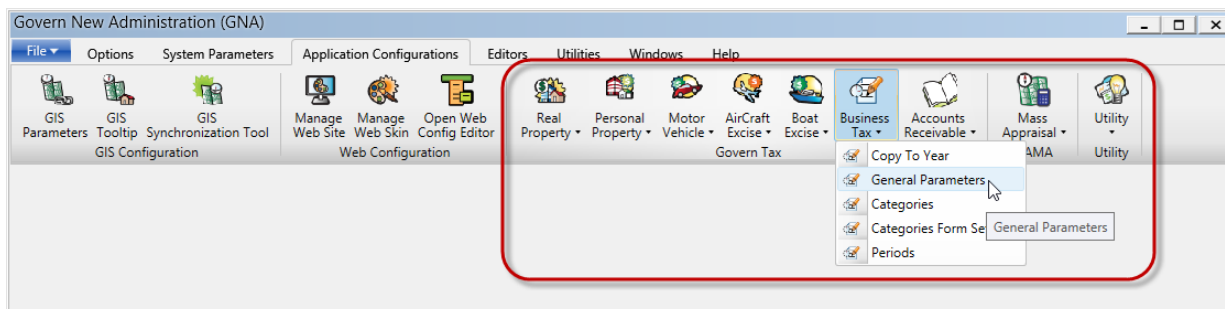
## Accessing the Application

When security is enabled, enter the application URL to display the login page with the username and password fields. Enter your access credentials and click **Login**.



## Govern Tax

The *Govern Tax* group in the GNA ribbon is used to access the forms used to configure installed *Govern Tax* modules. Modules include, *Real Property Tax*, *Self Reported Tax*, and *Accounts Receivable*, to name a few.



## Real Property Editors

The editors for configuring the parameters required for the Real Property Tax Assessment Module are found under the *Real Property* icon. Editors include the following:

- General Parameters
- Levy Codes
- Exemption Codes
- Levy Groups
- Exemption Groups
- Swis Codes
- Averaging Assessment Values
- Cap Levy Group

For details about Real Property Tax Parameters and Editors, refer to the *Govern Real Property Tax* user guide for details.

## Business Tax Editors

When configuring the *Business Tax* aka *Self-Reported Tax* module, the following forms are used:

- Copy to Year
- General Parameters

- Categories
- Categories Form Setup
- Periods

For details about parameters and configuration, refer to the *Business Tax* user guide.

## Accounts Receivable Editor

The editors for configuring the *Accounts Receivable Module* are found under the *Real Property* icon. The *A/R General Parameters* form is used to define *Accounts Receivable (A/R)* settings for all the subsystems linked to the **A/R**.

*For details about setting up A/R Classes and their parameters, refer to the Account Receivable Release 6.0 user guide.*

# Govern Web Configuration Tools

## Overview

The *Web Configuration* tool allows you to modify the look and feel of the eProfile and eComponent Web sites.

A feature of the *Govern New Administration (GNA)* is its ability to manage multiple web sites within the same database, i.e. you are able to manage multiple sites with their respective files within the same database. For example, a municipality may require two (2) web sites, one for the city, and the other for the county.

## Accessing Govern Web Configuration Tools

To access the *Web Configuration* tools in *GNA*:

1. Click *Web Configuration (tab)* > “**Any of the Web Configuration tools in the group**”.

### Web Site Manager (Manage Web Sites...)

After you set up your WebSkins, you can use the *Web Site Manager*, to assign WebSkins to the eProfile and the eComponents associated with the Web site. Each application can be assigned a different skin to provide a different look and feel or you can assign the same skin to all components. See *Web Site Manager* for details.

### WebSkin Manager (Manage Web Skin...)

The *WebSkin Manager* can create customized *WebSkins* to define the look and feel of the eProfile and eComponents. This has tools for defining general layout, title, and sections of a Web page like the head, left and right margins, and the body. These sections are defined as a skin, assigned a name and ID, and applied to the eProfile or eComponent with the *Web Site Manager*. With the WebSkin Manager, since all your styles and formatting are centrally located, it is easy to preview your site and make modifications. See *Creating a Web site* on page 109 for details.

### Web Config File Editor (Open Web Config Editor...)

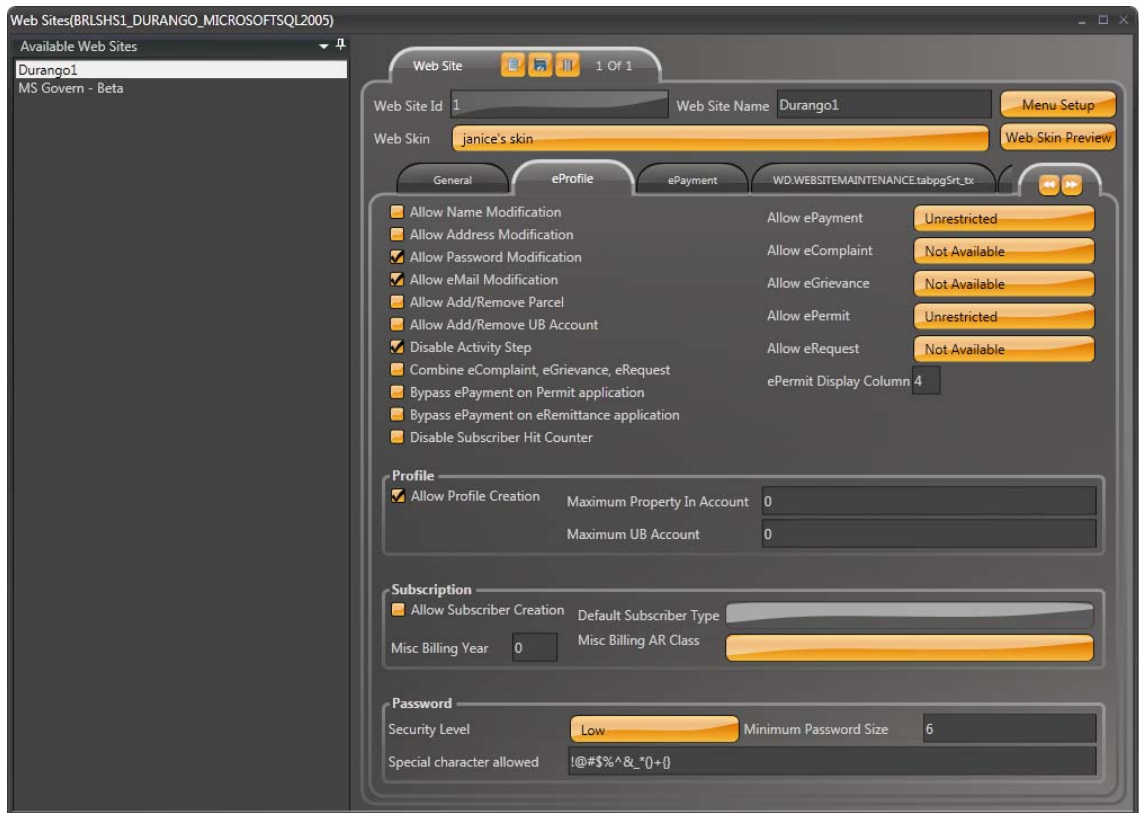
The *Web Config* editor is used to define and manage configuration parameters of Govern's eComponents.. See *Web Configuration File Editor* on page 108 for details.



## Web Site Manager

### Overview

With the *Web Site Manager*, you can create a look and feel for each of your Web sites by assigning *WebSkins* to the eProfile and the eComponents. Each application can be assigned a different skin to provide a different look and feel.



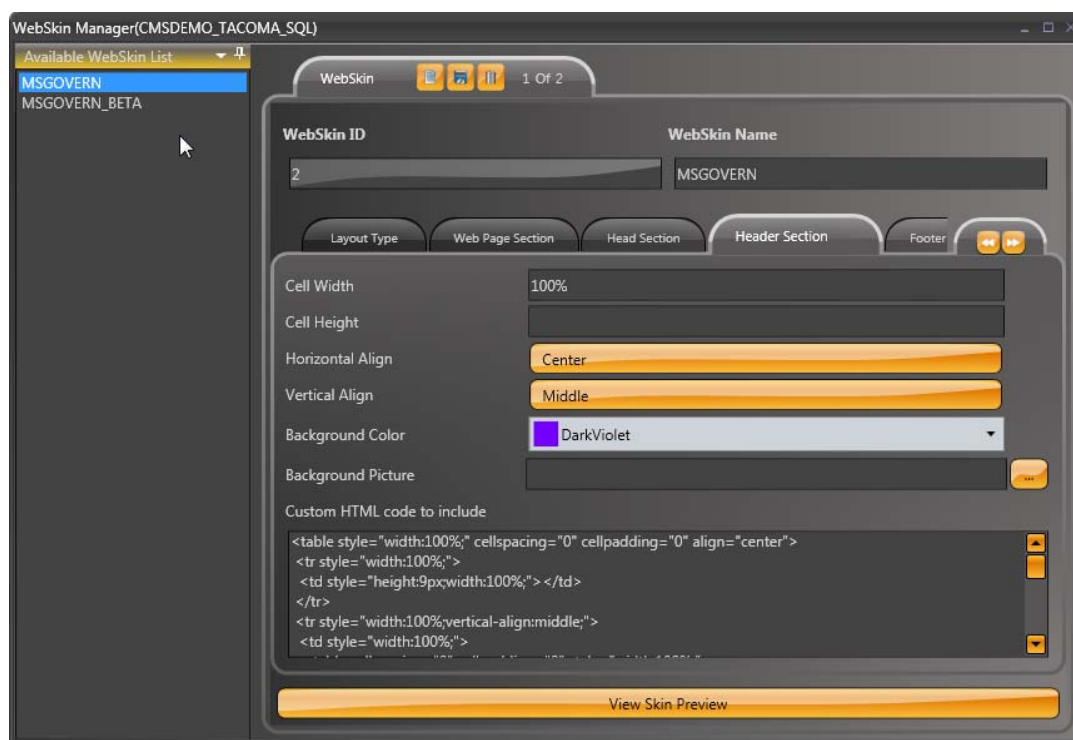
The screenshot shows the 'Web Site Manager' interface for a database named 'Web Sites(BRLSHS1\_DURANGO\_MICROSOFTSQL2005)'. On the left, a list of 'Available Web Sites' includes 'Durango1' and 'MS Govern - Beta'. The main panel is titled 'Web Site' and shows configuration for 'Durango1'. It includes fields for 'Web Site Id' (1) and 'Web Site Name' (Durango1), with buttons for 'Menu Setup' and 'Web Skin Preview'. The 'Web Skin' is set to 'janice's skin'. Below this are tabs for 'General', 'eProfile', 'ePayment', and 'WD.WEBSITEMAINTENANCE.tabpgSrt\_Lt'. The 'eProfile' tab is active, showing a list of permissions with checkboxes and buttons. The 'Profile' section includes 'Allow Profile Creation' (checked), 'Maximum Property In Account' (0), and 'Maximum UB Account' (0). The 'Subscription' section includes 'Allow Subscriber Creation' (checked), 'Default Subscriber Type' (empty), 'Misc Billing Year' (0), and 'Misc Billing AR Class' (empty). The 'Password' section includes 'Security Level' (Low), 'Minimum Password Size' (6), and 'Special character allowed' (!@#%&\*\_0+{}).

*For details about using the Web Site Manager, refer to the MS Govern - eGovern Public Self Service Portal Release 5.1 user guide.*

## Web Skin Manager

### Overview

A “skin” is a term used to refer to the appearance of the user interface (UI). Consequently a “WebSkin” refers to the appearance of the *UI* in a web browser. A *WebSkin* will present a Web application with a different look and feel, but the behavior of the *UI* will not change.



With the *WebSkin Manager*, you are able to customize the look and feel of the eProfile and eComponents. The *WebSkin Manager* contains tools for defining the parts of the layout, e.g. title, head, header, footer, left and right margins and body, of a *Web site*. These parts are defined as a “skin”, assigned a name and ID, and then selected for the eProfile or an eComponent through the *Web Site Manager*.

Typically the *Webskin Manager* can be used to replicate the pages of your Web site that will contain restricted access *eProfiles* and *eComponents*. For example, the pages that are duplicated can contain *eComponents* that allow

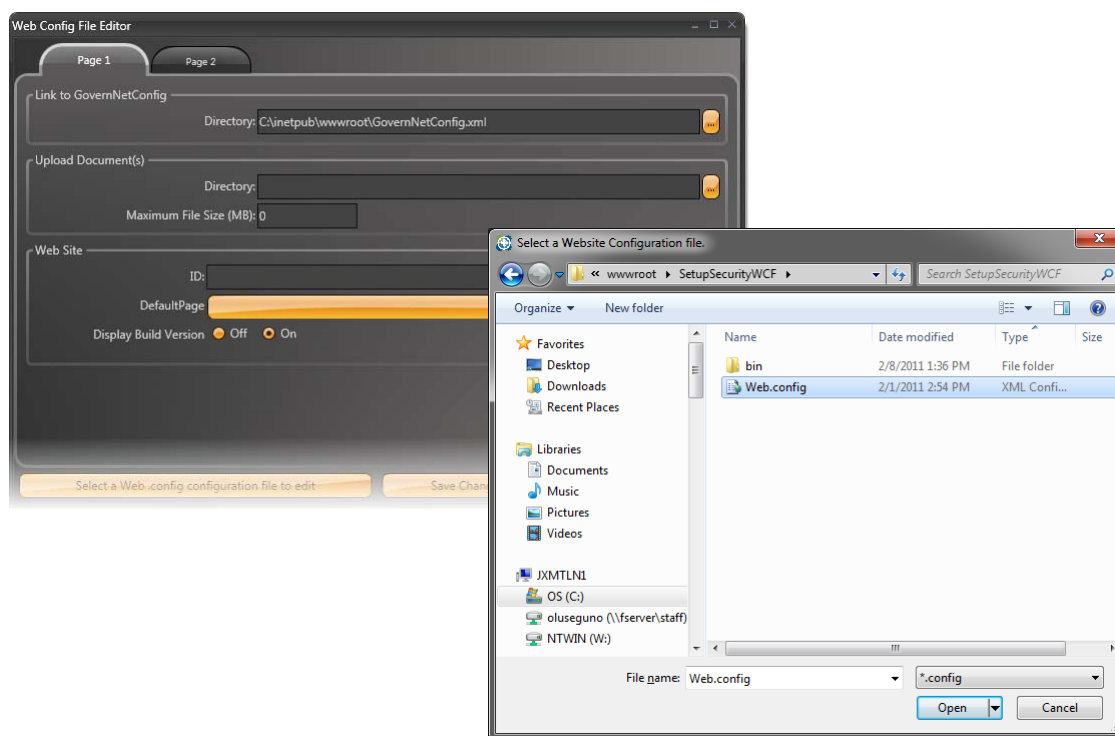
citizens to access information for outstanding tax balances, make payments online, or apply for permits as contractors.

*For details about using the Web Skin Manager, refer to the MS Govern - eGovern Public Self Service Portal Release 5.1 user guide.*

# Web Configuration File Editor

## Overview

The *Govern New Administration (GNA) Web Config File Editor* is designed to manage *Govern's eComponents*. With the *Web Configuration File Editor*, you are able to define configuration parameters, determine how errors and exceptions are managed by the system, and set auto login parameters.



*For details about using the Web Configuration File Editor, refer to the MS Govern - eGovern Public Self Service Portal Release 5.1 user guide.*

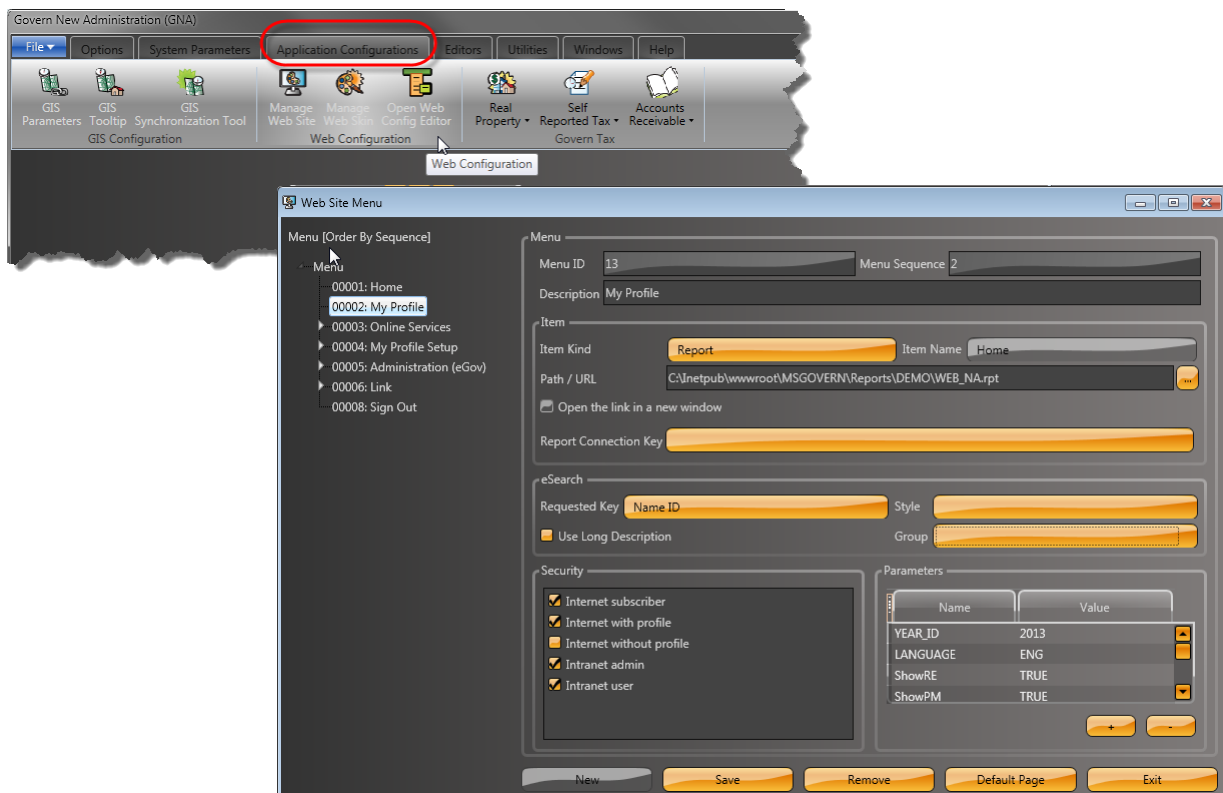
# Web site Configuration

## Creating a Web site

For the steps required to create a basic eGovern - Public Self Service Portal, refer to the *Creating a Web site* section of the *Harris Govern - eGovern Public Self Service Portal Release 5.1* user guide.

## Configuring Website Menus

The *Web Sites* and *Web Skins* forms are used to create the “shell” that will be your *Web site*; after defining the look and feel, administrators can then configure the menus. Menu options can be associated with a Web page, a report or with a Search Style. See *Accessing Dynamic Search Configuration Tools on page 201*. The *Web Site Menu* form is used to create and configure your menus. Refer to the *MS Govern - eGovern Public Self Service Portal Release 5.1* user guide for details



# Profile Editor

## Overview

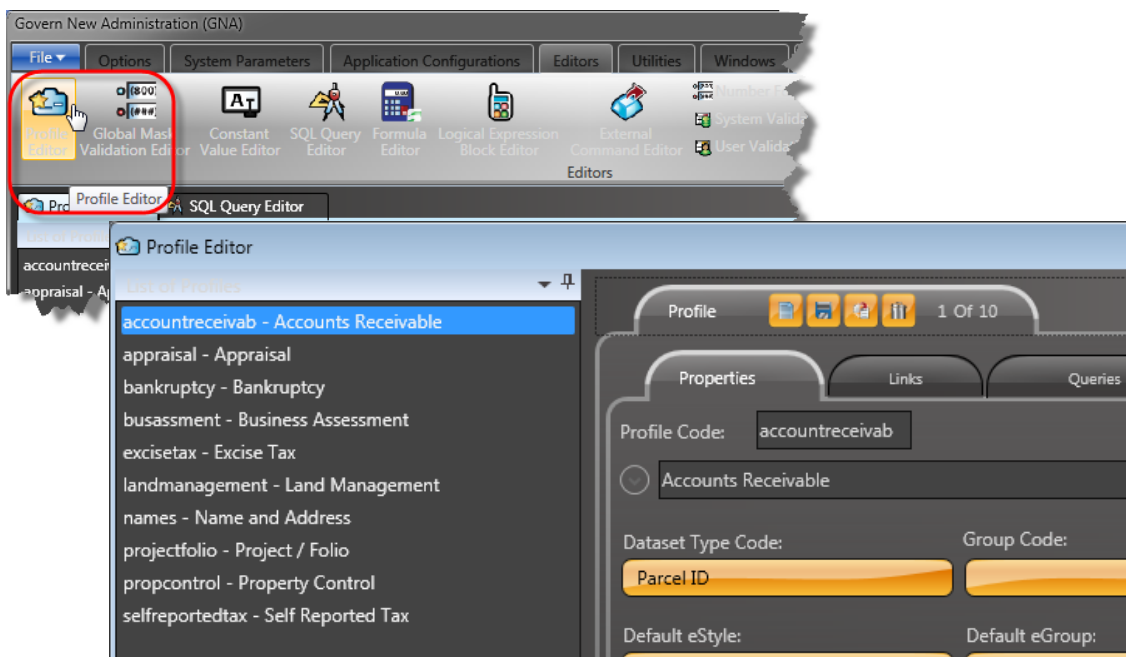
In Govern, a *Profile* is the equivalent of a department in *Govern for Windows*. Inside a department there would be *Functions* and *Reports*. In Govern for OpenForms, this same analogy can be applied, *Functions* are referred to as *OpenForms*. Understanding this analogy, in a *Profile*, we would have *OpenForms* and *Reports*. In *Govern for Windows*, inside a department we can have *Functions* for tasks like *Permitting*, *Complaints*, *Offences* or obtaining *Property Information*.

Within *Profiles* are *OpenForm Zones*; these are the tabs that appear under the profiles. These tabs can have additional command buttons.

The *Profile Editor* is the interface used to configure profiles and access for OpenForms. Administrators that are familiar with *MS Govern's* user access interface will notice similar parameters.

To access the *Profile Editor*...

1. In *GNA*, select the *Editors* tab.
2. Click the **Profile Editor** icon.

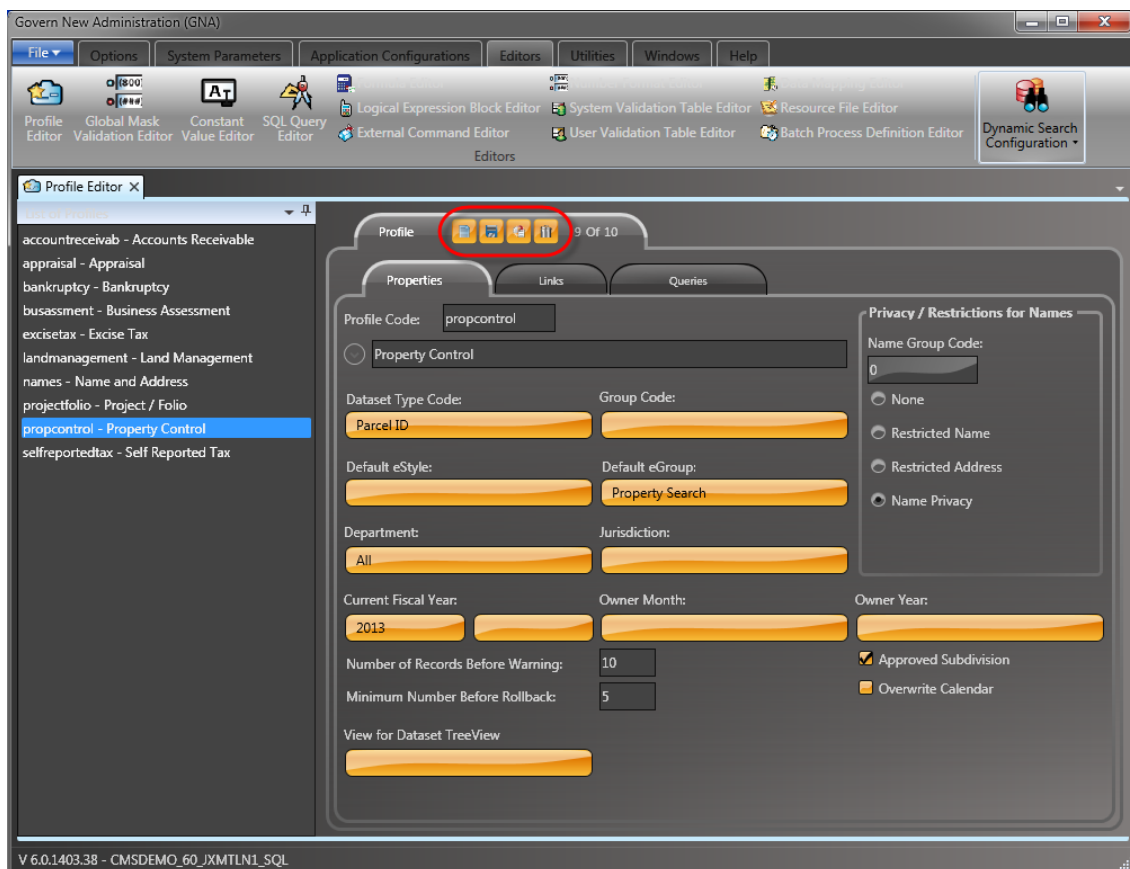






The Profile Editor interface is divided into three (3) sections, *Properties* (A), *Links* (B), and *Queries* (C). Each section can be accessed by selecting either one of the tabs below the **Profile** tab.




## Profile Editor Command Buttons



**New:** On the *Profile* tab, click **New**  to remove all parameter entries in the currently selected profile. When saved, this will add your profile to the list of profiles. (Table: **USR\_PROFILE**)


**Note:** When you click on **New**, the button changes to **Cancel**  ; this will allow you to cancel the creation of the current record. The Cancel button is present until the new record is saved.

**Save:** Click **Save**  to save the current parameters to the **List of Profiles** or to update an existing profile.



## Copying a Profile

When creating one or more profiles that are similar in forms, a good strategy is to create a “base” profile, then make copies of the profile. The minor modifications can then be made to each copy.

**Copy:** Click **Copy**  to create a copy of the currently selected record. When the record is copied, it is given a random name that is based upon the original *Profile Code*.

**Delete:** Select a profile from the **List of Profiles**, click **Delete**  to remove it from the list.

## Closing the Editor

To close the editor, click the *Close Window* button in the upper right hand corner of the form.

## Profile Editor - Properties tab parameters

The *Properties* tab is used to configure details of the tab that are displayed in *Govern.NET*. Parameters such as the label displayed on the tab, the department that it is linked to, warnings and the fiscal year that the user may be restricted to. The *Links* tab is used to link *Models* to *OpenForms*, and *Reports* that are linked to the *Profile*.

**Profile Code:** Enter the code that will be used for this profile. This is a unique number that cannot be shared with another existing profile.

**Note:** There is an Expand/Collapse button located below this field; when entering parameters, ensure that you click on this button to display the additional fields.

**English Short Description:** Enter the English description that will be used for fast data entry and look-ups where space is limited on forms.

**English Long Description:** Enter the English description that will be displayed for look-ups on forms, and normally used for reporting.

**French Short Description:** Enter the French description that will be used for fast data entry and look-ups where space is limited on forms.

**French Long Description:** Enter the French description that will be displayed for look-ups on forms, and normally used for reporting.

### Privacy / Restrictions for Names group

This group contains the security restrictions that will be placed upon the selected group.

**Name Group Code:** Specify the name group that the selected restrictions will be imposed on. For example if members of the group have access to this profile, the privacy restrictions would be applied to them.

**None:** This is the default setting; no restrictions will be imposed on the records.

**Name Privacy:** Select this option to restrict access to name records.

**Restricted Name:** When selected, this group will not be permitted to access restricted names.

**Restricted Address:** Select this option to restrict access to address information

**Dataset Type Code:** Select the Dataset Type code from the drop down menu. This refers to the key that the profile will be using. This value will also serve to filter the options that will be displayed in the *Default eGroup* and *Default eStyle* parameters.

**Note:** For example if a Dataset Type Code of **Name ID** is selected, only the *eGroups* or *eStyles* that return a *Name ID* will be displayed in the *Default eGroup* and *Default eStyle* parameters.

**Group Code:** This parameter is for future expansion and is currently not used.

## eStyles and eGroups

*Search Styles* and *Search Groups* that are created in the *Web Search Styles Management* and the *Web Search Group Management* forms can be applied to the profiles through the *Profile Editor*. Either individual styles or groups can be configured.

**Default eStyle:** Select a default style from the drop-down menu.

**Default eGroup:** Specify the default group that will be used for this profile. This group is a collection of styles

**Organization Number:** This parameter is for future expansion and is currently not used.

**Department Code:** Choose a department from the drop-down menu that this profile will work by, for example a permitting related profile might work with the *Building Department*.

**Jurisdiction:** When multiple jurisdictions are defined, specify the jurisdiction that this profile will have access to.

**Current Fiscal Year:** This parameter allows you to specify the fiscal year that this profile will have access to.

**Owner Month:** Specify the (as of) month to be used when creating new property owners.

**Owner Year:** Specify the year of profile access.

**Name Group Code:** Name Sharing Groups are created to extend access rights to the name and address records created by a department to one or more of the other departments within an organization.

**Approved Subdivision:** Choose this option to restrict access to only approved subdivisions.

**Overwrite Calendar:** When selected, the user will be able to overwrite a calendar.

## Action Queries and Records Affected

Selection queries are used to retrieve records from specified tables, but action queries are used to perform some action, such as updating records in one or more tables, adding records to a table, deleting records from a table or creating a new table or index. At times these actions may affect a large number of records, more than the user may realize. Action queries can be controlled with an escape in the form of a rollback. The parameters that can be configured are as follows:

**Number of Records Before Warning:** When an action query is initiated, the system will first perform a record count to determine the number of records that will be affected by the query. Enter the number of records that are affected before a warning is displayed to the user.

**Minimum Number Before Rollback:** If an action query is used, enter the number of records that are to be affected before a rollback occurs. Once this number is exceeded, the rollback will occur automatically. An example is when you add, update or delete records in the database, performing any of these actions, within the department, will result in a warning screen appearing.

## Profile Editor - Links tab parameters

### Linked Models group

Appearing in this list are the Business Models that the user can be given access to.

**Note:** Multiple or extended selections using the **Ctrl** or **Shift** keys are not allowed in this list.

### Command Buttons

**Up / Down:** When two (2) or more options are present in the list, click to highlight the selection; click **Up** to move the selection up in the list.

**Add:** Click **Add** to display a list of available models that are available for selection; click to select.

**Note:** You are able to make multiple or extended selections using the **Ctrl** or **Shift** keys in this list.

**Delete:** Select a model from the list, click **Delete** to remove the model; a confirmation window will appear, click **Yes** to confirm deletion, or **Cancel** to abort.

## Linked Reports group

Appearing in this list are reports that are linked to the Business Model.

**Note:** Multiple or extended selections using the **Ctrl** or **Shift** keys are not allowed in this list.

## Command Buttons

**Add Standard Report:** Click **Add Standard Report**, to link to a standard report from the list.

**Add Custom Report:** Click **Add Custom Report** to display a list of Custom Reports that are available for selection; click to select.

**Note:** You are able to make multiple or extended selections using the **Ctrl** or **Shift** keys in this list.

**Delete:** Select a report from the list, click **Delete** to remove the model; a confirmation window will appear, click **Yes** to confirm deletion, or **Cancel** to abort.

## MS Govern Order of Precedence

When linking a report, it is necessary to understand that an order of precedence exists for both the filename, and the path that the report is located under.

## Report Names

When a report is viewed in a directory on the system, the name is preceded by a series of leading characters and an underscore character “\_”, or in the case of a *Standard Report*, no leading characters.

For example, a report based on a standard report called `Audit.rpt`, that is a custom user report, would be viewed as `SHN_Audit.rpt`, where `SHN` in this example is the three letter user (USR) name.

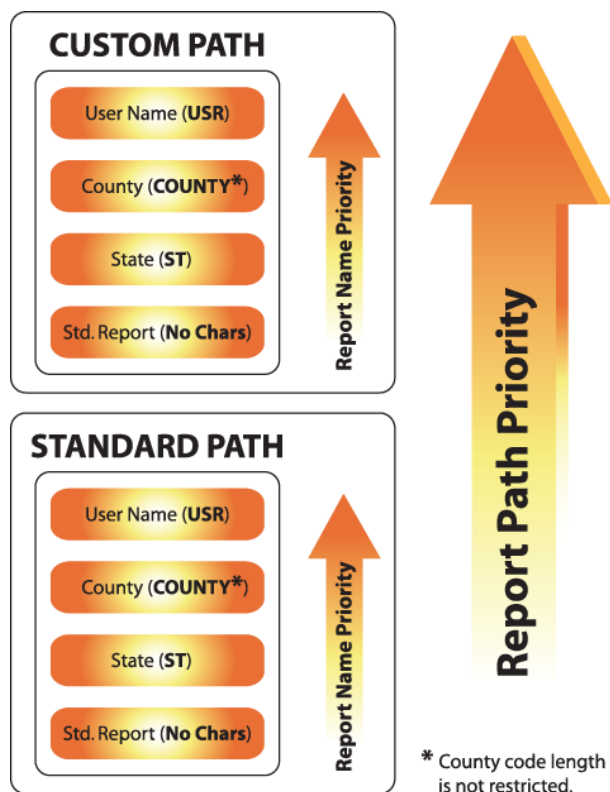
**Note:** When browsing for a report, any preceding characters are filtered out, leaving only the report name. For example the above user report named `SHN_Audit.rpt`, will display in the list as `Audit.rpt`

A report can be classified for use under one of the following four (4) categories with the format of the leading characters in brackets:

- **User** (USR\_)
- **County** (COUNTY\_)
- **State** (ST\_)
- **Standard Report** (No leading characters)

## Report Paths

As in the MS Govern application, the entries in the User Retry have a higher precedence to those in the System Retry. For example, if a path to a report is specified in the *User Retry Maintenance* form, it will have precedence over any entries specified under a different path in the *System Retry Maintenance* form. Following the same order of precedence, reports that are located under a custom path will have a higher priority than those under the standard path.



\* County code length is not restricted.

**Note:** Leading character names are designated by MS Govern and are provided upon initial installation and configuration.

---

## Editing / Customizing Reports

In the event that custom reports are required, take note of the type of report that is being edited. When a custom report is required ensure that the report name has the correct preceding characters, otherwise the wrong report may be edited.

### Linked A/R Subdivision group

Appearing in this list are the *Accounts Receivable (A/R)* subdivisions that are linked to the Business Model.

**Note:** Multiple or extended selections using the **Ctrl** or **Shift** keys are not allowed in this list.

### Command Buttons

**Add:** Click **Add** to display a list of *Accounts Receivable (A/R)* subdivisions that are available for selection; click to select from the list.

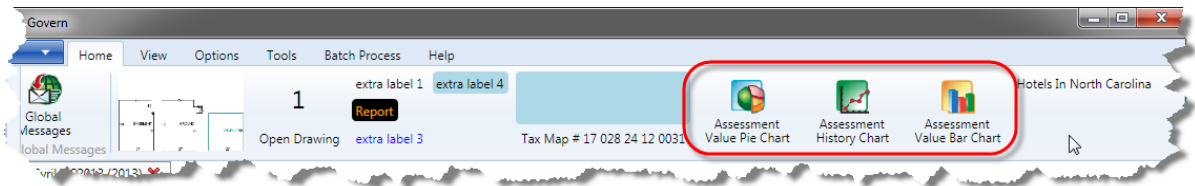
**Note:** You are able to make multiple or extended selections using the **Ctrl** or **Shift** keys in this list.

**Delete:** Select a report from the list, click **Delete** to remove the model; a confirmation window will appear, click **Yes** to confirm deletion, or **Cancel** to abort.

## Govern Visual Query







The *Govern Visual Query* is a visualization of query results. This visual representation can be in the form of Pie Charts, Graphs of Data, or Data grids. When a dataset is retrieved, the impact upon the end user is increased significantly when the data is presented in a format that is easy for the viewer to visualize. The visual query is presented as icons that are displayed on the Govern Release 6.0 ribbon. When the user clicks the icon that is used to represent the Visual Query, the query result is displayed. Optionally after the

data is displayed, the resulting chart may also be configured to display a report when the user clicks on the image of the chart.



## Display of Data Query Controls

Query data, when compatible, can be presented in any of the following supported controls:

Control Name	Ribbon Image	Description
Label		Displays a user-defined text label in the Govern ribbon.
Large Label		Unlike the text label, a large text label icon is displayed in the Govern ribbon. Descriptive text appears below the larger text label.
Picture		This is a picture icon that will display a thumbnail representation of the selected image.
Pie Chart		Based upon the statements that are in the query, a pie chart is displayed to represent the data results.
Column Chart		Based upon the statements that are in the query, a column chart is displayed to represent the data results.
Line Chart		Based upon the statements that are in the query, a line chart is displayed to represent the data results.



- Label
- Large Label
- Picture
- Pie chart
- Column Chart
- Line Chart

## Configuring the Visual Query

Prior to configuring the control in the *OpenForms Designer*, it will be necessary to design queries to retrieve the data that will then be presented. In addition users must approach this process with the understanding that units that are being retrieved must also be formatted for use in the control.

## Queries Tab



The parameters under the Queries tab are used to configure the profiles with queries.

### Profile Editor - Queries tab command buttons


**Add a New Query:** Click this button to add a new Query to the current profile.

**Remove Selected Query:** To remove the currently selected query from the profile, click **Remove Selected Query**.

**Note:** You are able to make multiple or extended selections using the **Ctrl** or **Shift** keys in this list.

### Profile Editor - Queries tab parameters

**Control Type:** Select one of the control types for your query from the drop down menu.

**Query:** This list will display the English Long Name of the available queries. When the **Open** icon is clicked , the SQL Query editor is launched to create a new query; when a query is already configured in the parameter, it will be displayed. *Refer to SQL Query Editor on page 229 for information about creating queries with the Govern SQL Query Editor.*

**Tool Tip:** Enter the text for a Tool Tip that is displayed when the user pointer is hovered over the ribbon icon. This parameter has 3 possible states that can be selected.

- **Fix** - Select this option to display the current text string as a fixed text description, i.e. tool tip.
- **Query** - When selected, the parameter will change to a drop down list of queries. The result of the queries can then be used to determine whether the tool tip is displayed.
- **Logical Expression** - Select this option to display a list of logical Expressions that can be used to determine whether the tool tip is displayed.

**Visibility:** This is a flag that is set to indicate that the icon will be displayed in the Govern Ribbon.

- **Fix** - Select this option to display the icon as a fixed image.
- **Query** - When selected, the parameter will change to a drop down list of queries. The result of the queries can then be used to determine whether the icon is displayed. *Refer to SQL Query Editor on page 229 for information about creating queries with the Govern SQL Query Editor.*
- **Logical Expression** - Select this option to display a list of logical Expressions; the visibility of the controls icon will be based upon the result of the expression. *Refer to Logical Expression Editor on page 171 for information about creating Logical Expressions with the Govern Logical Expression Editor.*

## On Click group

The options in the **On Click** group when selected will determine what action occurs when the selected query item is clicked in the ribbon. The options are as follows:

**None:** Selecting None is an indication that no action will be performed when the user clicks on the *Visual Query*; this is the default.

**Open Form:** When selected, you will have the option to indicate which is to be opened when the user clicks on the query.

**Open Report:** Click to select the option to choose a report that will be displayed.

**Open View Query:** Select the Open View Query option to open a selected View Query.

**Execute Command:** To execute a command, click this option; available commands can be selected from the list.

**Open GIS:** When selected, this option will open a window with an embedded GIS output screen.

**Open Query Tool:** Selecting this option will open the *Govern Query Tool (QT)*.

**Open Batch Process:** To configure the query to load a batch process, select this option.

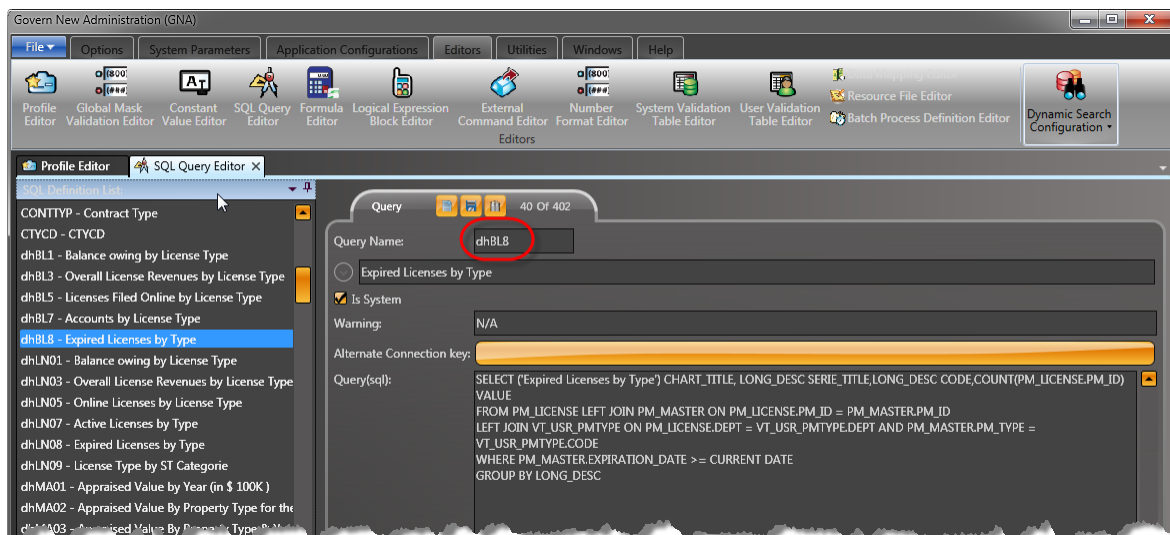
**Note:** Multiple or extended selections using the **Ctrl** or **Shift** keys are not allowed in this list.

## Configuring a Visual Query Link

A Govern installation will contain a variety of Visual Queries; these “**base queries**” should never be modified. When a customized query is required, users can do one of the following after making copies of Govern *base queries*:

- Users can study the query for an understanding of how they work and then create their own.
- Users can directly modify the copied query to obtain their desired results.

**Note:** In Govers list of base SQL queries, Visual Queries are identified with a **dh** preceding the name. as in...**dhQryNm - QueryName** These queries are seen under the **SQL Definition List:** in the *SQL Query Editor*.



Depending on the type of Visual Query required, the configuration steps are be simple. The visual query type that can be used to display the results is dependent on the “**Statement Keywords**” that are used in the query. The

following is a list of the type of visual query and the required *SQL statement keyword*.

Visual Query Type	SQL Statement Keywords Required
Grid	<i>No specific statement keyword required.</i>
Line Chart	CHART_TITLE, SERIE_TITLE, CODE, VALUE
Column Chart	CHART_TITLE, SERIE_TITLE, CODE, VALUE
Pie Chart	CHART_TITLE, CODE, VALUE

When the above statement keywords are present in the query, then *Visual Query Type* will be valid. If the statement keywords are not present and an incompatible *Visual Query Type* is selected, the icon will not appear in the *Govern ribbon*.

## Example Visual Queries

The following SQL statements should serve as example of *Visual Query* types in *Govern*. *Queries* are designed in the *SQL Query Editor* in the *Govern New Administration (GNA)*; see *SQL Query Editor on page 229 SQL Query Editor on page 229* for details about creating and editing SQL queries.

### Example 1 - Grid

The following is an example of a Visual Query that will produce a **Query Grid**.

----START----

```

--- smPC11
--- Property Assessment (Current + Last 4 Year)
--- Query Grid
SELECT
MA_MASTER.YEAR_ID 'Fiscal Year',
('$' || CAST(ISNULL(MA_MASTER.LAND_VALUE,0) AS VARCHAR)) 'Land Value',
('$' || CAST(ISNULL(MA_MASTER.LAND_AG_VALUE,0) AS VARCHAR)) 'Land Agricultural
Value',
('$' || CAST(ISNULL(MA_MASTER.BLDG_VALUE,0) AS VARCHAR)) 'Building Value',
('$' || CAST(ISNULL(MA_MASTER.MISC_VALUE,0) AS VARCHAR)) 'Miscellaneous Value',
('$' || CAST(ISNULL(MA_MASTER.CAMA_VALUE,0) AS VARCHAR)) 'Cost Value',
('$' || CAST(ISNULL(MA_MASTER.INCOME_GRM_VALUE,0) AS VARCHAR)) 'Income GRM Value',
('$' || CAST(ISNULL(MA_MASTER.INCOME_DIR_VALUE,0) AS VARCHAR)) 'Income DIR Value',
('$' || CAST(ISNULL(MA_MASTER.COMP_SALES_VALUE,0) AS VARCHAR)) 'Comp. Sales Value',
('$' || CAST(ISNULL(MA_MASTER.MRA_VALUE,0) AS VARCHAR)) 'Market Value',

```

```
( '$' || CAST(ISNULL(MA_MASTER.APPRAISED_VALUE,0) AS VARCHAR)) 'Appraised Value'
FROM MA_MASTER
WHERE MA_MASTER.FROZEN_ID=0
AND MA_MASTER.YEAR_ID>=Year ID-4
AND MA_MASTER.P_ID=Parcel ID
ORDER BY MA_MASTER.YEAR_ID DESC
```

**----STOP----**

For a **Grid type query**, when data is retrieved from a column, that will not have a column heading. The query will need to specify the column headings with an alias as illustrated above after the **SELECT** statement.

**Note:** The above query will only work for a **Grid** type query.

## Example 2 - Column Chart or Line Chart

The following is an example of a Visual Query that will produce a **Column Chart or Line Chart**.

**----START----**

```
--- dhMA01
--- Appraised Value by Year
--- Column Chart or Line
SELECT ('Appraised Value by Year (in $ 100K )') CHART_TITLE,
('Appraised Value') SERIE_TITLE,
MA_MASTER.YEAR_ID CODE,
CAST((SUM(CAST(ISNULL(MA_MASTER.APPRAISED_VALUE,0)AS NUMERIC (20,2))/100000)) AS
NUMERIC(20,2)) VALUE
FROM MA_MASTER
WHERE MA_MASTER.YEAR_ID>=(Year Id-4)
AND MA_MASTER.FROZEN_ID=0
GROUP BY MA_MASTER.YEAR_ID
ORDER BY MA_MASTER.YEAR_ID DESC
```

**----STOP----**

**Note:** The above query will only work for a **Column Chart** or **Line Chart** type query.

For the *Column Chart* or *Line Chart* type, as indicated in the grid above, a **CHART\_TITLE**, a **SERIE\_TITLE**, **CODE**, and **VALUE** statement keywords need to be

present. In addition the numeric data results should also as a rule be formatted as well. This is seen in the **AS NUMERIC** statements.

### Example 3 - Pie Chart

The following is an example of a Visual Query that will produce a **Pie Chart**.

```
--- dhMA02
--- Appraised Value By Property Type for the Current Year
--- Pie Chart
SELECT ('Appraised Value By Property Type for the Current Year (in $ 100K )')
CHART_TITLE,
ISNULL((SELECT VT_USER.SHORT_DESC_EN FROM VT_USER WHERE
VT_USER.TABLE_NAME='PROPTYPE' AND
VT_USER.CODE=ISNULL(PC_LEGAL_INFO.PROPERTY_TYPE,'N/A'),'N/A') CODE,
CAST((SUM(CAST(ISNULL(MA_MASTER.APPRAISED_VALUE,0)AS NUMERIC (20,2))/100000)) AS
NUMERIC(20,2)) VALUE
FROM MA_MASTER
INNER JOIN PC_LEGAL_INFO
ON MA_MASTER.P_ID=PC_LEGAL_INFO.P_ID
AND MA_MASTER.YEAR_ID=PC_LEGAL_INFO.YEAR_ID
AND MA_MASTER.FROZEN_ID=PC_LEGAL_INFO.FROZEN_ID
WHERE MA_MASTER.FROZEN_ID=0
AND PC_LEGAL_INFO.YEAR_ID=Year Id
GROUP BY PC_LEGAL_INFO.PROPERTY_TYPE ORDER BY PC_LEGAL_INFO.PROPERTY_TYPE
```

----STOP----

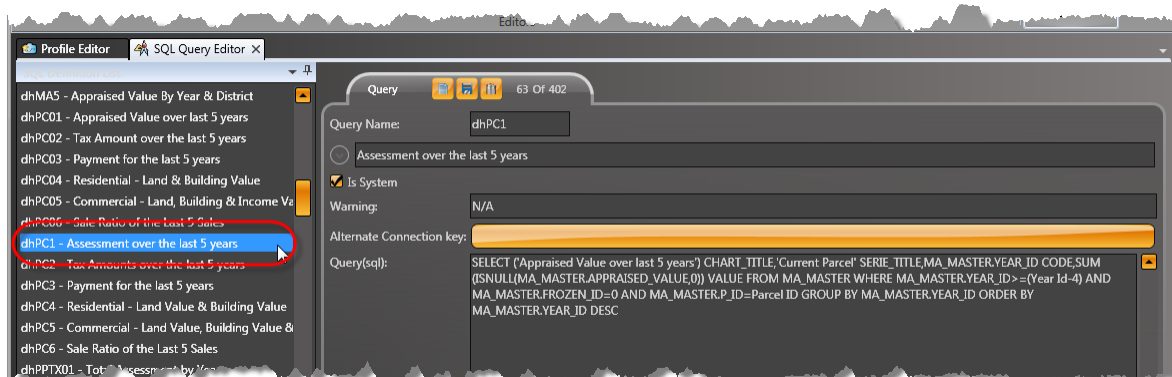
**Note:** The above query will only work for a **Column Chart** or **Line Chart** type query.

For the *Pie Chart* type, as indicated in the grid above, a **CHART\_TITLE**, a **CODE**, and a **VALUE** statement keywords need to be present. Again, as with the Column Chart and Line Chart types, numeric data results should also be formatted as well. This is seen in the **AS NUMERIC** statements.

## Steps to Configure the Visual Query

In order to illustrate the configuration of a visual query, we will first use an existing query.

## Step 1 - Design and Review the Query



Due to the fact that we will be using an existing Govern *base query*, no SQL design is required. It is nonetheless recommended that the SQL statements of the *base query* be reviewed. A review process can provide assurance that the required *statement keywords* are present for the desired *Visual Query*. Refer to the *SQL Query Editor* section, *Creating Queries on page 232* for details about creating queries.

For the example, the query will display a visual representation of the assessment for the past 5 years from the current fiscal year; a *Line Chart visual query* will be used.

To review the query...

1. In the *Govern New Administration (GNA)*, select the **Editors** tab.
2. On the *Ribbon* select the **SQL Query Editor**.
3. Under the *SQL Definition List* pane on the *Left Hand Side (LHS)*, locate the **Assessment over the last 5 years** query; as a visual query, its name will be preceded with a “dh”. The name used here is as follows,

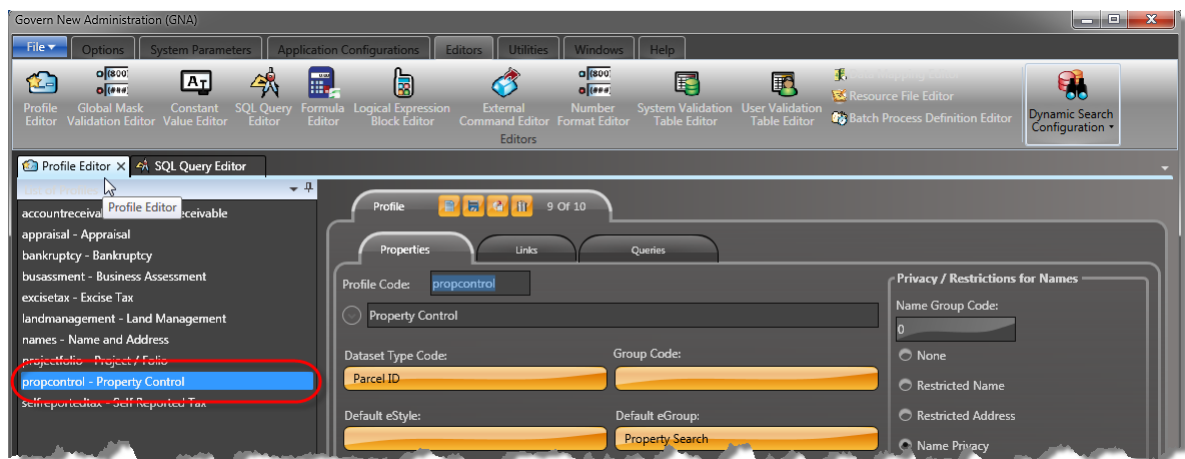
**dhPC1 - Assessment over the last 5 years**; this title will appear as **Assessment over the last 5 years** when the *visual query* is being configured.

```
SELECT ('Appraised Value over last 5 years')CHART_TITLE, 'Current Parcel'
SERIE_TITLE, MA_MASTER.YEAR_ID CODE, SUM( ISNULL(MA_MASTER.APPRAISED_VALUE,0)) VALUE
FROM MA_MASTER
WHERE MA_MASTER.YEAR_ID>=(Year Id-4) AND MA_MASTER.FROZEN_ID=0 AND
MA_MASTER.P_ID=Parcel ID
GROUP BY MA_MASTER.YEAR_ID
ORDER BY MA_MASTER.YEAR_ID DESC
```



**Note:** As required the CHART\_TITLE , SERIE\_TITLE, CODE, and VALUE key words are required.

## Step 2 - Configure in the Profile Editor



In the To review the query...

1. In the *Govern New Administration (GNA)*, select the **Editors** tab.
2. On the *Ribbon* select the **Profile Editor**.
3. When the **Profile Editor** is open, select the Profile that will contain the *Visual Query*.  
For this example select *Property Control* from the *List of Profiles* pane on the LHS.

### Step 3 - Add the Visual Query to the Profile



As indicated earlier, *Visual Queries* are configured under the **Queries** tab of the *Profile Editor*.

To configure the Visual Query...




1. On the *Queries* tab, click **Add a new query** (A); a blank label will appear in the horizontal area directly below the *Queries* tab (B).

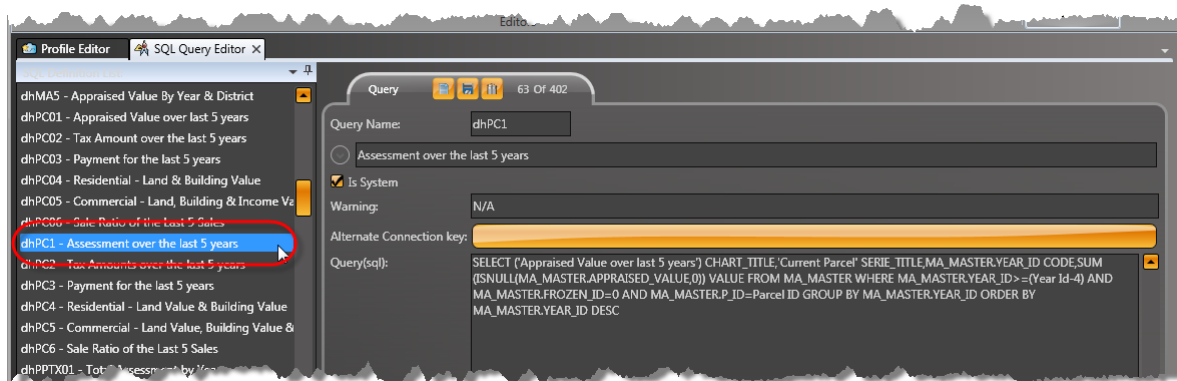
**Note:** This horizontal area can be used as a representation of the *Govern Ribbon* when the profile is open and a search has been performed.

The type of Visual Query control that we want to use is a *Line Chart*...

2. For *Control Type*, click to select **Line Chart** from the drop down menu.

- For the *Query* parameter, select the *Visual Query* that was designed. For this example, a Govern base query is being used; select the *English Long Description Name* that appears in the drop down menu list.

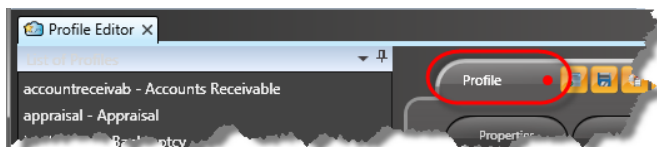
**Note:** If a query needs to be modified or created, click the **Open** icon  to launch the **SQL Query Editor**. By default if there is a currently selected query, it will be opened.



Queries are designed in the *SQL Query Editor* in the *Govern New Administration (GNA)*; see *SQL Query Editor on page 229* *SQL Query Editor on page 229* for details about creating and editing SQL queries.

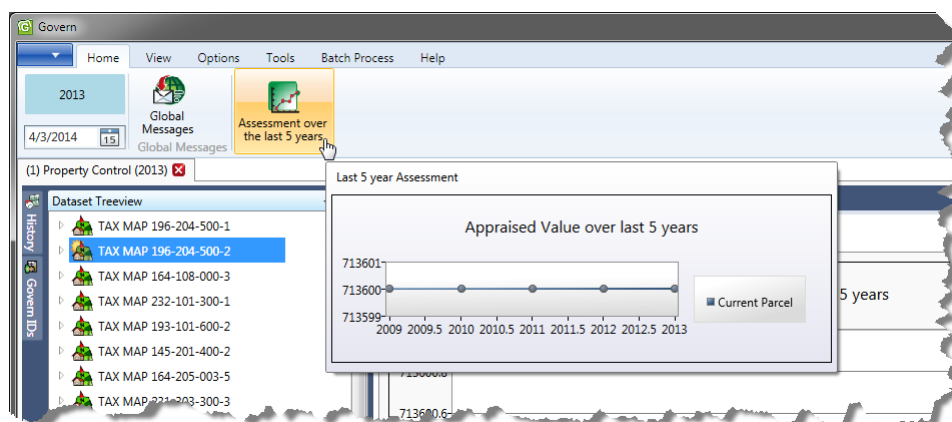
- In the *optional Tool Tip* field enter a description that will be displayed when the users pointer hovers over the control displayed in the *Govern Ribbon*; by default the *Fix* option is selected. Refer to *Tool Tip on page 122* for details on this option.
- The **Visibility** option is by default set to *True*, an indication that the control's icon will be visible; by default the *Fix* option is selected. Refer to *Visibility on page 122* for details on this option.
- In the **On Click** group, the option of *None* is selected by default. If a *Form*, *Query*, or *Report* is required to be opened when the Visual Query result screen is opened, then it will be necessary to select one of the options. Refer to the *On Click group on page 123* for option details.

After the changes have been made, note the **red** dot on the Profile tab, an indication that a modification has been made to the profile.



7. Click **Save** on the Profile tab, after a brief pause the changes will be saved to the profile.

### Step 4 - Review the Profile in Govern

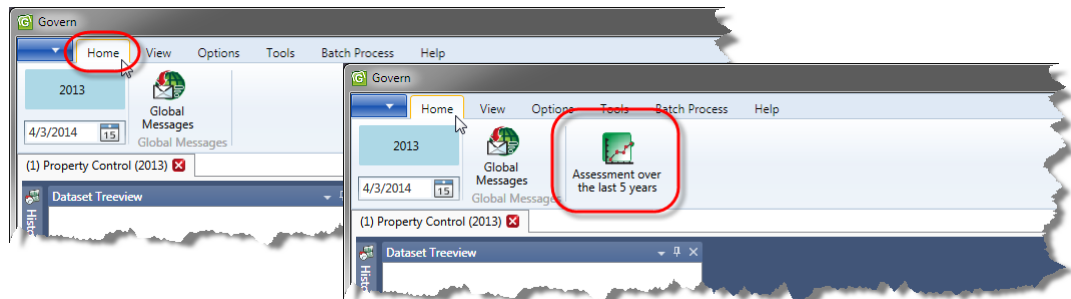


Once the profile has been modified with the addition of the Visual Query controls, the final step is verifying that the changes are visible and functional in Govern.

To view a configured Visual Query in Govern...

1. Open the Govern Release 6.0 application.
2. Under the File menu open the Profile that the Visual Query was configured with.

3. Select the home tab.

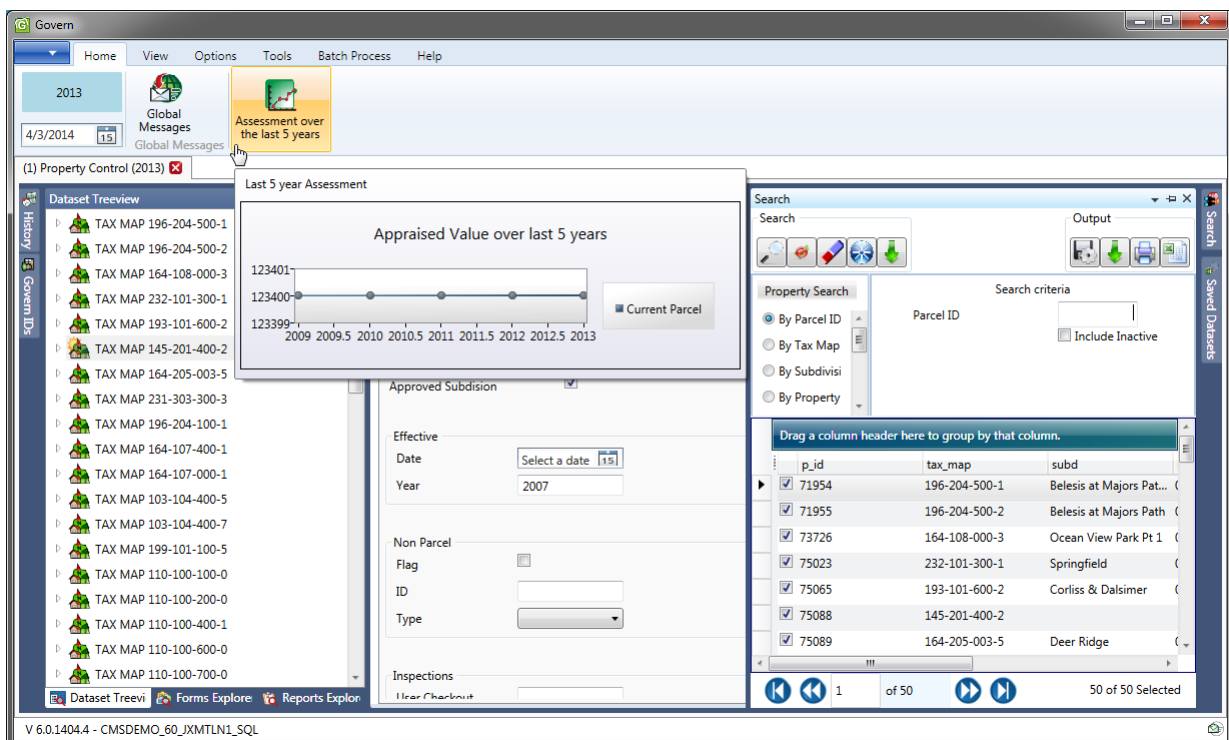


4. Use the **Predefined Search** to perform a search.

5. Load the results into the *Dataset Treeview*.

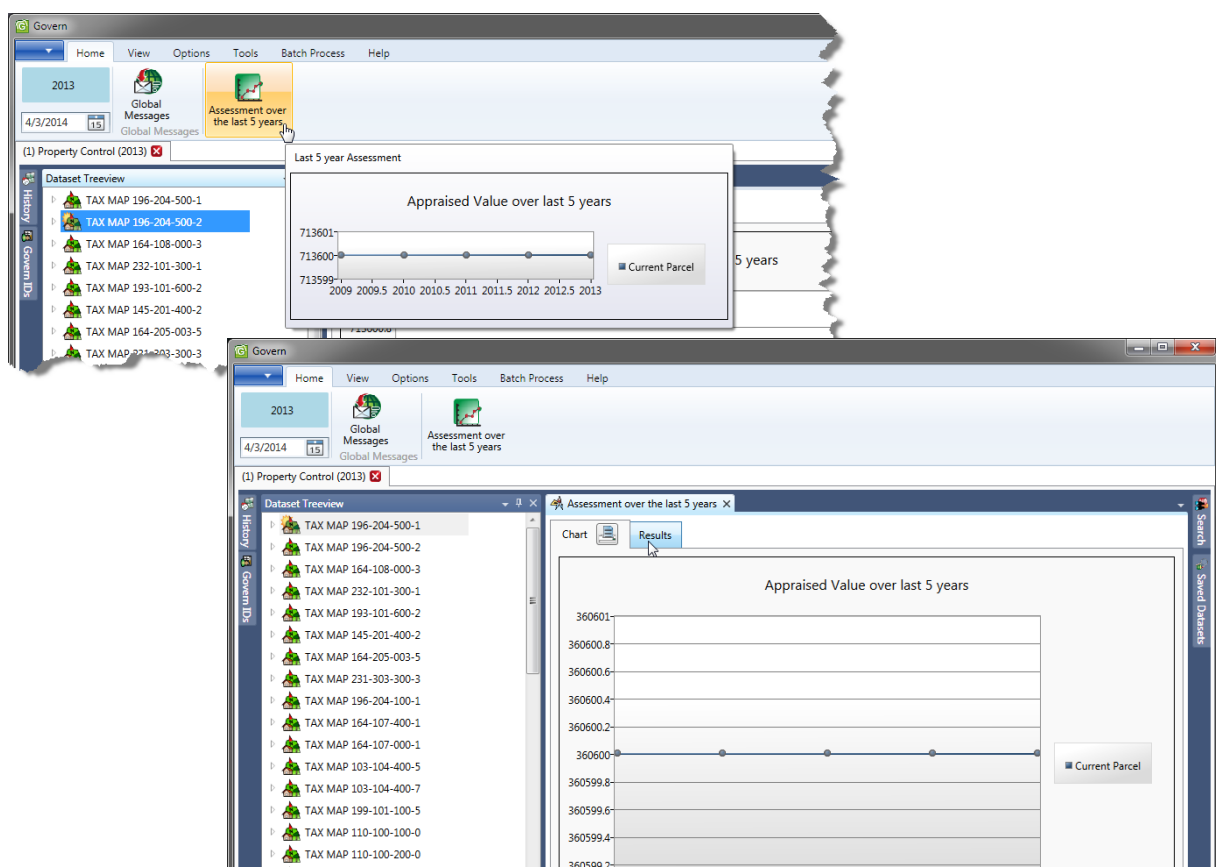
When the search results have been loaded into the *Dataset Treeview*, the Visual Query controls will be displayed in the Ribbon.

**Note:** A ribbon with the *Visual Query* icons that have been configured will not be displayed until a *Search* has been performed.



## Behavior of the Visual Query Control in the Ribbon

When the user pointer is hovered over the control, a thumbnail preview of the data result is displayed with the Tool Tip.




A click on the Control's icon will display the data results in a tabbed window. The display window has two (2) tabs...

**Chart:** The Chart tab is the default display view. It contains the Visual Query Result. The Chart tab also contains a Print icon.

- Click **Print**  to print the chart.

**Results:** A click on the Results tab displays the tabulated date results that are used to generate the Chart representation. The Results tab contains a **Print** icon and a **Export to Excel** icon.

- Click **Print**  to print the table.

- Click **Export to Excel**  to export the table data as an Microsoft Excel spreadsheet.

**Note:** In order to be able to use the Microsoft Excel export option, Microsoft Office containing Excel or Microsoft Excel standalone must be installed on the system that Govern is installed on.

## Creating a New Profile

For this example we will configure a *Profile* in *Govern* that will be used for providing municipal services to the community, i.e. a department that will create general permits and licenses. The steps are as follows:

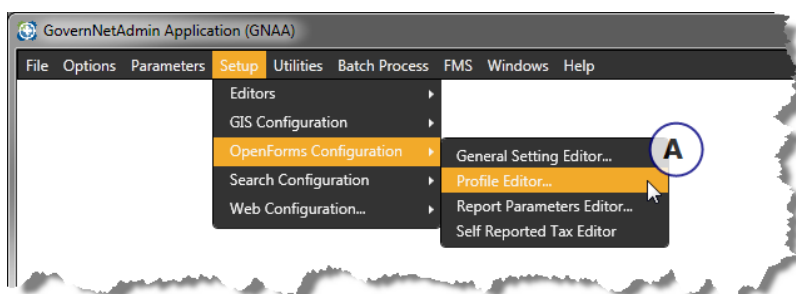
1. Create and configure the *Profile*.
2. Specify and link the *Business Models* that will be in the profile.
3. Link to the reports that will be used by the profile.
4. Specify A/R links to any Business Models with an A/R component.
5. Apply securities with the *Govern Security Manager (GSM)*.
6. Verify the *Profile* in *MS Govern.NET*.

### STEP 1: Create the Profile

In the *Govern New Administration (GNA)*, you will need to click the *Profile* editor.

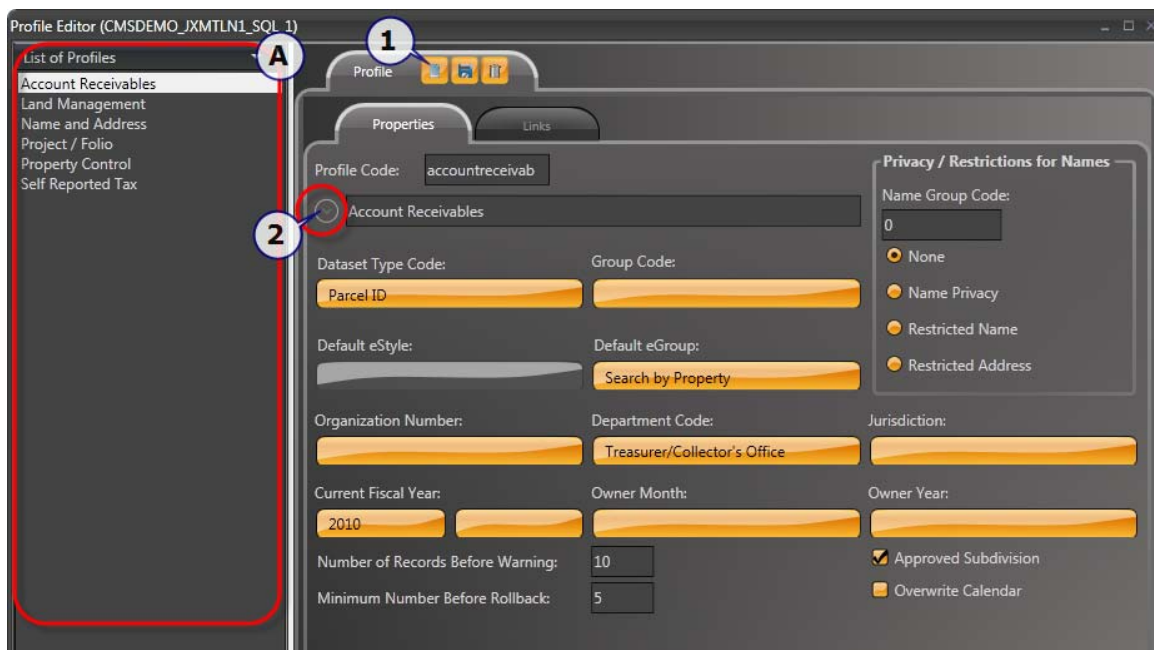
To open the *Profile* editor...

1. Select *Setup > OpenForms Configuration > Profile Editor...* (A)



**Note:** By default the fields on a form are “collapsed”, i.e. they are not fully visible. This is to give the form a cleaner appearance. Additional fields can be displayed with a click on the *Collapse/Expand* button.

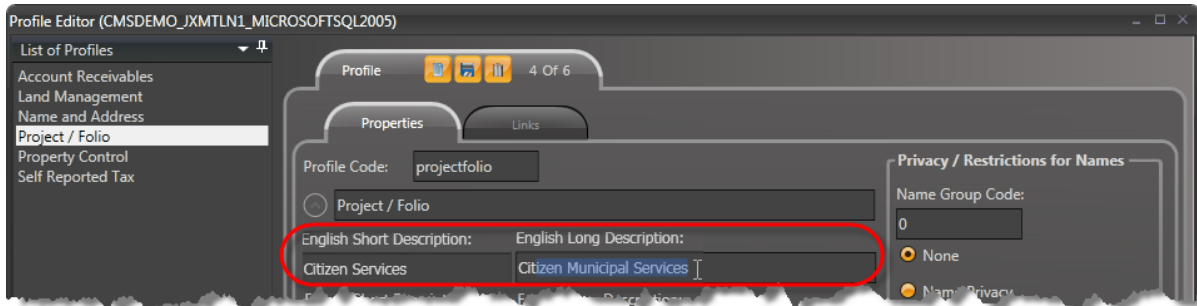
2. In the *Profile Editor*, we are able to see, which profiles already exists under the *List of Profiles* (A).



3. Click **New** (1) to clear all parameters and start a new profile.
4. Under the **Properties** tab, enter a **Profile Code**; this must be a unique number, i.e. not used by any other profile. For our example, we will use **23**.
5. Click the **Parameter Details** (2) button to display the additional fields.
6. Enter *short* and *long* descriptions in the **English Short Description** and **English Long Description** parameters. The **English Short Description** text is the one that will appear on the *Profiles* tab in *Govern.NET*, while the



other appears under the *List of Profiles* list in the *Profile Editor*. Enter **Citizen Services**, and **Citizen Municipal Services**, respectively.



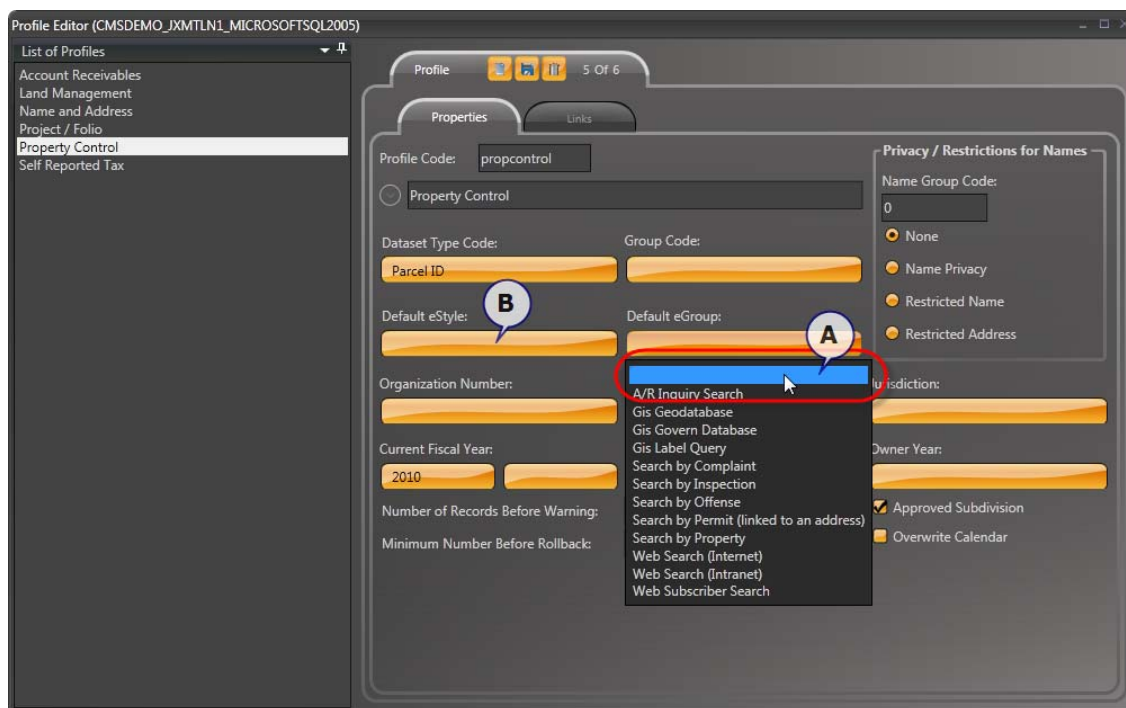
**Note:** Although you may not be using the **French Short Description** and **French Long Description** parameters, it is necessary to complete them in order to save a profile.

7. Select a **Dataset Type Code** from the drop-down list.

**Note:** The dataset key chosen here will determine the options that will be available for selection under the *default eGroup* and *Default eStyle* parameters.

8. Specify a **Default eGroup (A)** or a **Default eStyle (B)** from the drop-down menu. This can be a single style or a group that is a collection of styles. This default will be associated with the current profile.

**Note:** The **Default eGroup** and **Default eStyle** parameters are mutually exclusive in that you can select one or the other, but never both. To switch between one or the other, ensure that the “blank” selection is selected on the default that is not required.



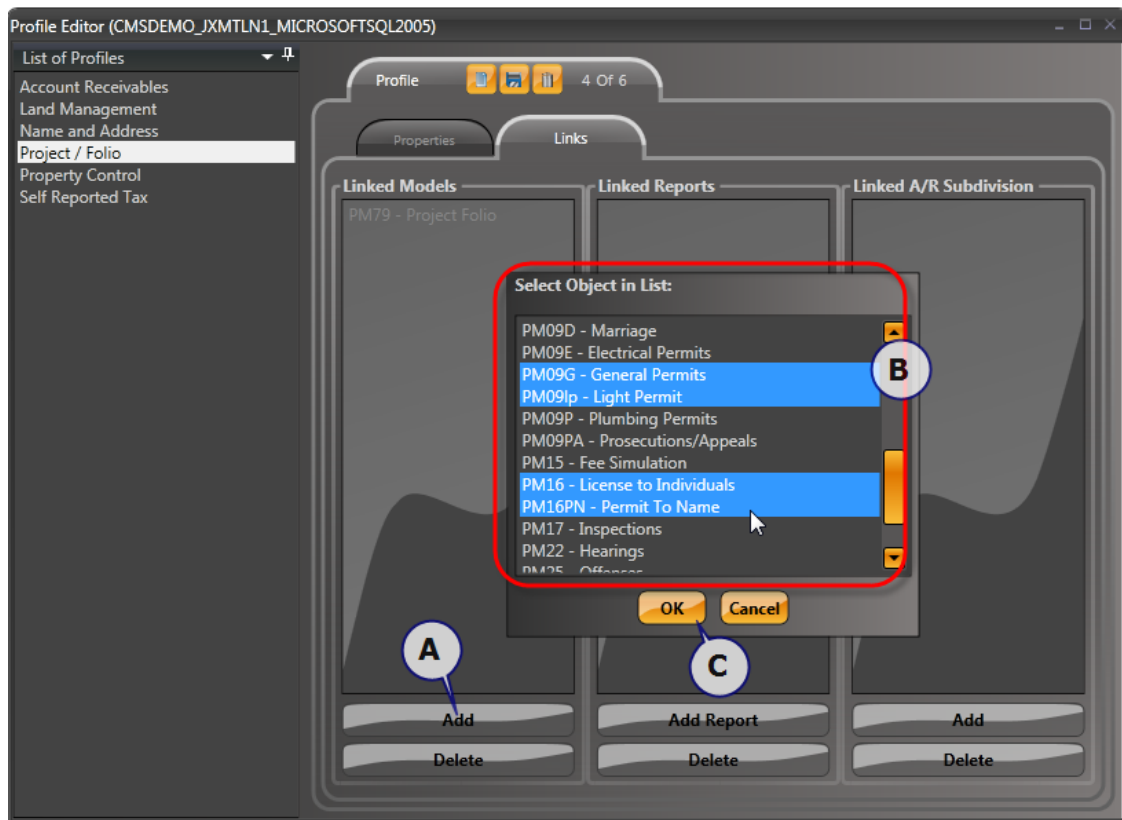
9. Choose a **Department Code** that the profile will work by.
10. If jurisdictions have been specified, select one from the **Jurisdiction** menu.
11. Specify the **Current Fiscal Year** from the drop-down menu that the profile will set to. In the parameter that is immediately to the right, you can also specify a month in the fiscal year.
12. Select the “as of” month from the **Owner Month** drop-down menu, that will be used when creating new property owners.
13. Specify the year that newly created property owner accounts will be set to from the **Owner Year** menu.
14. Specify the **Number of Records Before Warning**, and the **Minimum Number Before Rollback**. *See Action Queries and Records Affected on page 116 for details.*
15. Select **Approved Subdivision** to limit access to only approved subdivisions; choose the **Overwrite Calendar** option to allow the user to be able to make entries that can overwrite calendars like those of an inspector or assessor.

## STEP 2: Link the Business Models

The next step is to link business models to your profile. This is the equivalent of including the functions that the department will have access to. For our example, our *Citizen Municipal Services* profile will have access to the *General Permits*, *Light Permits*, *Permit to Name*, and *License to Individuals*, business models. To apply links, we need to select the **Links** tab.

To link to *Business Models (BM's)*...

1. Click to select the *Links* tab.
2. In the *Linked Models* group, click **Add (A)** to display a list of available *Business Models (B)*. For our example we will select *General Permits*, *Light Permit*, *License to Individuals*, and *Permit To Name*.



**Note:** Multiple selections can be made by using **Ctrl + Click**.

3. Click **OK (C)**.

4. In the *Profile Editor*, click **Save** to save the change to the profile.

### STEP 3: Link the Reports

It will be necessary for the new department to have access to reports that will allow them to function. This can be done under the *Linked Reports* group.



**Note:** When linking reports, there may be a noticeable delay in the application. At times this non-responsiveness can be mistaken for a program error. In fact this extended period of inactivity is due to internal processing, and will vary from system to system.

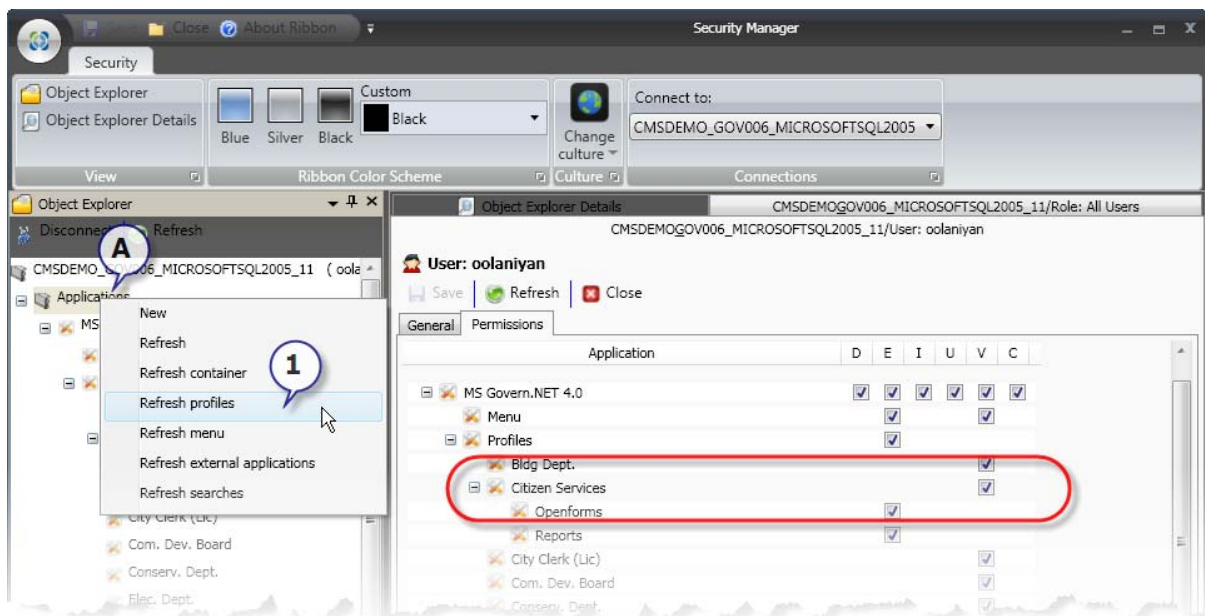
To link to *Reports*...

1. Under the *Linked Reports* group, click **Add Report (A)**. Under the list, for our example we will be adding
2. Under the list of available reports (**B**), click to select required reports. **Ctrl + Click** will allow you to make multiple selections.
3. Select the *Audit Trail Inquiry*, *Permits Application Listing*, *Expired Permits Listing*, and the *Permits Listing*.
4. Click **OK (C)**.

5. When the list closes, click **Save** to save the change to the profile.

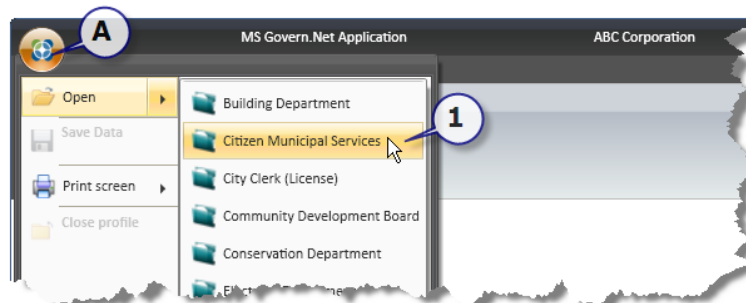
## STEP 4: Apply Required Securities

As stated, prior to viewing your profile, you will need to set securities through the *Govern Security Manager (GSM)* (A), (1), to enable access. Refer to the *Govern Security Manager guide for Instructions on how to secure a profile*.

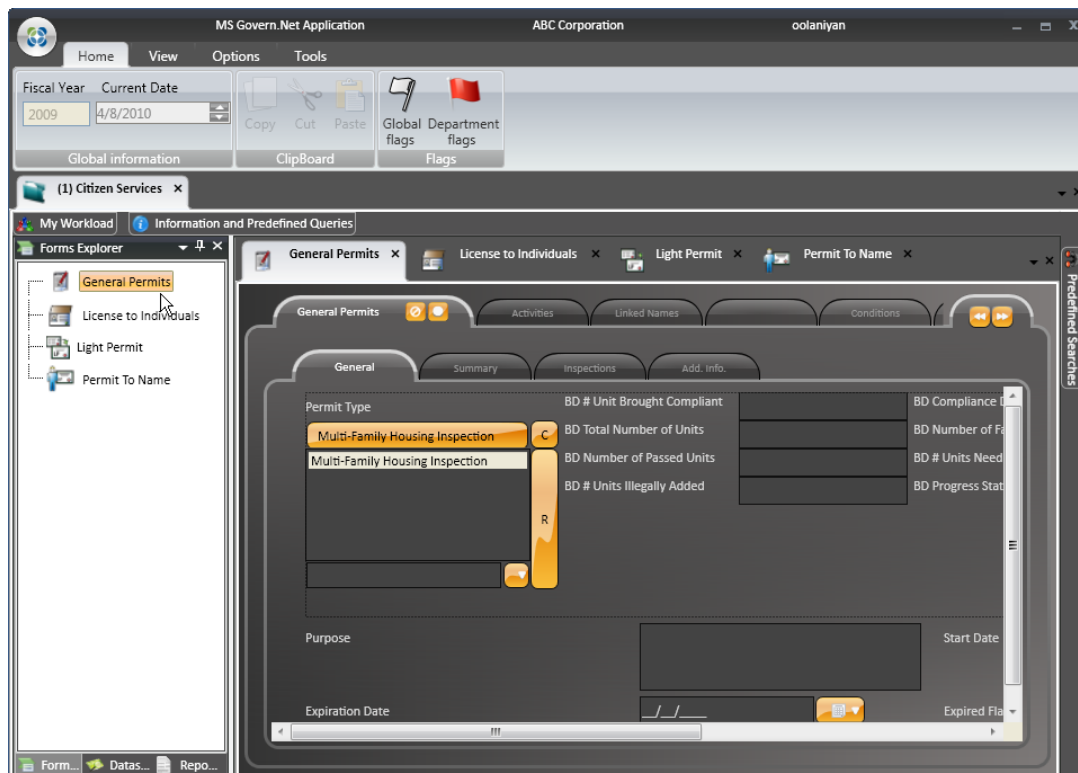


## Previewing a Profile in MS Govern.NET

Once the securities have been set, the new profile can now be viewed in MS Govern.NET (A), (1).



In the application we can see our new Profile for our department. The *Business Models* that were included appear in the default location of the *Forms Explorer* on the left hand side. Associated *Reports* are seen in the *Reports Explorer*.



**Note:** If a properly configured profile does not appear in the MS Govern.NET, refer to the securities of the profile and verify that access has been granted. See the *Govern Security Manager* guide for instructions on securing a Profile.

# Govern New Administration (GNA) Setup Editors

## Overview

The *Setups / Editors* menu contains the forms and editors required to create and edit components that are used within the application. These components can be *OpenForm Profiles*, *Constant Values*, *Formulas*, *Logical Expressions*, *SQL Queries*, and *Validation Tables* to name a few.

## Standard Editors

The majority of editors within the *Govern New Administration (GNA)* are referred to as “standard” because of the common features in their interfaces. *GNA Standard* editors can be found by selecting *Setups / Editors > Editors > “Name of the Editor”*

- **Profile Editor...** - Used for configuring user access for OpenForms.
- **Constant Value Editor...** - Used to define and maintain constant values.
- **Formula Editor...** - For creating customized formulas.
- **Field Mask Editor...** - Define *Field Masks* that can be applied to fields in functions.
- **Logical Expression Editor...** - Create customized logical expressions used in calculations and linked to fields.
- **Resource File Editor...** - All text that is displayed in forms, i.e. labels, errors, and exception text within *GNA*, are kept in a “resource file”. This file can be edited with the Resource File Editor.
- **SQL Queries Editor...** - For creating, validating, and maintaining SQL queries.
- **System Validation Table Editor...** - Used to create or edit *system validation* tables.
- **User Validation Table Editor...** - Create and edit custom *user validation* tables.
- **Data Mapping Editor...** - Used to map tables and columns in the *Govern* database to *Data Element Names*.

## Dynamic Search Configuration Editors

*Search Configuration* editors are used to configure the *Web search* and *Dynamic Search* components of OpenForms. These editors can be found under *Dynamic Search Configuration* (tab) > “**Name of the Editor**”

- **Dynamic Search Objects** - This editor is used to configure the objects that appear within the groups.
- **Dynamic Search Styles** - Select to configure the search types.
- **Dynamic Search Groups** - Used to manage the Web search groups.

## Batch Process Definition Editor

The *Batch Process Definition Editor* is used to define how batch processes appear and run in Govern. This editor is located under *Setups / Editors* > “**Batch Process Definition Editor**” (E)

### Automatic Synchronization for Batch Processes

Whenever you create, modify, or delete a batch process definition, all applications in the Govern Product Suite are automatically synchronized. Previously, you had to open the *Govern Security Manager (GSM)* and run the Synchronization process in order to update the batch process menus.

The new processes appear automatically in the *Govern Ribbon*. Deleted process are automatically deleted. If you change the menu under which a batch process appears in the *Govern Ribbon*, this is immediately updated. The process is updated or removed from the listing in the *GSM*

**Note:** Before you see the changes, you need to refresh the *GSM* if it is already open or close and reopen Govern.

*For details refer to the Govern Scheduler user guide.*

### Saving Attachments to a Specific Path or FTP Site

A network or local path for reports and other files that are generated by the selected batch process, can be defined. An FTP address for these attachments can also be defined.



---

This is an optional procedure and is not applicable to all batch processes. It is useful when an attachment, such as a comma separated value (.csv) or text file, is generated at the end of a batch process. The file extension can be any format supported by OS and ftp site. csv and txt are typical.

*For additional details refer to the Govern Scheduler user guide.*

# Constant Value Editor

## Overview

The *GNA Constant Value Editor* is used to define and maintain values that are constant within the *Govern* system. Constants can be used in formulas and logical expressions for values that change on a yearly basis. Constants are saved by year, as a result you only need to edit the constant definition in order to update your formulas and logical expressions.

To access the *Constant Value Editor*, in the *Govern New Administration (GNA)*:


1. Select *Editors (tab)* > **Constant Value Editor...**


**Note:** By default the fields on a form are “collapsed”, i.e. they are not fully visible. This is to give the form a cleaner appearance. Additional fields can be displayed with a click on the *Collapse/Expand* button (A).


## Constant Value Editor Command Buttons

**Copy to Next Year:** Click **Copy to Next Year** when you need to copy the constant value, code and value, and initialize a new year.

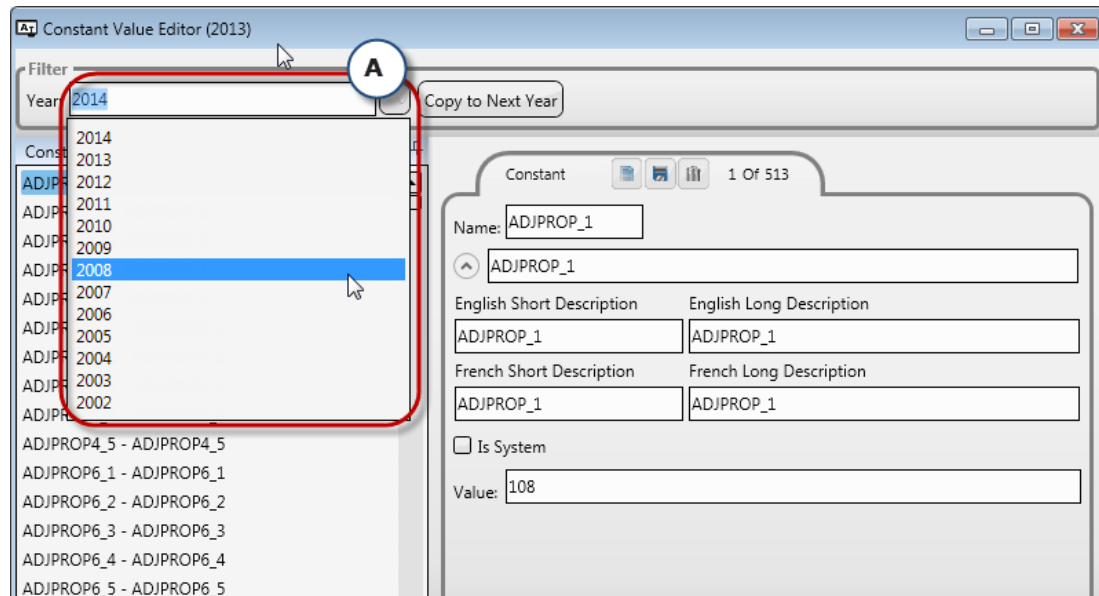
**New:** Click **New**  to clear the form so that you can enter new data.

**Note:** When you click on New the button changes to Cancel ; this will allow you to cancel the creation of the current record. The Cancel button is present until the new record is saved.

**Save:** To save a new record or any modifications to an existing one, click **Save** .

**Delete:** Click **Delete**  to remove the current record from the database.

## Constant Value Editor Parameters



### Filter group

In the *Filter* group (A), select the fiscal year that you would like to use as a filter for displaying available constants.

**Year:** Constant tables are created by fiscal year; by default this parameter displays the current fiscal year.

## Constant Value Editor - Constant tab

**Name:** Enter the name for this constant.

**Note:** Only alphanumeric entries are permitted in code parameters. This means that **names** for codes can only be made up of letters and or numbers. Special characters such as the underscore “\_”, the dash “-”, the ampersand “&”, etc. are not recognized.

**Short Description:** Enter a short description. This is used for fast data entry and look-ups if space is limited on forms.

**Long Description:** Enter a long description. This is displayed during look-ups and on forms and reports.

When there is a 2nd language, or multiple languages, ensure that these description fields are also completed.

**Is System:** This flag / option is reserved for constants that are designated as Govern.NET system constants. (**SYSTEM\_FLAG** in **USR\_CONSTANT** table)

**Note:** When the *Verify Database Objects Existence* utility is run on the database, a new column called **SYSTEM\_FLAG** of type **smallint** is added to the **USR\_CONSTANT** table. When selected **SYSTEM\_FLAG=True**. This option can only be modified by users with Superuser administrative rights.

### About System Reserved Values


Only users with Super-User access will be able to select and deselect the **Is System** option. In addition Super Users can also create new values and flag them for Govern.NET system use.

**Note:** *System* constants are reserved for use by the *Govern.NET* system and as such should not be modified or deleted without a full understanding of the implications. Deletions of system values can damage the Govern.NET system, rendering it inoperable. Modifications that are made to *System* values should always be noted. When a system wide update is performed, these modifications may be overwritten.

**Value:** Enter a value for the constant. for example a Sales tax of 15% would be entered as **0.15**.

To create a constant value for a specific fiscal year...

### When no Fiscal Year has been defined...

1. For this example we will create a *Sales Tax* for the fiscal year 2015. Enter 2015 in the **Year:** parameter.
2. Click the *Expand* button  to display the hidden parameters that need to be completed.

3. Enter a **Name** for the constant value; use **saleTax2015**.

**Note:** When naming the constant in the name parameter, avoid the use of underscore characters “\_” and spaces.

4. Next enter a *Long Name* for the constant; **Sales Tax 2015**
5. Click inside the *English Short Description* field; the Long Name will be automatically copied into both the *English Short Description* and *English Long Description* field. Select and change the text if modifications are required.
6. Enter names into the *Short Description* and *Long Description* fields of the second language parameters.
7. Any incomplete fields will result in the display of an error screen.
8. Click **OK** and complete any required fields.
9. Save the newly created constant with a click on **Save**.

#### **When a Fiscal Year has been defined...**

1. When there is a fiscal year already defined, click **New**; all parameters will be voided.

**Note:** If you are dealing with multiple years, ensure that the correct year has been selected in the filter group.

2. Enter a name in the **Name** field; complete all *Short and Long Description* fields.
3. Enter the value for the rate in the **Value** parameter; click **Save**.

Once created, the constant value will appear on the left hand side under the *Constant List* **(B)** When saved this constant will be accessible for use in formulas and logical expressions. See *Formula Editor on page 150 and Logical Expression Editor on page 171 for details*.

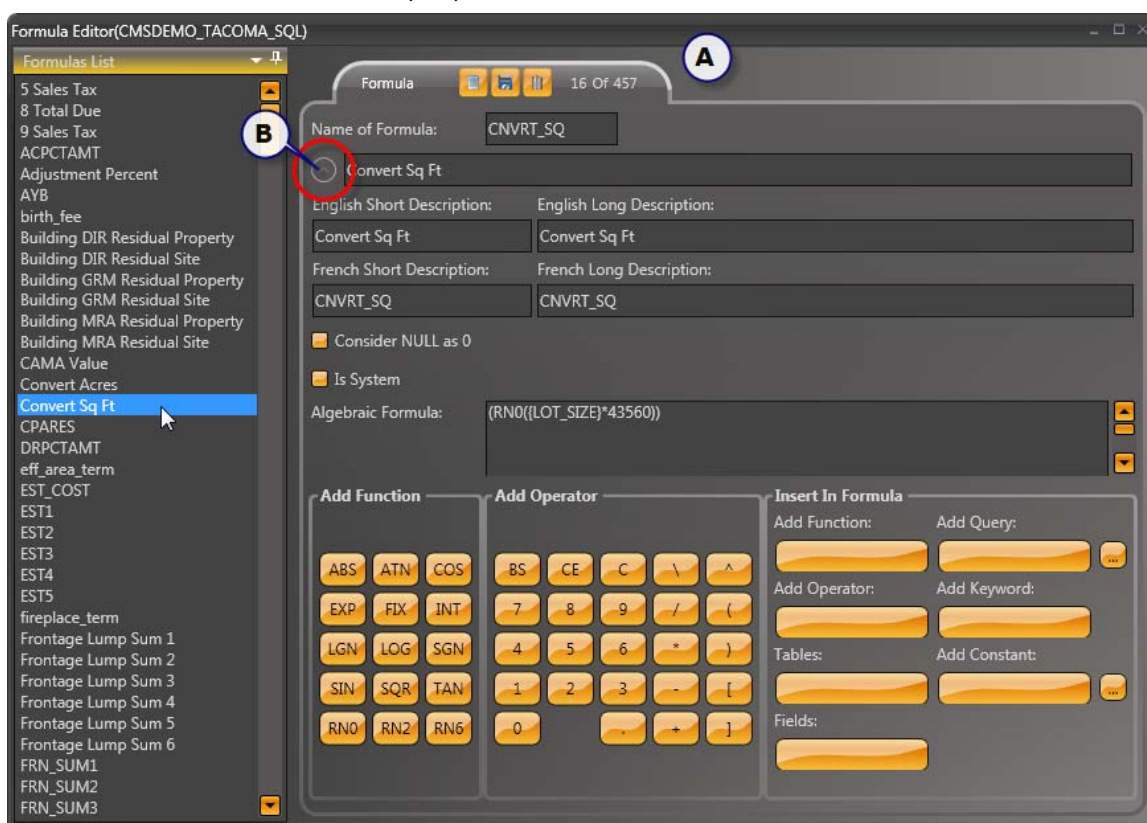
# Formula Editor

## Overview

The *Formula Editor* (A) creates customized formulas that can be used in, *Mass Appraisal*, or *Permit* fee calculations. These calculations can be added to a logical expression created through the *Logical Expression Block Editor*, and added to a customized database field or linked to any field. See *Logical Expression Editor* on page 171 for details.

To access the *Formula Editor*, in the *Govern New Administration (GNA)*:


1. Select *Editors (tab) > Formula Editor...*





**Note:** By default the fields on a form are “collapsed”, i.e. they are not fully visible. This is to give the form a cleaner appearance. Additional fields can be displayed with a click on the *Collapse/Expand* button (B).

## Formula Editor Command Buttons

**New:** Click **New**  to clear the form so that you can enter new data.

**Note:** When you click on New the button changes to Cancel ; this will allow you to cancel the creation of the current record. The Cancel button is present until the new record is saved.

**Save:** To save a new record or any modifications to an existing one, click **Save** .

**Delete:** Click **Delete**  to remove the current record from the database.

### Closing the Editor

To close the editor, click the close window button in the upper right hand corner of the form.

## Formula Editor - Formula Tab Parameters

**Name of Formula:** Enter a name for the new formula.

**Note:** Only alphanumeric entries are permitted in code parameters. This means that names for codes can only be made up of letters and or numbers. Special characters such as the underscore “\_”, the dash “-”, the ampersand “&”, etc. are not recognized.

**English Short Description:** Enter a short description for the formula.

**English Long Description:** Enter a long description for the formula.

### Second Language Fields

When there is a 2nd language, or multiple languages, ensure that these description fields are also completed.

**Is System:** This flag / option is reserved for constants that are designated as Govern.NET system records.

## About System Reserved Values
















Only users with Super-User access will be able to select and deselect the **Is System** option. In addition Super Users can also create new values and flag them for Govern.NET system use.

**Note:** *System* constants are reserved for use by the *Govern.NET* system and as such should not be modified or deleted without a full understanding of the implications. Deletions of system values can damage the Govern.NET system, rendering it inoperable. Modifications that are made to *System* values should always be noted. When a system wide update is performed, these modifications may be overwritten.

**Algebraic Formula:** The Algebraic formula is created as the information is entered. This formula can also be modified in this space.




## Add Function group

The following functions can be used to create formulas:












	Absolute Value Function		Arc Tangent Function		Cosine Function
	Exponential of e Function (e= 2.718282)		Integer part of a number (not rounded)		Integer part of a number (rounded)
	Natural Logarithm Function		Base 10 Logarithm Function		Sign Function (results to 1 or -1)
	Sinus Function		Square Root Function		Tangent Function
	Rounded to 0 decimal places		Rounded to 2 decimal places		Rounded to 6 decimal places











## Add Operator group

The following digits and operators can be used when creating formulas. To add any of the functions or operators, ensure that your cursor is placed in the *Algebraic Formula* parameter.

	Back Space		Clears Last Entry		Clears the Algebraic Formula Text box
---	------------	---	-------------------	---	---------------------------------------



	Inserts the Digit 7		Inserts the Digit 8		Inserts the Digit 9
	Inserts the Digit 4		Inserts the Digit 5		Inserts the Digit 6
	Inserts the Digit 1		Inserts the Digit 2		Inserts the Digit 3
	Inserts a zero				Inserts a decimal point

	Integer Division Operator		Division Operator		Multiplication Operator
	Subtraction Operator		Addition Operator		Exponential Operator
	Insert an Opening Parenthesis		Insert a Closing Parentheses		
	Insert an Opening Bracket  The Brackets are used for enclosing database tables and fields.		Insert a Closing Bracket		

## Create a Custom Formula with the Formula Editor



In the following example we will create a formula that will be used to convert *Square Footage* into *Acres*. After some research, we find that the formula for this conversion is as follows:

$$\text{Acres} = (\text{Area}) / 43560$$

Where... **Area** = **Length** x **Width** (i.e. *Size of the lot*)

For this conversion we will need to include a *SQL* query that will retrieve the *Lot Size* for our calculation. A query called **LOTSIZE** was created in a *SQL Definition Setup* example. See *Create a Simple SQL Query on page 232 in the SQL Definition Setup section of this guide for instructions.*

To create a custom formula...

1. In the *Govern New Administration (GNA)*, select *Editors (tab)* > **Formula Editor...**
2. In the *Formula Editor* form click **New** .
3. Enter **CNVRTACRS** (*i.e. Convert Acres*), in the *Name of Formula* field (2).
4. Click the *Expand* button  to display the hidden parameters that need to be completed.
5. For the *Short Description* field, enter **Convert Acres (3)**.

**Consider Null as 0:** Select this option to consider Null as 0 during the calculation process. Null represents the absence of a value and normally if one operand within the formula is Null, the result of the formula is Null. When this option is selected, Null is recognized as 0 and the formula returns a numeric value.

**Note:** The location of this option is outside of any of the groups in the form.

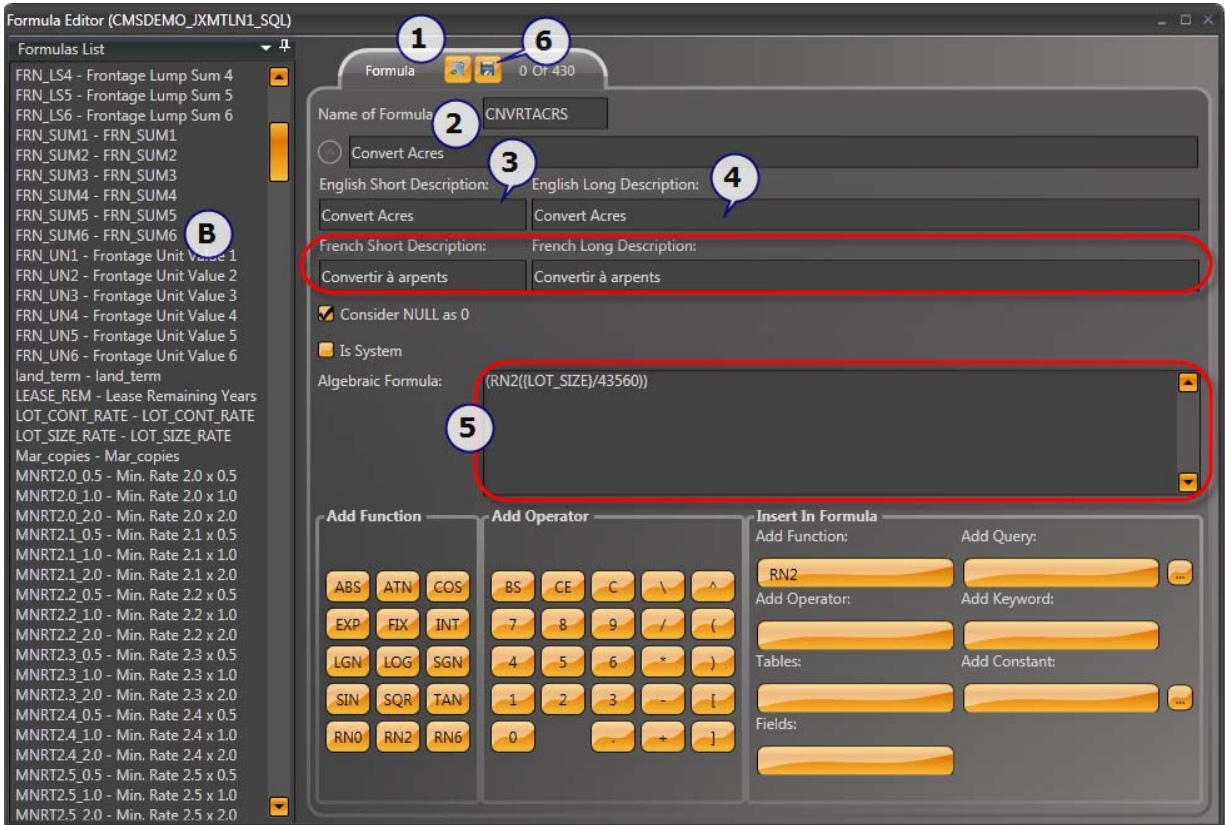
**Is System:** This flag / option is reserved for constants that are designated as Govern.NET system constants.

### About System Reserved Values

Only users with Super-User access will be able to select and deselect the **Is System** option. In addition Super Users can also create new values and flag them for Govern.NET system use.

**Note:** *System* constants are reserved for use by the *Govern.NET* system and as such should not be modified or deleted without a full understanding of the implications. Deletions of system values can damage the Govern.NET system, rendering it inoperable. Modifications that are made to *System* values should always be noted. When a system wide update is performed, these modifications may be overwritten.

- Click in the *Long Description* field (4) to copy the *Short Description*; you may add additional descriptive information to the name.



- Under the *Algebraic Formula* field (5), click inside; you will see your flashing cursor.

**Note:** Ensure that your cursor is placed inside the field before selecting the *Add Query* field.

- In the *Insert in Formula* group, look for the *Add Query:* field; click the drop-down menu and select **LOT\_SIZE** from the list; the **LOT\_SIZE** variable will be added to the *Algebraic Formula* field.
- Under *Add Operator* click the *Divide* symbol “/”.
- Next, manually type **43560** into the field or enter it with the numeric pad in the *Add Operator* group.

Your formula will now look like the following... **{LOT\_SIZE} / 43560**

The resulting value from this calculation will need to be rounded; the rounding will be dependent upon the number of decimal places required. In this instance we will round to two (2) decimal places.

11. Place your cursor at the beginning of the formula and click **RN2** in the *Add Function* group. The following character will be added **RN2{**.

**Note:** When functions are added, ensure that opening and closing brackets are matching.

12. Enter a closing bracket “)” at the end of the equation.
13. The final requirement is to add an additional bracket around the whole equation so as to avoid any errors when it is used with other formulas that may not have brackets around them.
14. The final formula will look like this, **(RN2({LOT\_SIZE}/43560)) (5)**; click **Save (6)**

The formula will appear on the left hand side under the *Formulas List (B)*. These formulas can be added to a logical expression created through the *Logical Expression Block Editor*, and added to a customized database field or linked to any field. See *Logical Expression Editor on page 171 for details*.

## Insert in Formula group

To include a value from a database field, query, keyword or constant, in a formula, select the item from the drop-down list in the *Insert In Formula* group. You can include as many of these values as needed, by making multiple selections. The item is added where the cursor is placed in the **Algebraic Formula** edit box. For example, you could retrieve two values from the database, using *Selection Queries*, and add these values together.

The following restriction applies:

All fields, selected from the **Fields** list, must be associated with the same function.

**Add Function:** You can include functions to your formula by selecting the drop down menu (A) for a list of available functions.



The queries need to be defined through the *SQL Query Editor*. To include a query, select it from the list. The query name is displayed in the **Algebraic Formula** edit box between braces, { }. To create a new query, click “...” beside the *Add Query* drop-down menu, and display the *SQL Definition Setup* form. See *SQL Query Editor* on page 229 for more information.

**Add Query:** You can include one or more queries in a formula (B). These queries must be *Selection* queries; i.e., used to retrieve data from one or more fields.

For example, in the following formula:

```
{depr_year}-[MA_BUILDINGS.EYB]
```

The **Effective Year Built** (EYB) of the current building record is subtracted from the Depreciation Year, the year used in calculating the depreciation (depr\_year).

The *Depreciation Year* query {depr\_year} retrieves the depreciation year from the SY\_RETRY table, by specifying values for the SECTION\_NAME and KEY\_NAME fields:

```
Select KEY_VALUE From SY_RETRY Where SECTION_NAME=str(Year Id,4) and KEY_NAME='depreciation year'
```

The queries need to be defined through the *SQL Query Editor*. To include a query, select it from the list. The query name is displayed in the **Algebraic Formula** edit box between brace brackets, { }. To create a new query, click “...” beside the *Add Query* drop-down menu, and display the **SQL Definition Setup** form. See *SQL Query Editor* on page 229 for more information.

**Tables:** To include a database field in a formula, you need to select the table first, from the **Tables** drop-down list.

**Consider Null as 0:** Select this option to consider Null as 0 during the calculation process. Null represents the absence of a value and normally if one operand within the formula is Null, the result of the formula is Null. When this option is selected, Null is recognized as 0 and the formula returns a numeric value.

**Note:** The location of this option is outside of any of the groups in the form.

When there is a 2nd language, or multiple languages, ensure that these description fields are also completed.

**Add Keywords:** Select a keyword from the drop-down list to include it in the formula. Keywords are used to retrieve a value currently in memory; such as ~ parcel id ~ to retrieve the parcel id of the current record. Keywords are displayed in lowercase, between tildes, ~ ~.

For example, to include the building sequence for the current building record, in the formula, select the **~building sequence~** keyword.

## Govern Keywords

The following table lists the available keywords for the formulas.

Code	Keyword	Description
ar_id	Account Receivable ID	Unique identification number of the current <i>Account Receivable</i> record
key_counter	Activity ID	Identification number of the current <i>Activity</i> record
ac_id	Aircraft ID	Unique identification number of the current <i>Aircraft Excise Tax</i> record
br_id	Bankruptcy ID	Identification number of the current <i>Bankruptcy</i> record
bt_id	Boat ID	Unique identification number of the current <i>Boat Excise Tax</i> record
bldg_id	Building ID	Identification number of the current <i>Building</i>
bldg_seq	Building Sequence	Sequence number of the current <i>Building</i>

Code	Keyword	Description
cc_id	Cash Collection ID	Identification number of the current <i>Cash Collection</i> record
co_id	Complaint ID	Identification number of the current <i>Complaint</i> record
*date	Current Date	The <i>Current Date</i>
dept	Department	The <i>Department</i> code
frozen_id	Frozen ID	Identification number of the current <i>Frozen</i> record
haz_id	Hazard ID	Identification number of the current <i>Hazard</i> record
h_id	Hearing ID	Identification number of the current <i>Hearing</i> record
in_id	Inspection ID	Identification number of the current <i>Inspection</i> record
land_id	Land ID	Unique identification number of the current <i>Land</i>
mb_id	Misc. Billing ID	Identification number of the current <i>Miscellaneous Billing</i> account
misc_id	Miscellaneous ID	Identification number of the current <i>Miscellaneous Billing</i> account
mv_id	Motor Vehicule ID	Identification number of the current Motor Vehicle Account
na_id	Name ID	Unique identification number of the current Name
of_id	Offence ID	Unique identification number of the current <i>Offense</i> record
p_id	Parcel ID	Unique identification number of the current parcel
pm_id	Permit ID	Unique identification number of the current <i>Building Permit, Electrical Permit, General Permit, Plumbing Permit, Permit to Name, Animal License, Business License, License to Name, Approval, Bond, Decision, Prosecution or Appeal</i> record

Code	Keyword	Description
pp_id	Personal Property ID	Identification number of the current <i>Personal Property</i> account
pp_det_id	PP Detail ID	Unique identification number of the current <i>Personal Property Item</i>
folio_id	Project Folio ID	Identification number of the current <i>Project Folio</i>
prj_id	Project ID	Identification number of the current <i>Project</i> record
tax_id	Real Estate ID	Identification number of the current <i>Real Estate Tax</i> record
sale_id	Sale ID	Identification number of the current <i>Sale</i> record
st_acct_id	Self Reported Tax Acct ID	Identification number of the current <i>Self Reported Tax Account</i> record
st_id	Self Reported Tax ID	Identification number of the current <i>Self Reported Tax</i> record
si_id	Site ID	Identification number of the current <i>Site</i>
sa_id	Special Assessment ID	Identification number of the current <i>Special Assessment</i> record
tax_map	Tax Map Number	Tax Map Number of the current record
usr_id	User ID	Unique identification number of the current user
ub_id	Utility Billing ID	Unique identification number of the current <i>Utility Billing</i> account
year_id	Year ID	Year identification of the current record

**Add Constants:** Select a constant from the drop-down list, to include it in the formula or click “...” to create a new constant. Constants are displayed between ampersands (& &). See *Constant Value Editor on page 146* for more information.

**Fields:** After selecting the table, select the field from the **Fields** drop-down list. The value of this parameter for the current record is included in the



formula. These selected tables and fields are displayed in uppercase, between square brackets; for example, [AC\_EXEMPTIONS.FROZEN\_ID].

## Executing Formulas and Logical Expressions

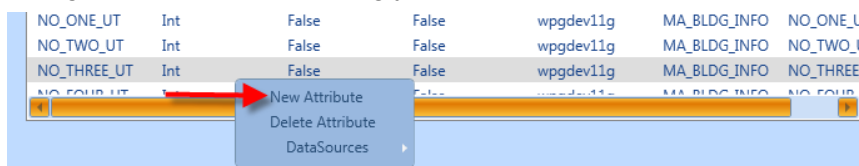
**Note:** When formulas and logical expressions that include keywords or database columns, are executed, all the applicable functions need to be open.  
Alternately, you can add a *Selection Query* to the formula or logical expression, in order to retrieve values from database fields.

## Business Entity Developers and Defining Formulas

Developers that are designing *Business Entities* should note that when defining a formula, take note all fields used in the formula. These fields will need to be included when designing the *Entity* in the *Business Entity Designer (BED)*. For example, you are designing a formula that will use the following 6 fields from the MA\_BUILDINGS table:

Appearance in Formula (Fields)	Table	Attribute Name Used
[MA_BUILDINGS.BA8010_VA]	MA_BUILDINGS	BA8010_VA
[MA_BUILDINGS.BA8020_VA]	MA_BUILDINGS	BA8020_VA
[MA_BUILDINGS.BA8030_VA]	MA_BUILDINGS	BA8030_VA
[MA_BUILDINGS.BA8040_VA]	MA_BUILDINGS	BA8040_VA
[MA_BUILDINGS.BA8050_VA]	MA_BUILDINGS	BA8050_VA
[MA_BUILDINGS.BA8061_VA]	MA_BUILDINGS	BA8061_VA

In the *BED* you will need to enter each of the 6 field names as *Attributes*, and configure each one accordingly.



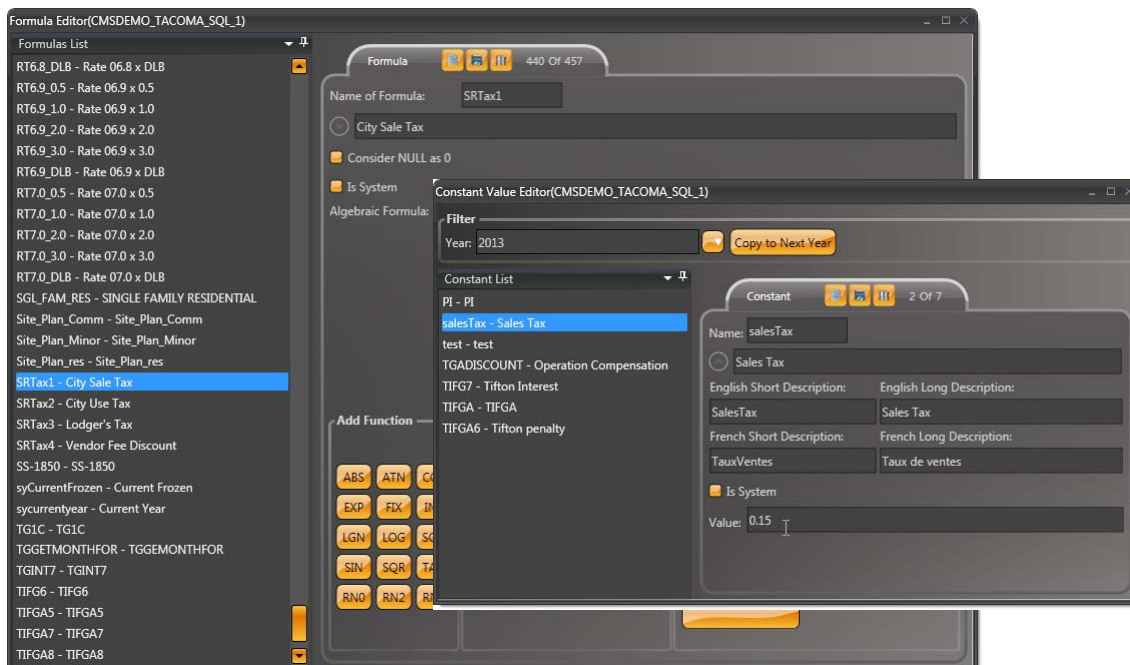
*Refer to the Business Entity Designer Release 5.0 user guide for details about designing Entities.*

## Best Practices for Creating Formulas in Govern

When creating formulas in the Formula Editor, constants should be defined in the Constant Value Editor rather than entered as a “hard coded” value. This methodology allows constants, to be quickly updated when a rate change is authorized. In addition as a constant, there are no issues with using it in other formulas.

## Troubleshooting Self Reported Tax Formulas

When creating formulas that are to be configured for use in the SRT module, issues may arise with formulas that explicitly use **floating point** numbers, i.e. numbers with decimal points. For example the number “0.07”, as a result of the presence of the decimal point has been known to cause issues in **SRT** calculations.



## Workaround for Decimal Point error in SRT Formula

For a situation where a floating point number must be used in an SRT formula, a practical workaround is to define the number as a fraction. For example, the number (0.07) can be represented fractionally as (7/100).

i.e.  $(7/100) = 0.07$

The formula to calculate the value of the item after Sales Tax can be written as follows...

**totItemVal** = [**itemVal** + (**itemVal** \* (**0.15**))]

*where...*

Sales Tax = 15%   Value of Item = itemVal   Total Value of Item = totItemVal

This formula, when rewritten in the prescribed workaround format, would appear as follows:

**totItemVal** = [**itemVal** + (**itemVal** \* (**15/100**))]     **Note:**  $15/100 = 0.15$

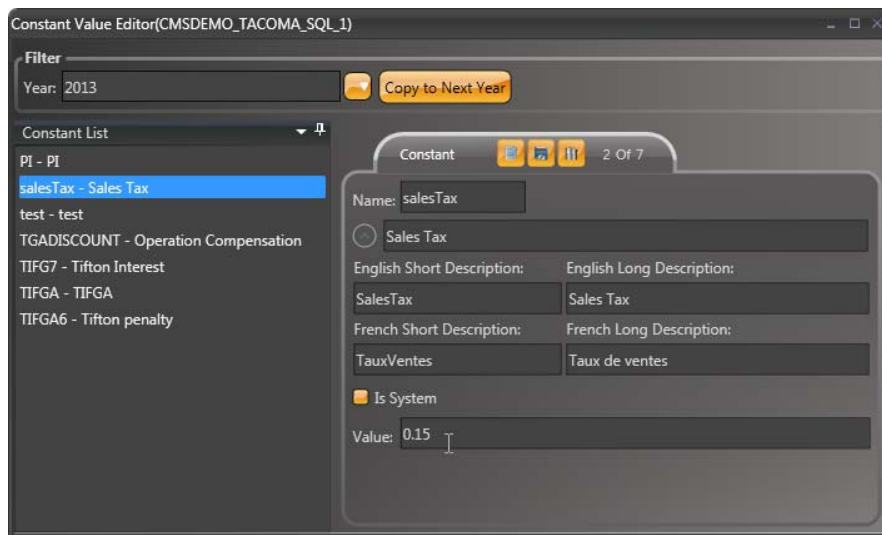
## Alternate Method using Constants

The above example of defining constants as a fixed number is often referred as “hard-coding”. Instead of “hard-coding” a constant it is recommended that the constant be expressed with a name; in the above example the name **salesTax** would be used. If a value is to be reused in numerous locations, it is preferable to define it as a constant.

The formula would then be written as follows:

**totItemVal** = [**itemVal** + (**itemVal** \* **salesTax**)]

Now **salesTax** is defined in the system with a value. Constants are defined in *Govern* with the *Constant Value Editor* that is found in the Govern New Administrator (**GNA**).



The screenshot shows the 'Constant Value Editor(CMSDEMO\_TACOMA\_SQL\_1)' window. On the left, a 'Constant List' pane shows 'salesTax - Sales Tax' selected. The main area displays the details for 'salesTax'. The 'Name' field is 'salesTax'. Below it, there are fields for 'English Short Description' (SalesTax) and 'English Long Description' (Sales Tax). There are also fields for 'French Short Description' (TauxVentes) and 'French Long Description' (Taux de ventes). A checkbox labeled 'Is System' is checked. At the bottom, the 'Value' field is set to '0.15'.

The **salesTax** constant would be defined in the *Constant Value Editor* as having a value of “0.15”.

**Note:** Fractional values are not accepted by the **Value** field in the *Constant Value Editor*.

The end result of using constants is that the formula will be easier to “read”. In addition, when a change to the **salesTax** value is required, the change to the value is made in one location in the *Constant Value Editor*, all locations that use the constant will be automatically adjusted. Refer to the section for the *Constant Value Editor* on page 146 of the *Govern New Administration (GNA)* release 5.1 user guide.

# Field Mask Editor

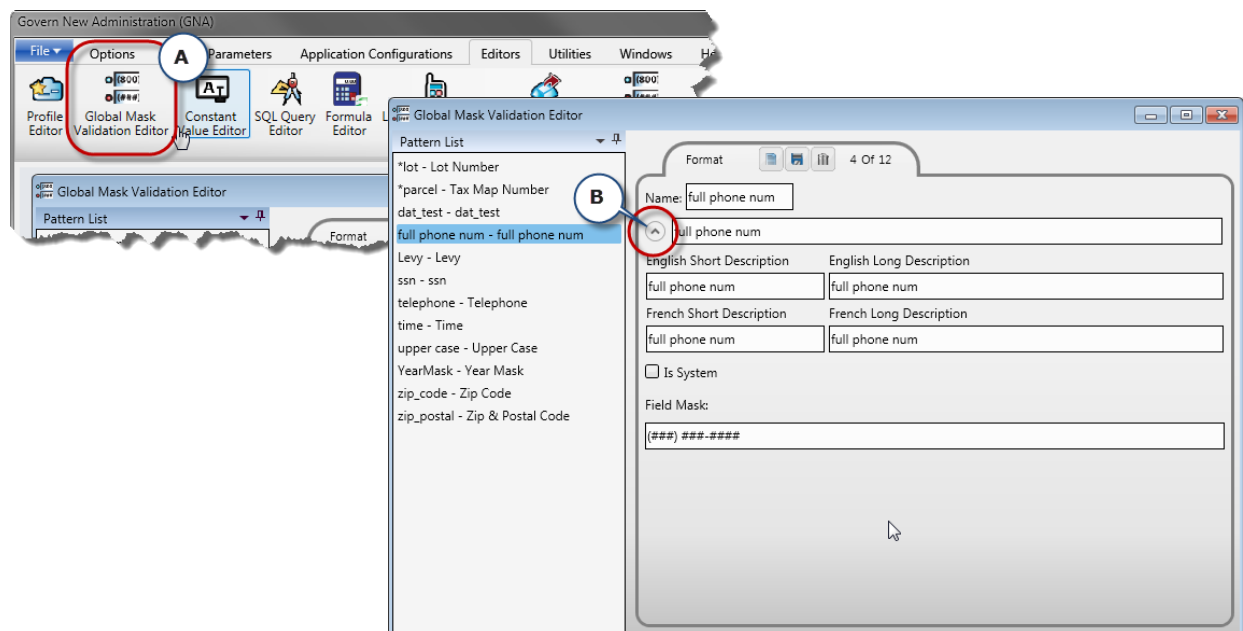
## Overview

With the *Field Mask* editor, you can define a set of *Field Masks* that can then be applied to fields in the *Business Entity Designer (BED)*. Applying a field mask automatically formats the data entered in the field according to a defined pattern. For example, you can define a pattern for telephone numbers and apply it to a *Telephone* field in the *BED*. Then, if the user enters 18005551212 in an *OpenForm*, this is automatically formatted as 1-800-555-1212.

Use this editor for phone numbers, postal or ZIP codes, Tax Map Numbers, Social Security Numbers, etc.


To access the *Field Mask Editor*, in the *Govern New Administration (GNA)*:


1. Select *Editors (tab) > Field Mask Editor... (A)*



**Note:** By default the fields on a form are “collapsed”, i.e. they are not fully visible. This is to give the form a cleaner appearance. Additional fields can be displayed with a click on the *Collapse/Expand* button.

## Field Mask Editor Command Buttons

**New:** Click **New**  to clear the screen so you can create a new *Field Validation Mask*.

**Note:** When you click on **New**, the button changes to **Cancel** ; this will allow you to cancel the creation of the current record. The **Cancel** button is present until the new record is saved.

**Save:** Click **Save**  to save a new record or modifications to an existing one.

**Delete:** Click **Delete**  to remove the current record.

### Closing the Editor

To close the editor, click the *Close Window* button in the upper right hand corner of the form.

## Field Mask Editor - Format Tab Parameters

**Name:** Enter a name for the field mask. This appears in the drop-down list that is displayed when you apply the mask.

**Note:** Only alphanumeric entries are permitted in code parameters. This means that names for codes can only be made up of letters and or numbers. Special characters such as the underscore “\_”, the dash “-”, the ampersand “&”, etc. are not recognized.

**English Short Description:** Enter a short description to identify the department. This is useful for fast data entry and look-ups if space is limited on the forms.

**English Long Description:** Enter a long description to identify the department. This will be displayed for look-ups on forms and will be normally used for reporting.

### Second Language Fields

When there is a 2nd language, or multiple languages, ensure that these description fields are also completed.

**Is System:** This flag / option is reserved for constants that are designated as Govern.NET system constants.

## About System Reserved Values

Only users with Super-User access will be able to select and deselect the **Is System** option. In addition Super Users can also create new values and flag them for Govern.NET system use.

**Note:** *System* constants are reserved for use by the *Govern.NET* system and as such should not be modified or deleted without a full understanding of the implications. Deletions of system values can damage the Govern.NET system, rendering it inoperable. Modifications that are made to *System* values should always be noted. When a system wide update is performed, these modifications may be overwritten.

**Field Mask:** In this parameter, enter the text string that will be used for your field mask.

The following tables list the symbols that can be used in field masks. The second table lists symbols that can be used for Tax Map Numbers only:

## Valid Field Masks

Symbol	Description
#	Numeric value. Exact number of digits must be entered as defined in the "New Database Field Creation".  You can use the "-" (Dash) to separate the values.
9	Numeric value left justified compressed with trailing zeroes.
d	Numeric value left justified compressed with trailing zeroes.
Z	Numeric value right justified compressed with leading zeroes.
0	Numeric value right justified compressed with leading zeroes.

Symbol	Description
>	Alpha & Numeric values. Alphabetic characters must be in uppercase. If only <b>ONE</b> ">" is entered, then the number of digits entered can be LESS than defined in the "New Database Field Creation" Size.  Otherwise, the exact number of characters must be entered as defined.  You can use the "-" (Dash) to separate the values.
<	Alpha & Numeric values. Alpha in lowercase. If only <b>ONE</b> "<" is entered, then the number of digits entered can be LESS than defined in the "New Database Field Creation" Size. Otherwise, the exact number of characters must be entered as defined. You can use the "-" (Dash) to separate the values.
A	Alpha character in Uppercase. Number of characters entered must be as defined in "New Database Field Creation" Size.  You can use the "-" (Dash) to separate the values.
^	Used to separate different possible masks in the same pattern also used as an <i>OR</i> clause.
!	Alpha and numeric values as entered, both uppercase and lowercase. You can use the dash, — to separate values.
" "	Leaves a blank space before the next series of characters, in the same text box.

Example:

A zip code should have 5 digits but may have a dash and 4 other digits.

The pattern could be: #####^##### ####

## Valid Masks for Tax Map Number Fields Only

(To use with the "0", "9", "d" and "Z" masks only):

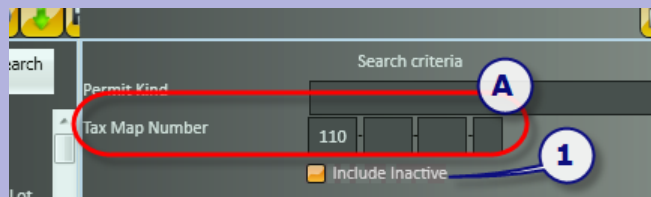
Symbol	Definition
.	Displays the next series of characters in another text box with the period in between.
:	Displays a single "." Inside the series of characters, in the same text box.



Symbol	Definition
“”	Displays the next series of characters in another text box.
-	Displays a “-” (Dash) inside the series of characters, in the same text box.

## A note to Users accessing Govern Remotely

**Note:** Users should note that parameters with field masks that are designed to accept hyphen separated entries, e.g. Telephone Numbers, Tax Maps, will display in OpenForms as a parameter with individual fields. These individual fields can be accessed with the tab key (**A**).



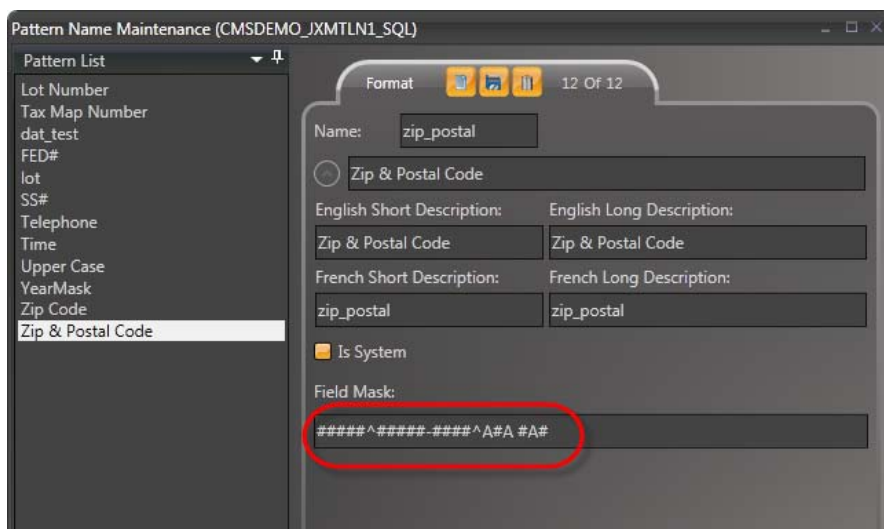
The **Field Mask** for the above would look like the following “XXX-”XXX-XXX-X”, each of the grouped X’s are separated. Users that are accessing Govern over a **Remote Link**, e.g. VPN should pay attention to the tab sequence when pressing the *Tab* key to jump to the next parameter. Over a remote connection, in the Tax Map parameter, the tab key will not move the cursor to the next field of the Tax Map number, rather it will jump to the **Include Inactive** parameter (**1**). *This behavior only applies to **remote connections** to Govern.*

## Create a Zip Code Field Mask

In the following example we will create a custom Zip Code Number. This field mask will accommodate the United States zip code format, and the Canadian postal code format. The background information required is that US zip codes can be 5 numeric digits, or in a format called **ZIP+4**. *ZIP+4* includes the standard five digits plus a hyphen and four more digits. The Canadian postal code uses six alpha-numeric (6) characters; the Alpha and Numerical characters alternate starting with and alpha character. For example H8T 2M3. The first character is always an alpha, and there is a space between the first three characters and the last three.

To create our custom mask...

1. In *Govern New Administration (GNA)*, select *Editors (tab) > Global Field Validation Mask Editor...*
2. In the *Field Validation Mask Editor* form, click **New**.
3. In the name field, enter **zippostalcode**.
4. Enter a *Short Description* of **US Zip & Cdn Post** in the field.
5. Click into the *Long Description* field, the *Short Description* will be copied into the *Long Description*, add any additional information to the name.
6. In the *Field Mask* field, enter the following mask pattern:  
**#####^#####-####^A#A #A#**  
*Note that the grey box represents a space character.*
7. Click **Save** to save the mask.



Pattern Name Maintenance (CMSDEMO\_JXMTLN1\_SQL)

Pattern List

- Lot Number
- Tax Map Number
- dat\_test
- FED#
- lot
- SS#
- Telephone
- Time
- Upper Case
- YearMask
- Zip Code
- Zip & Postal Code

Format 12 Of 12

Name: zip\_postal

Zip & Postal Code

English Short Description: Zip & Postal Code

English Long Description: Zip & Postal Code

French Short Description: zip\_postal

French Long Description: zip\_postal

☐ Is System

Field Mask: #####^#####-####^A#A #A#

Based on the information that was provided, the mask will format the following:

Five (5) numerical characters **OR** 5 characters a dash and then four (4) more numerical characters, **OR** six (6) alternating alpha and numerical characters. The caret symbol “^” represents an **OR** condition.

# Logical Expression Editor



## Overview

Create customized logical expressions, using the *Govern New Administration (GNA) Logical Expression Block Editor*. Logical expressions can be used in *Mass Appraisal* and *Permit Fee* calculations; when created they can then be linked to any field.

## Uses for Logical Expressions

In the previous generation of *Govern*, i.e. *Govern for Windows*, *Logical Expressions* were used in two (2) principal areas, on calculated values, and for validation. Logical Expressions may now also be used to obtain the status of a control in the OpenForms Designer (**OFD**).

### Calculated Values and Logical Expressions

When a logical Expression is used on a calculated value, the logical expression is attached to a field. The expression is interpreted and returns a value. For example, you could say that if a user selects a check box in the application, the Logical Expression could return one value, but if the check box is not selected, then another value is returned.

### Using Logical Expressions in Validations

In the *Business Entity Designer (BED)*, you are able to attach a *Logical Expression* to a field. The result of the *Logical Expression* can be **TRUE** or **FALSE**. Any condition can be entered in the *Condition* section, The **IF** section is used to validate one field against another. These sections are strictly for *Field Values*. After constructing your *Logical Expression*, it will return a *TRUE*, 1, or *FALSE*, 0; when *TRUE* the field is valid, If *FALSE* the field is invalid.

### Logical Expressions in the OpenForm Designer (OFD)

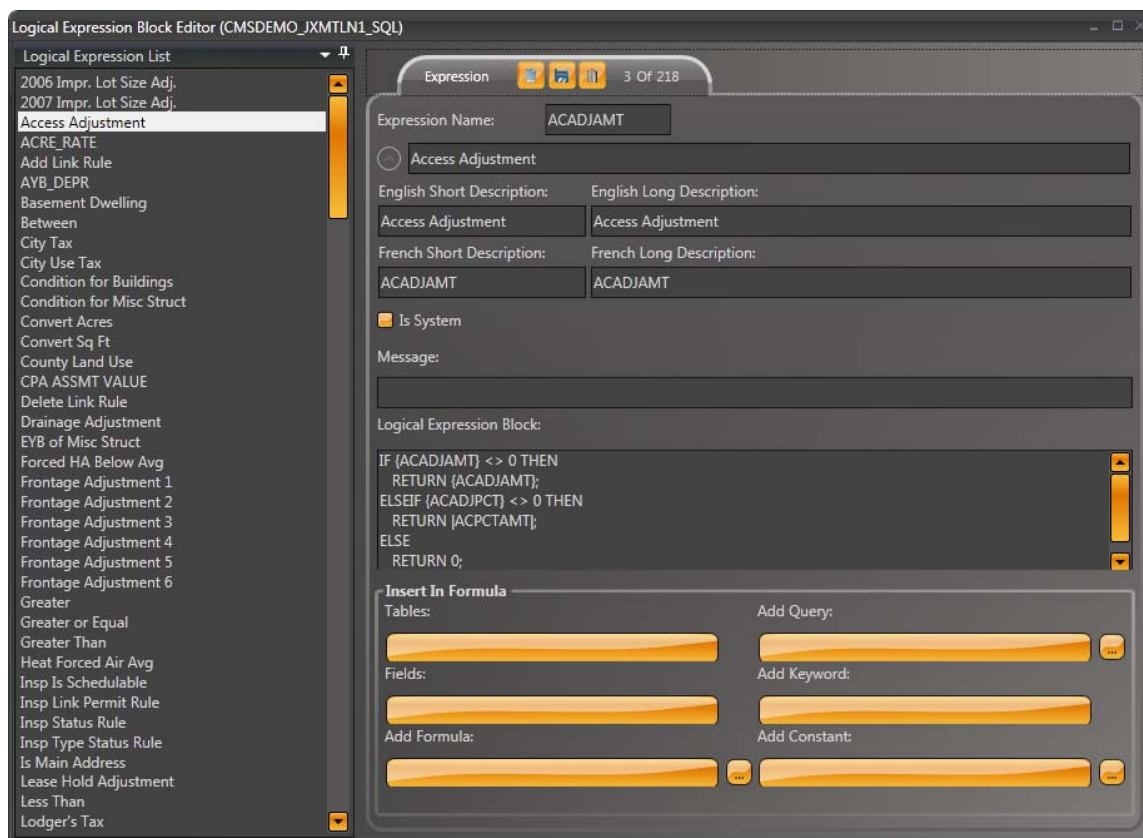
This is the third way to use Logical Expressions, and is only possible with the .NET architecture. In the *OpenForm Designer (OFD)*, we can get the status of a control. Controls that are updated or executed can be made to return a value as part of the *Business Rules*. The returned values can be attached to a *Logical Expression* that can say that if there is a value in a field, set that field

to be viewable. This is similar to the status flags that are set in the *Govern Security Manager (GSM)*.

**Note:** These flags, when set, override any flags that may be set by the *Govern Security Manager (GSM)*. For example if an entity is set not to be visible through a flag in the MoD, if this entity is used in a Business Model that is now set to be visible through the GSM, parameters that are attached to that entity will still not be visible.

In the *MoD* there are flags specifically for *Logical Expressions*. Flags such as, **CanAddLogExp**, **CanExecuteLogExp**, **CanUpdateLogExp**, **CanDeleteLogExp** allow for *User Interface (UI)* validation.

For example, inspections with a status of complete, i.e. all data parameters have been completed, a *Logical Expression* query can be used to say that the status of the inspection is **FALSE**. If parameters are incomplete, the status can be set to **TRUE**. In this example, the *Logical Expression* can be used to enable or disable a *UI* field.



The screenshot displays the 'Logical Expression Block Editor' window. On the left, a 'Logical Expression List' shows various expressions, with 'Access Adjustment' selected. The main editor area is titled 'Expression' and shows the configuration for 'ACADJAMT'. It includes fields for 'English Short Description' (Access Adjustment), 'English Long Description' (Access Adjustment), 'French Short Description' (ACADJAMT), and 'French Long Description' (ACADJAMT). There is a checkbox for 'Is System' which is checked. Below these is a 'Message' field. The 'Logical Expression Block' section contains a code editor with the following logic:

```
IF (ACADJAMT) <> 0 THEN
  RETURN (ACADJAMT);
ELSEIF (ACADJAMT) <> 0 THEN
  RETURN (ACADJAMT);
ELSE
  RETURN 0;
```

At the bottom, there is an 'Insert In Formula' section with fields for 'Tables', 'Fields', 'Add Query', 'Add Keyword', 'Add Formula', and 'Add Constant'.

To access the *Logical Expression Editor*, in the *Govern New Administration (GNA)*...


1. Select *Editors (tab)* > **Logical Expression Editor...**


In a *Logical Expression*, a *Temporary Field* can be specified that can hold any value. For example, a temporary field can be used to hold a value generated from a query, a database field, or from user input. See *Using a Temporary Field* on page 186.


**Note:** By default the fields on a form are “collapsed”, i.e. they are not fully visible. This is to give the form a cleaner appearance. Additional fields can be displayed with a click on the *Collapse/Expand* button.

## Logical Expression Editor Command Buttons

**New:** Click **New**  to clear the form so that you can enter new data.

**Note:** When you click on **New**, the button changes to **Cancel** ; this will allow you to cancel the creation of the current record. The **Cancel** button is present until the new record is saved.

**Save:** Click **Save**  to save a new Logical Expression or any modifications to an existing one. Logical expressions are saved to VT\_USR\_LOGEXP.

**Delete:** Click **Delete**  to remove the current record from the database.

### Closing the Editor

To close the editor, click the close window button in the upper right hand corner of the form.

---

## Logical Expression Editor - Expression Tab Parameters

**Expression Name:** Enter a name or code for the logical expression.

**Note:** Only alphanumeric entries are permitted in code parameters. This means that names for codes can only be made up of letters and or numbers. Special characters such as the underscore “\_”, the dash “-”, the ampersand “&”, etc. are not recognized.

**English Short Description:** Enter a short description. This is used for fast data entry and look-ups if space is limited on forms.

**English Long Description:** Enter a long description. This is displayed during look-ups and on forms and reports.

### Second Language Fields

When there is a 2nd language, or multiple languages, ensure that these description fields are also completed.

**Is System:** This flag / option is reserved for constants that are designated as Govern.NET system data.

### About System Reserved Values

Only users with Super-User access will be able to select and deselect the **Is System** option. In addition Super Users can also create new values and flag them for Govern.NET system use.

**Note:** *System* constants are reserved for use by the *Govern.NET* system and as such should not be modified or deleted without a full understanding of the implications. Deletions of system values can damage the Govern.NET system, rendering it inoperable. Modifications that are made to *System* values should always be noted. When a system wide update is performed, these modifications may be overwritten.

**Message:** If required, when your logical expression returns an error enter a text string that will be displayed on the error message.

**Logical Expression Block:** Compose your logical expressions in this edit box. There is no limit to the number of statements you can add.

The following operators can be used:

Operator	Definition
=	Equal to
>	Greater than
<	Less than
<>	Different from
<=	Less than or Equal to
>=	Greater than or Equal to
IN	Value represented by the first expression as present in the second
AND	(xxxx) AND (xxxx)
OR	(xxxx) OR (xxxx)

### Insert in Formula group - Add Query

It is under the add query parameter that the types of query to be inserted into the expression block is selected.

**Add Query:** There are two (2) drop-down menus under the **Add Query** parameter. The first parameter acts as a filter for the types of queries that will be displayed in the second parameter. The displayed queries can then be added to the *Logical Expression Block*.

Selection options for the filter are:

- **All** - Select this option to display all queries that are available.
- **Select** - When selected, this option will display only selection queries.
- **Action** - This option display only action queries, i.e. update and delete type queries.

## Building Logical Expressions

You can compose your logical expressions in the **Logical Expression Block** edit box, or copy and paste an expression from another file. Your logical expression can be made up of an unlimited number of statements, constants, formulas, keywords, queries, database fields, numeric values and strings.

### Logical Expression Statements

The logical expression can be built from the following types of statements: IF... THEN... ELSE, DO, RETURN and IN.

#### IF... THEN... ELSE... Statements

This type of statement executes a group of statements, conditionally, depending on the value of the logical expression.

The following rules apply:

1. IF, THEN and ELSE must be written in uppercase.
2. A space must be entered between the statement and the action.
3. Only **Select Queries** can be used with the IF statement. *For more information on queries, see SQL Query Editor on page 229.*

The syntax is as follows:

```
IF condition THEN
statement
ELSEIF elseifcondition THEN
elseifstatement
ELSE elstatement
ENDIF
```

#### DO Statement

This type of statement executes an action.

The following rules apply:

1. DO must be written in uppercase.
2. A space must be entered between the statement and the action.
3. It must be followed by an action.



4. The action must be followed by a “;” (semi-colon).
5. Only *Action Queries* can be used with the DO statement. *For more information on queries, see SQL Query Editor on page 229. Also refer to the Insert in Formula group - Add Query on page 175 for selection options.*

The syntax is as follows:

```
IF condition THEN
DO action;
ELSEIF elseifcondition THEN
DO action;
ELSE
DO action;
ENDIF
```

## RETURN Statement

This type of statement returns a value.

1. RETURN must be written in uppercase.
2. A space must be entered between the statement and the action.
3. The action must be followed by a “;” (semi-colon).

The syntax is as follows:

```
IF condition THEN
RETURN value;
ELSEIF elseifcondition THEN
RETURN value;
ELSE
RETURN value;
ENDIF
```

You can enter any of the following, after the **RETURN**:

- **Select Query**: from the **Add Query group** drop down list. The query name must be entered between braces, { }; *Refer to the Insert in Formula group - Add Query on page 175 for selection options.*
- **Formula**: from the **Formulas** drop down list. A formula must be entered between bar delimiters, “| **FORMULA** |”.
- **String**: ‘text’. A string is entered between single quotation marks, “ ‘ ”.
- **Date**: #2004#

- **Value:** 999
- **Keyword:** from the **Keywords** drop down list. A keyword must be placed between tildes, " ~ ~".
- **TRUE:** in uppercase
- **FALSE:** in uppercase
- A database field name must be entered, with the table, between square brackets, [TABLE.FIELD].

### IN Statement

The following rules apply to the **IN** Statement:

1. An item list separated with a comma (,) must be placed after the IN operator.
2. The item list must be delimited with quotation marks ("")
3. The item list must contain at least two items.
4. The items in the list must be of the same type; i.e., numeric **OR** string
5. If the list contains items of different types, the items must be delimited with single quotation marks, noting that the type will be converted to a string.
6. All lists must be terminated with a semicolon in order to be valid.

Statement	Correct / Incorrect		Comments
IN "A,B,C,D";	✗	Incorrect	Missing single quotes.
IN "10,20,30,40";	✓	Correct	
IN "10,A,B,C";	✗	Incorrect	Mix of numeric and string datatypes.
IN "'10','A','C','D'";	✓	Correct	Correct but all items including number in quotes will be compared as string datatypes.
INA,B,C,D;	✗	Incorrect	No space after operator, and no quotation marks.
IN "A";	✗	Incorrect	More than one item is required
IN "A,B";	✗	Incorrect	Character datatypes must have single quotes.
IN "'10','A','B',20";	✗	Incorrect	Last numeric datatype is missing single quotes.

Statement	Correct / Incorrect		Comments
IN "10','20','30";	✓	Correct	Correct but will be compared as string datatypes, therefore cannot be compared with a numeric datatype.
IN "A',B";	✗	Incorrect	Second characters is missing single quotes.

## Logical Expression Comparison Operators

Operator	Description	How to use...	
=	Is the value represented by the first expression is equal to the value represented by the second?	$0 = 0 \rightarrow \text{True}$ $0 = 1 \rightarrow \text{False}$	$A = A \rightarrow \text{True}$ $A = B \rightarrow \text{False}$
<>	Is the value represented by the first expression not equal to the value represented by the second?	$0 <> 1 \rightarrow \text{True}$ $0 <> 0 \rightarrow \text{False}$	$A <> B \rightarrow \text{True}$ $A <> A \rightarrow \text{False}$
>	Is the value represented by the first expression greater than the value represented by the second?	$1 > 0 \rightarrow \text{True}$ $2 > 2 \rightarrow \text{False}$ $1 > 3 \rightarrow \text{False}$	
>=	Is the value represented by the first expression less than or equal to the value represented by the second?	$1 >= 0 \rightarrow \text{True}$ $2 >= 2 \rightarrow \text{True}$ $1 >= 3 \rightarrow \text{False}$	
<	Is the value represented by the first expression less than the value represented by the second?	$0 < 1 \rightarrow \text{True}$ $2 < 2 \rightarrow \text{False}$ $3 < 1 \rightarrow \text{False}$	
<=	Is the value represented by the first expression greater than or equal to the value represented by the second?	$0 <= 1 \rightarrow \text{True}$ $2 <= 2 \rightarrow \text{True}$ $3 <= 1 \rightarrow \text{False}$	

Operator	Description	How to use...	
IN	Is the value represented by the first expression found in the second?	<p>1 IN "1,2,3,4,5" → True A IN "A,B,C,D,E" → True</p> <p>9 IN "1,2,3,4,5" → False Z IN "A,B,C,D,E" → False</p>	

## Logical Operators

Operator	Description	How to use...
AND	The <b>And</b> operator performs logical conjunction on two <b>Boolean</b> expressions. That is, if both expressions evaluate to <b>True</b> , then the <b>And</b> operator returns <b>True</b> . If either or both expressions evaluate to <b>False</b> , then <b>And</b> returns <b>False</b> .	<p>True <b>AND</b> True → True</p> <p>True <b>AND</b> False → False</p> <p>False <b>AND</b> True → False</p> <p>False <b>AND</b> False → False</p>
OR	The <b>Or</b> operator performs logical disjunction on two <b>Boolean</b> expressions. If either expression evaluates to <b>True</b> , <b>Or</b> returns <b>True</b> . If neither expression evaluates to <b>True</b> , <b>Or</b> returns <b>False</b> .	<p>True <b>OR</b> True → True</p> <p>True <b>OR</b> False → True</p> <p>False <b>OR</b> True → True</p> <p>False <b>OR</b> False → False</p>

## Adding Formulas, Database Fields, Queries, Keywords and Constants

To include a value from a formula, database field, query, keyword or constant, in a logical expression, select the item from the drop-down list. You can include as many of these values as needed, by making multiple selections. The item is added where the cursor is placed in the **Logical Expression Block** edit box. For example, you could make a comparison of two values, retrieved through *Selection Queries*.

The following restriction applies:

All fields, selected in the **Fields** list, must be associated with the same function.

To create a new formula, query or constant, from the *Logical Expression Block Editor*, click the drop-down list for the item.

**Add Formula:** To include a value calculated through a formula, select the formula from the drop-down list. Formulas are displayed between bar delimiters, ex. |FORMULA\_NAME|.

```
IF |IMP_VALUE| > 0 THEN  
    RETURN |IMP_VALUE|;  
ELSE  
    RETURN 0;  
ENDIF
```

To create a new formula, click “...” to display the *Formula Editor*. See *Formula Editor* on page 150 for more information.

**Note:** When the logical expression is run, the functions, associated with the formula must be open.

**Add Keyword:** Select a keyword from the drop-down list to include it in the logical expression. Keywords are used to retrieve a value currently in memory; such as ~ parcel id ~ to retrieve the parcel id of the current record. Keywords are displayed in lowercase, between tildes, ~ ~.

For example, to include the building sequence for the current building record, in the logical expression, select the **~building sequence~** keyword.

```
For example,  
IF ~parcel id~ > 0 THEN  
    RETURN ~parcel id~;  
ELSE  
    RETURN 0;  
ENDIF
```

You can also include the keyword, ~textbox value~, in a logical expression, to include a value entered by the user in a text box:

```
For example,
IF ~textbox value~ > 100000 THEN
RETURN False;
ELSE
RETURN TRUE;
ENDIF
```

The following table lists and describes available keywords.

Code	Keyword	Description
ar_id	Account Receivable ID	Unique identification number of the current <i>Account Receivable</i> record
key_counter	Activity ID	Identification number of the current <i>Activity</i> record
ac_id	Aircraft ID	Unique identification number of the current <i>Aircraft Excise Tax</i> record
br_id	Bankruptcy ID	Identification number of the current <i>Bankruptcy</i> record
bt_id	Boat ID	Unique identification number of the current <i>Boat Excise Tax</i> record
bldg_id	Building ID	Identification number of the current <i>Building</i>
bldg_seq	Building Sequence	Sequence number of the current <i>Building</i>
cc_id	Cash Collection ID	Identification number of the current <i>Cash Collection</i> record
co_id	Complaint ID	Identification number of the current <i>Complaint</i> record
*date	Current Date	The <i>Current Date</i>
dept	Department	The <i>Department</i> code
frozen_id	Frozen ID	Identification number of the current <i>Frozen</i> record
haz_id	Hazard ID	Identification number of the current <i>Hazard</i> record

Code	Keyword	Description
h_id	Hearing ID	Identification number of the current <i>Hearing</i> record
in_id	Inspection ID	Identification number of the current <i>Inspection</i> record
land_id	Land ID	Unique identification number of the current <i>Land</i>
mb_id	Misc. Billing ID	Identification number of the current <i>Miscellaneous Billing</i> account
misc_id	Miscellaneous ID	Identification number of the current <i>Miscellaneous Billing</i> account
mv_id	Motor Vehicule ID	Identification number of the current Motor Vehicle Account
na_id	Name ID	Unique identification number of the current Name
of_id	Offence ID	Unique identification number of the current <i>Offense</i> record
p_id	Parcel ID	Unique identification number of the current parcel
pm_id	Permit ID	Unique identification number of the current <i>Building Permit, Electrical Permit, General Permit, Plumbing Permit, Permit to Name, Animal License, Business License, License to Name, Approval, Bond, Decision, Prosecution or Appeal</i> record
pp_id	Personal Property ID	Identification number of the current <i>Personal Property</i> account
pp_det_id	PP Detail ID	Unique identification number of the current <i>Personal Property Item</i>
folio_id	Project Folio ID	Identification number of the current <i>Project Folio</i>
prj_id	Project ID	Identification number of the current <i>Project</i> record
tax_id	Real Estate ID	Identification number of the current <i>Real Estate Tax</i> record

Code	Keyword	Description
sale_id	Sale ID	Identification number of the current <i>Sale</i> record
st_acct_id	Self Reported Tax Acct ID	Identification number of the current <i>Self Reported Tax Account</i> record
st_id	Self Reported Tax ID	Identification number of the current <i>Self Reported Tax</i> record
si_id	Site ID	Identification number of the current <i>Site</i>
sa_id	Special Assessment ID	Identification number of the current <i>Special Assessment</i> record
tax_map	Tax Map Number	Tax Map Number of the current record
usr_id	User ID	Unique identification number of the current user
ub_id	Utility Billing ID	Unique identification number of the current <i>Utility Billing</i> account
year_id	Year ID	Year identification of the current record
	~textbox value~	Validation of the user input for a field on a function
	~textbox valuen~	Numeric text box value
	~textbox valuec~	Alphabetic text box value
	~textbox valued~	Date type text box value

**Note:** To validate data entry in a Logical Expression, you can use the keyword ~text box value~

For example,  
 IF ~textbox value~ > 100000 THEN  
 RETURN False;  
 ELSE  
 RETURN TRUE;  
 ENDIF



**Tables:** To include a database field in a logical expression, you need to select the table first, from the **Tables** drop-down list.

**Add Query:** You can include either *Action Queries*, i.e., queries that perform some action, such as updating records in one or more tables, adding records to a table or deleting records from a table, or *Selection queries*; i.e., used to retrieve data from one or more fields, in a logical expression.

For example, in the following logical expression:

```
IF {APP_VALUE} > 0 THEN
  RETURN |APP_VALUE|;
ELSE
  RETURN 0;
ENDIF
```

The *Appraised Value* of the current record is retrieved, through the {APP\_VALUE} Selection query, and if the value is positive it is returned by the logical expression.

The queries need to be defined through the *User-Defined Queries Setup* form. To include a query, select it from the list. The query name is displayed in the **Logical Expression Block** edit box between braces, { }. For example, {AG\_VALUE}.

To create a new query, click "...". This opens the *SQL Definition Setup* form. See *SQL Query Editor* on page 229 for more information.

The following conditions apply:

- Only **Select Queries** can be used with the **IF** statement.
- Only **Action Queries** can be used with the **ACTION** statement.

**Fields:** After selecting the table, select the field from the **Fields** drop-down list. The value of this field for the current record is included in the logical expression. These selected table and field are displayed in uppercase, between square brackets; for example [AC\_EXEMPTIONS.FROZEN\_ID].

```
IF [PC_PARCEL.P_ID] > 0 THEN
  RETURN [PC_PARCEL.P_ID];
ELSE
  RETURN 0;
ENDIF
```

**Add Constants:** Select a constant from the drop-down list, to include it in the formula or click “...” to open the *Constant Value Editor* and create a new constant. Constants are displayed between ampersands (& &). See *Constant Value Editor on page 146* for more information.

```
IF &TAX_RATE& > 0 THEN
    RETURN &TAX_RATE&;
ELSE
    RETURN 0;
ENDIF
```

**Message:** Enter a message to be displayed if the validation fails.

**Dates, Numeric Values and Strings:** You can also include dates, numeric values and strings, as follows:

- Dates are displayed between crosshatches: IF A = #2004111# THEN
- Numeric values are displayed: IF A = 999 THEN
- Strings are displayed between single quotation marks: IF A = 'text' THEN

## Using a Temporary Field

You can include a temporary field in a logical expression. This field can hold any value, such as one generated from a query, database field or user input.

To include a temporary field, add the following to the beginning of the logical expression:

```
SET ?TMP1? = <value>, where <value> is the value you are using
```

To include multiple temporary fields, enter each value separately:

```
SET ?TMP1? = <value1>
SET ?TMP2? = <value2>
where <value1> and <value2> represent the values you enter
```

In an example we see that within our IF/ELSE block, we have the following:

For example, the following logical expression is based on a keyword and database field:

```
IF (~year id~ - [MA_BUILDINGS.YEAR_BUILT]) <= 10 THEN  
    RETURN 6;  
ELSEIF (~year id~ - [MA_BUILDINGS.YEAR_BUILT]) <= 20 THEN  
    RETURN 5;  
ELSEIF (~year id~ - [MA_BUILDINGS.YEAR_BUILT]) <= 30 THEN  
    RETURN 4;  
ELSE  
    RETURN 3;  
ENDIF
```

When written as above, the statement line is executed repeatedly. Should the **IF** statement contain one or more queries system performance could be severely impacted.

The above logical expression can be written using temporary fields, as follows:

```
SET ?TMP1? = ~year id~  
SET ?TMP2? = [MA_BUILDINGS.YEAR_BUILT]  
IF (TMP1 - TMP2) <= 10 THEN  
    RETURN 6;  
ELSEIF (TMP1 - TMP2) <= 20 THEN  
    RETURN 5;  
ELSEIF (TMP1 - TMP2) <= 30 THEN  
    RETURN 4;  
ELSE  
    RETURN 3;  
ENDIF
```

# Best Practices for Logical Expressions

## Logical Expression Structures

For our example we would like to execute a logical expression with the following structure...

```
IF |FORMULA| > {Query} THEN
    RETURN |FORM2|;
ELSEIF |FORMULA| < {Query} THEN
    RETURN |FORM2|;
ELSEIF |FORMULA| = {Query} THEN
    RETURN = 3;
```

Best Practices dictates that the above structure be rewritten as follows:

```
SET ?Formula_Result? = |FORMULA|;
SET ?Query_Result? = {Query};
IF ?Formula_Result? > ?Query_Result? THEN
    RETURN |FORM2|;
ELSEIF ?Formula_Result? < ?Query_Result? THEN
    RETURN |FORM2|;
ELSEIF ?Formula_Result? = ?Query_Result? THEN
    RETURN = 3;
```

When the logical expression is written using temporary fields as above, the initial results are “cached”, as a result the same query and results are not run repeatedly in each statement line. As a result of this method, system performance is not impacted.

## Improve Performance by Improving Design

When a Logical Expression is not written to run efficiently, the design of the expression could potentially impact the performance of the *Govern* application.

### EXAMPLE:

```
IF ({BA1} = -1) AND ({BA2} = -1) AND ({BA8240} = 0) THEN RETURN
|PBR1|;
ELSEIF ({BA1} = -1)
    AND ({BA2} = -1)
```

```
        AND ( {BA8240} > 0 )
        THEN RETURN |BA_PARK| ;
    ELSEIF ( {BA1} = -1 )
        AND ( {BA2} > -1 )
        AND ( {BA8240} > 0 )
        THEN RETURN |BA_PRK_OV| ;
    ELSEIF ( {BA1} = -1 )
        AND ( {BA2} > -1 )
        THEN RETURN |PBR2| ;
    ELSEIF ( {BA2} = -1 )
        AND ( {BA1} > -1 )
        THEN RETURN |PBR3| ;
    ELSEIF ( {BA2} > -1 )
        AND ( {BA1} > -1 )
        THEN RETURN |PBR4| ;
ENDIF
```

In the above example, although the logical expression is valid and will run, as a result of the design, the **{BA1}** and **{BA2}** queries are run six (6) times, and the **{BA8240}** query three (3) times. Each time a query is run, system resources are required, this potentially impacts system performance. To prevent this situation from occurring, instead of calling the queries directly, **Variables** can be declared to hold the result of the queries.

## Using Variables when constructing Logical Expressions

The above example can be rewritten is as follows:

### EXAMPLE:

```
SET ?V_BA1?={BA1};
SET ?V_BA2?={BA2};
SET ?V_BA8240?={BA8240};
IF (?V_BA1? = -1) AND (?V_BA2? = -1) AND (?V_BA8240? = 0)
THEN RETURN |PBR1| ;
    ELSEIF (?V_BA1? = -1)
        AND (?V_BA2? = -1)
        AND (?V_BA8240? > 0)
    THEN RETURN |BA_PARK| ;
    ELSEIF (?V_BA1? = -1)
        AND (?V_BA2? > -1)
        AND (?V_BA8240? > 0)
    THEN RETURN |BA_PRK_OV| ;
    ELSEIF (?V_BA1? = -1)
```

```

        AND (?V_BA2? > -1)
        THEN RETURN |PBR2| ;
    ELSEIF (?V_BA2? = -1)
        AND (?V_BA1? > -1)
        THEN RETURN |PBR3| ;
    ELSEIF (?V_BA2? > -1)
        AND (?V_BA1? > -1)
        THEN RETURN |PBR4| ;
    ENDIF

```

In the above optimized version of the original example, using the **SET** statement the results of the three (3) queries were declared as variables called **?V\_BA1?**, **?V\_BA2?**, and **?V\_BA8240?**. The queries would be run once, the results would then be cached in memory and reused. An advantage here is that should the value be changed in the system by another user the result of our code fragment would not be impacted as we are still using the cached result.

**Note:** In release 5.1 of the Logical Expression editor in GNA, when a **variable** is used multiple times in a **query**, **formula**, or **data field**, the system will display a warning.

## Executing Formulas and Logical Expressions

**Note:** When executing formulas and logical expressions that include keywords or database columns, ensure that all database columns have been mapped to an attribute.

Alternatively, you can add a *Selection Query* to the formula or logical expression, in order to retrieve values from database fields. See *Selection Queries on page 235*.

## Resource File Editor

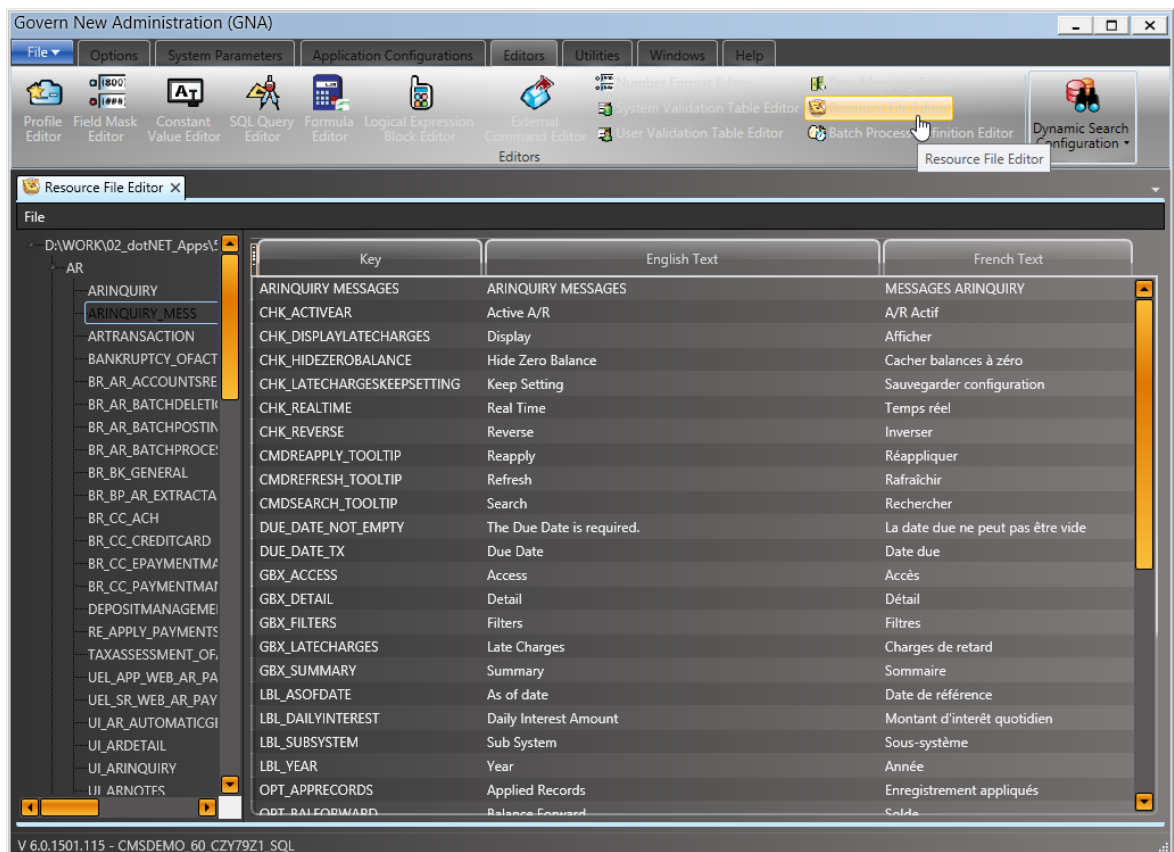
### Overview

Resource files typically contain data that is intended to be deployed with applications. This data can be in the form of text strings, and occasionally images. The *Resource File* also allows the storage of different language versions used for localization of the user interface.

The *Govern.NET Resource Files* contain text, headings, labels, exceptions and error messages that appear in the applications within the suite. Other areas and applications that access resource files are the, *Mobile Inspector*, the *eComponents* Web pages and their respective *Help* files.

To access the *Resource File Editor*, in the *Govern New Administration (GNA)*:

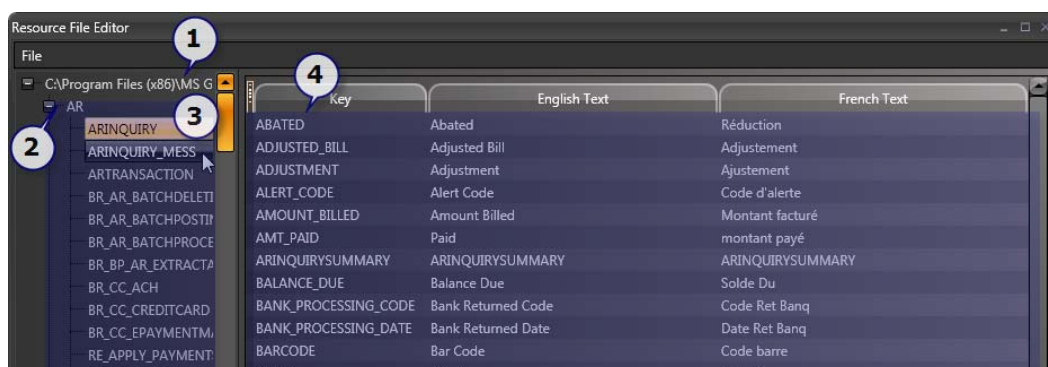
1. Select *Editors (tab) > Resource File Editor...*



## Resource File Structure

The resource file hierarchy is as follows:

(ROOT) Resource File Name (1) > Module (2) > Function (3) > Key (4)



## Resource File Module

The *Resource File Editor* allows you to access and make modifications to the contents of the *Govern Resource File*. In the file each item or **Module** is saved containing one or more **Functions**.

The modules are organized as follows:

**Note:** New modules are indicated with a **NEW!**.

Module	Type of information
AR	Electronic payment transactions
BE	Text and messages for the <i>Business Entity Designer (BED)</i>
BP	Batch Process text and messages.
BR	Bankruptcy messages
BW	Web audit and Web translation error messages
CC	Credit Card Processor error messages
CI	Text for the <i>DeployEZ™ Installer</i>
CO	eComponent error messages



Module	Type of information
<b>CR</b>	Cadastral Renewal text
<b>CX</b>	Text and messages for the <i>Govern Security Manager (GSM)</i>
<b>DE</b>	Property Control messages and text
<b>ES</b>	Text and messages for the <i>Dynamic Search</i> pane in <i>Govern.NET</i>
<b>GI</b>	Text and messages for the embedded Search pane in <i>Govern.NET</i>
<b>GL</b>	Text and messages for <i>Govern FMS</i> module
<b>IN</b>	Inspection business rules
<b>MA</b>	Text and messages for the <i>Govern.NET Mass Appraisal</i> module.
<b>MB</b>	Text and messages for the <i>Govern.NET Miscellaneous Billing</i> module.
<b>MD</b>	Text and error messages for the <i>Govern Model Designer (MoD)</i> .
<b>ME</b>	MelissaData business rules
<b>MO</b>	Inspection Scheduling messages
<b>NA</b>	Business rules for Name and Address records
<b>OD</b>	OpenForms Designer
<b>OF</b>	Text and messages for <i>OpenForms</i> .
<b>PC</b>	Business rules for Property Control records
<b>PM</b>	ePermit business rules
<b>QT</b>	Text and messages for <i>Govern QueryTool</i>
<b>RB</b>	Text and messages for the <i>Govern.NET</i> ribbon menu interface.
<b>SB</b>	Subscription Plan business rules and renewal notices
<b>SC</b>	Data Synchronization process text and error messages.
<b>SF</b>	Authentication messages
<b>SL</b>	GIS Application text and messages
<b>SM</b>	Text and messages for the <i>Govern Security Manager</i> . module.
<b>ST</b>	Messages and labels for the <i>Govern.NET Self-Reported Tax</i> module.

Module	Type of information
<b>SY</b>	System wide messages and error messages
<b>TE</b>	Test translation text
<b>TX</b>	Tax business rules
<b>UB</b>	Business Rules for the Utility Billing searches
<b>UL</b>	UEL Table related text (Quebec)
<b>US</b>	<b>NEW!</b> Entries for the Govern User Registry
<b>WB</b>	Text and error messages for the Web pages
<b>WD</b>	Text and error messages for the <i>Govern New Administration (GNA)</i> and <i>DeployEZ™ Publisher</i>
<b>WF</b>	Business rules for the Permit Activities
<b>WP</b>	Web Profile business rules
<b>WZ</b>	Text and messages for the Data Access Block and Web Configuration

## Resource File Function

*Records* are resource files that are organized by module. For example, text that might be related to payments might appear under **AR** (*Accounts Receivable*) and permit text under **PM** (*Property Management*). The modules are further subdivided according to the type of information they may contain.

## Resource File Keys

Each separate *Record*, may contain multiple **Key**'s. Each key will contain three (3) columns titled, **Key** (this is the key name), **English** (or your first language), and **French** (a second language). Each of these fields is a text field. Typically, keys are grouped by **Function** and **Module**.

The **Key** is a unique identifier for the text within the function, and should not be modified. You can, however, modify any of the **French** or **English** text, in

order to create customized Web pages. For example, you can change labels, headings and error messages to match your organization's Web site.

**WARNING:**

It is critical that the **name** of a **Key** should **never** be modified. Modifying the name of a key can potentially disable the correct functioning of a module.

## Modifying Text in the Resource File Editor

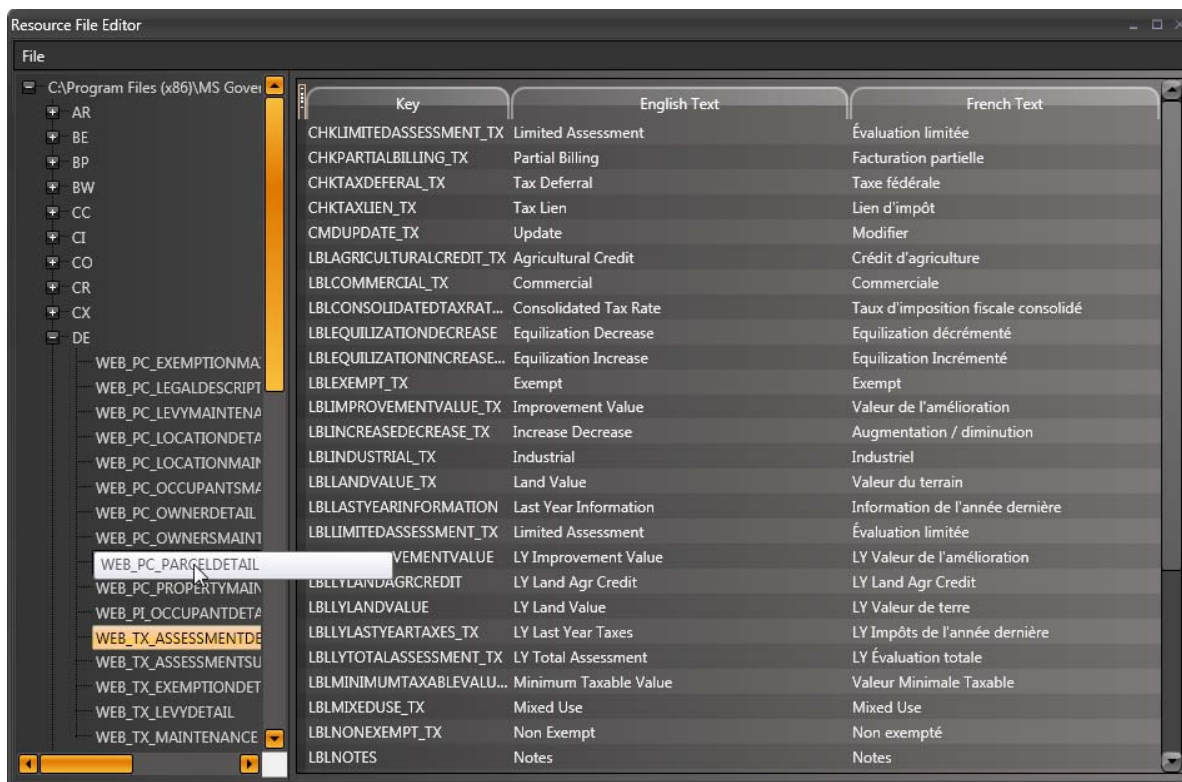
Use the following procedure to modify any of the text that is saved to the *Resource File Editor*. This includes all the labels, headings, exceptions and error messages that appear on a *Mobile Inspector*, *eProfile* and *eComponent* Web pages.

**Note:** An ampersand (&) before a word or letter displays an underline; for example, **&File**, **E&xit**, **&Help** appears as **File**, **Exit** and **Help**. The F, x and H in this example are hotkeys; i.e., **Alt + F** displays the File menu, **Alt + H** displays the Help menu and **Alt + F, X** closes the application.

To display an ampersand on the Web, you need to enter two ampersands (&&) in the Resource files; for example to display Cat & Dog Licenses, enter **Cat && Dog Licenses**.

To modify the text:

1. In the *Govern New Administration (GNA)*, select *Editor (tab)* > **Resource File Editor...**
2. Select *File* > **Open (Ctrl + O)**
3. Navigate to the directory where `GovernNet.en.resources` and `GovernNet.fr.resources` are located. By default, these files are located in a folder called **ResourceFiles**. This folder is created in the root of the *MS Govern* installation; the folder is called **ResourceFiles**.
4. Select and open one of these files. Both files will open in the *Editor*.

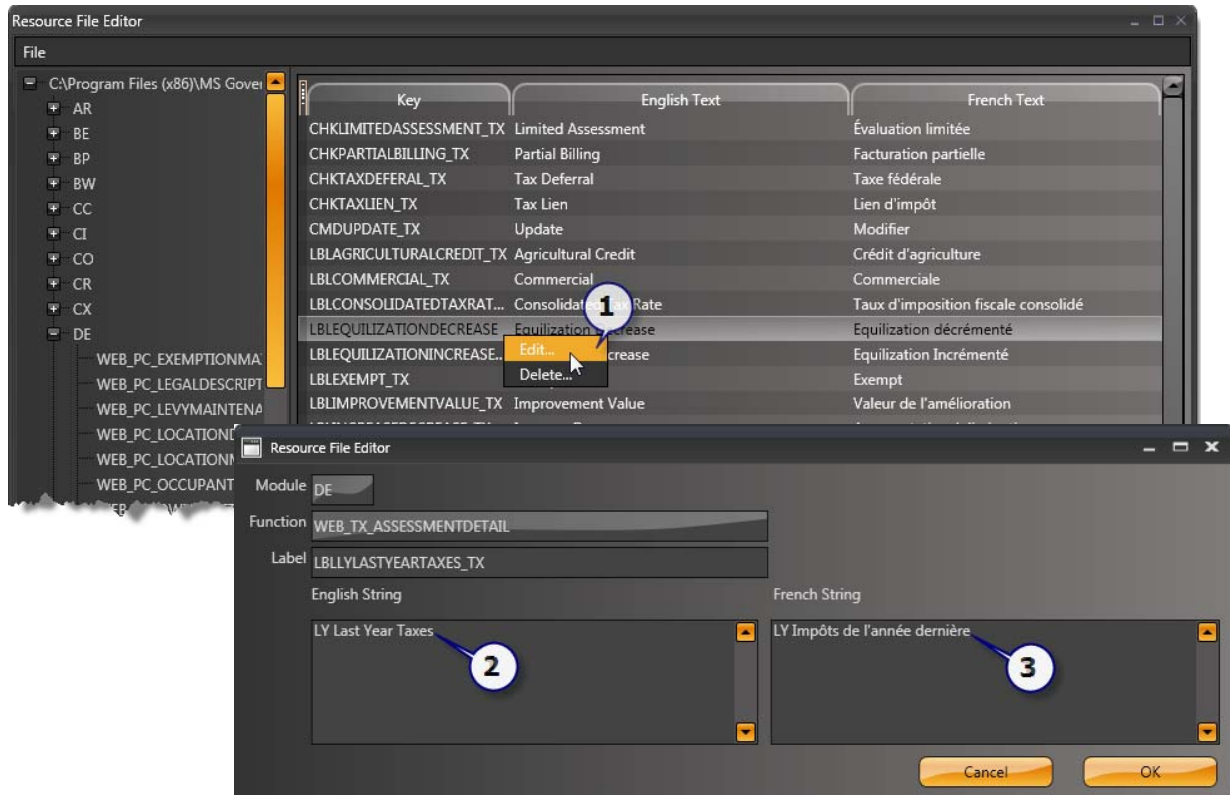


- Click **File > Find** on the *.NET Resource Editor* main menu bar or click **Ctrl + F** on your keyboard, to locate the text you want to modify.



- Enter the text string that you want to locate in the **Find** textbox.
- Check **Exact Match** if you want to locate the whole word or phrase exactly as entered.
- Click **Find** to locate the text or click **Cancel** to close the *Find* form without any further actions.

9. If the text was found, right-click on the text string to display a floating menu; select **Edit...** (1) to open the *Resource Files Text Editor*.



10. Make your modifications directly in the **English String** (2) and **French String** (3) text boxes, as required.

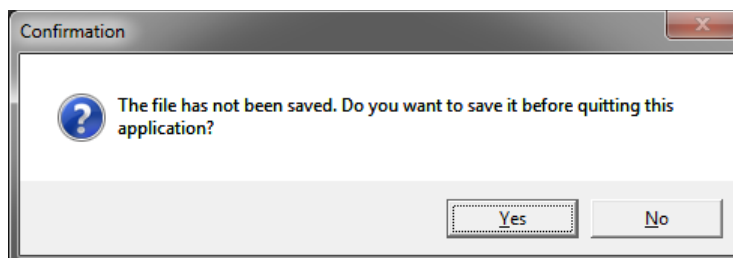
**Note:** You should not modify the *Label* or *Key*, *Function*, or the *Module*.

11. Click **OK**.

**Note:** When you click **OK**, this closes the text box. You need to save the file in order to save your changes.

12. Click *File* > **Find Next**, on the *.NET Resource Editor*, or **F3** on your keyboard, to locate the same text in another file, if required.
13. Click *File* > **Save**, or **Ctrl + S**, when you have completed your modifications. Both the French and the English files are saved.
14. Click *File* > **Close the file**. A confirmation message appears if there are any unsaved modifications. You need to save the file in order to save your modifications.

Similarly, when you click **Exit**, a confirmation message appears if there are any unsaved modifications.



## Upgrading Resource Files

**Note:** The *Resource File Merge* feature is required for upgrades only.

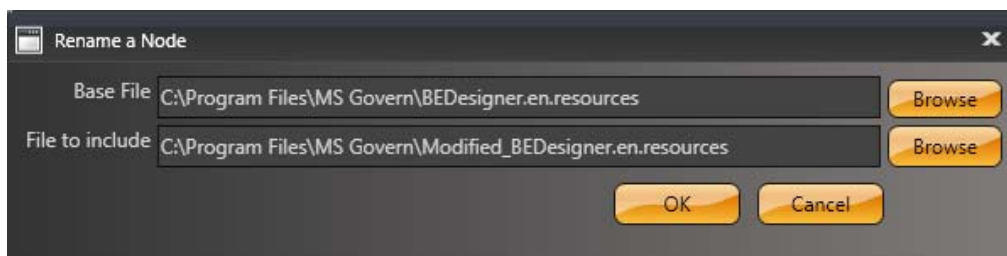
### Merging Resource Files

Performing an upgrade to the next version of one of MS Govern's *eGovern – Public Self Service Portal* can lead to loss of modifications made to the resource file. In order to avoid losing these modifications, you will need to run the *Resource Files Merge* process.

In running the resource file merge process, new *Keys*, containing the new text and features, are added to your existing file while existing keys are left untouched.

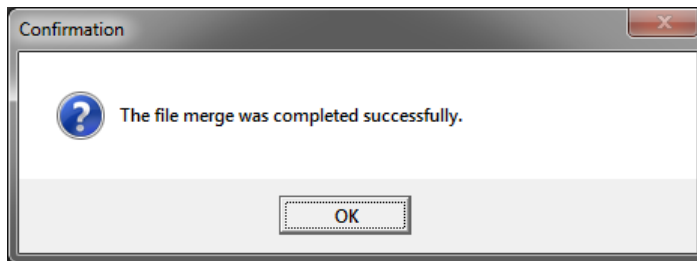
To merge two resource files together:

1. Click **File > Merge** on the *.NET Resource Editor* main menu bar, or click **Alt + F, M**, to open the Merging Resource Files process.



2. Click **Browse** beside the **Base File** parameter and navigate to the new file that you want to merge with your existing file.
3. Click **Browse** beside the **File to include** text box and navigate to your existing file.

4. Click **OK**. All the new keys will be added to your existing file. All existing text is left as is. If the merge was successful a confirmation window will appear; click **OK**.



Click **Cancel** to close the form without merging the files.

## Resource File Locking and IIS

**Note:** Users of Govern's eGov should note that when the *Internet Information Services (IIS)* is running, resource files cannot be maintained by the *Resource File Editor*. IIS locks the files making it inaccessible. In order to access the resource file, you must stop the IIS service. This can be performed through the Control Panel; *Control Panel > Administrative Tools > Services > Internet Information Services (IIS) Manager*

## Management of User Changes to Resource Files

Internally the *Govern* system uses the following methodology to maintain resource files and manage any user modifications.

### The Methodology

The methodology for updating the resource files located in the ResourceFile folder of the deployment directory is as follows:

When changes are made to the *Resource* file by the user, the modifications are not saved directly into the GovernNet.xx.resources files (xx = 2 letter culture language, e.g. en = English, fr = French, etc.). A new file called GovernNetClient.xx.resources is created that holds all user modifications.

When a new deployment is prepared and is ready for installation a three (3) step process occurs:

1. The old `GovernNet.xx.resources` files on the client are deleted.
2. A new empty file called `GovernNet.xx.resources` is created on the client, and the user changes within the `GovernNetClient.xx.resources` files are appended to these newly created files.
3. Now a second append is performed by combining the new `GovernNet.xx.resources` file located on the server to the one on the client (this is the one with the appended user changes). The resulting resource file is then updated on the server.

This process will ensure that all client changes are kept when the resource file is updated, in addition the server will always maintain a version of the resource file with all user changes.

**Note:** User modifications to resource files should be made to the `GovernNet.xx.resources` file. The system will internally manage the changes. Users should **NOT** modify the `GovernNetClient.xx.resources` file.

**Note:** Users of the *eGovern - Public Self Service Portal* should note that the resource files containing the content of the eGovern menu Help text, i.e. **GovernNetHelp.en.resources** and **GovernNetHelp.fr.resources** are separate from the main system resource files. These files are also maintained with the *GNA Resource File Editor*, but should be backed up in a separate location.



# Search Configuration

## Overview

Govern's *Search Configuration (A)* tools allow you to design and configure your own search forms in *Govern.NET* and for the *Govern eProfiles* and *eComponents*.

There are three (3) *Search Configuration* tools; each one corresponding to the steps of the configuration. The process is as follows:

1. Create the parameter or search object, using the *Search Object Management* tool. See *Dynamic Search Objects Management* on page 202.
2. Create a style combining search objects, using the *Search Style Management* tool. See *Dynamic Search Style Management* on page 210.
3. Create a style group, using the *Search Group Management* tool. See *Dynamic Search Group Management* on page 226.

**Tip:** You can keep all three tools open on your desktop and arrange them to optimize your available space. Windows can be cascaded, or tiled horizontally or vertically by selecting any of the options under the *Windows* menu in the *Govern System Config & Admin* application.

Once you have created your search styles and style groups, you can link them to the eProfile, ePayment or ePermit by adding them through a web site form under the *Menu Setup* form in *Govern New Administration (GNA)*.

## Accessing Dynamic Search Configuration Tools

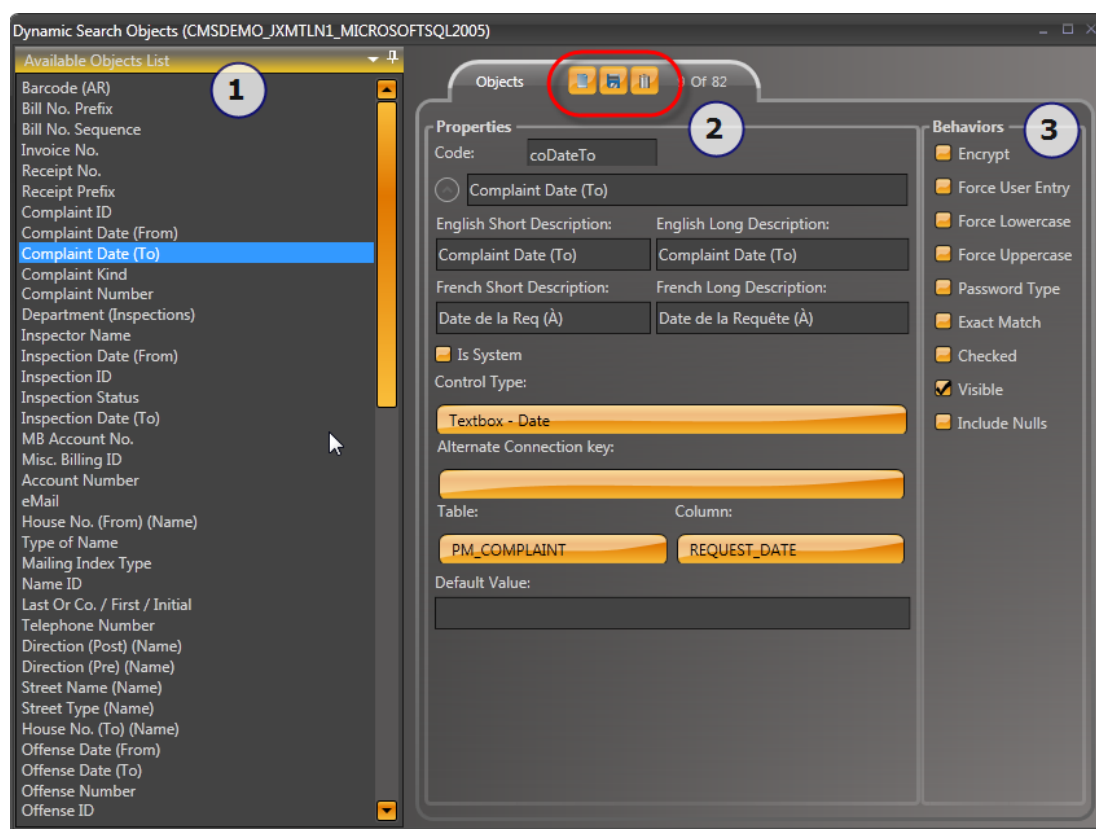
To access the *Dynamic Search Configuration* tools in GNA:

1. Click *Editors (tab)* > *Dynamic Search Configuration* > **Dynamic Search Objects**.

## Dynamic Search Objects Management

All items that appear on the *Search* pages, including the search criteria and the labels are referred to as *Objects*. To display the objects on a *Search* page, you need to link them to a *Search Style*.

Through the *Dynamic Search Object* Editor, you can create the **Search Objects** and assign properties and behaviors to them.



The *Search Objects Management* tool has three sections (1), (2), (3):

**Available Objects:** **Available Objects** list box displays the existing search parameters or *Objects*. Once a *Search Style* is applied, the objects can be added to the *Search* page and used as search criteria.

**Properties:** The **Properties** section displays the attributes of the selected object. Use the Properties section to create a new object or to modify or delete the attributes of an existing object.

**Behaviors:** Behaviors define how the data appears on the Web, and how they are stored in the database.


## Creating an Object

An object is a parameter that can be used as a condition for a search. Alternatively a series of different objects can be collected together as a group. For example, objects such as *House No.(From) (Location)* and *House No. (To) (Location)* can be used as part of a group that allows the user to enter an address range in a search for parcels.

To create an object:

1. In *GNA*, select *Editors (tab) > Dynamic Search Configuration > Dynamic Search Objects...*
2. When the *Search Management Objects* form appears, click **Clear All Entries** to reset the **Properties** and **Behaviors** parameters.
3. In the **Code** field, enter a string to identify the object in the database; use a maximum of 15 characters.
4. In the **English Short Description** field (or the Short Description field for your first language), enter a description using a maximum of 25 characters.
5. For the **English Long Description** field, enter a description up to a maximum of 50 characters.
6. Repeat steps 4 and 5 for the second language parameters.
7. In the **Table** and **Column** drop-down menus, select the *Govern* database table and column, that will be used for the search.
8. From the **Control Type** drop-down menu, select one of the following:

## Selecting a Control Type

Control Type	Description
<b>Check Box</b>	 Select this control type to display a check box to the user.  <b>Note:</b> When you select the <b>Check Box</b> control type, you need to consider the <b>Checked</b> option, under <b>Behaviors</b> . Select <b>Checked</b> if the object is to be selected (✓) by default.
<b>Combo Box</b>	There are three options for the combo box:  <b>User Query:</b> Select this option to display items from a customized query. Then enter the query in the <b>Query</b> text box.  <b>System Table:</b> Select this option to display items from a system table.  <b>User Table:</b> Select this option to display items from a user table.
<b>Label</b>	Select this type to display the object as a label or heading.
<b>Text Memo</b>	Select this type to display a Memo field, for notes and comments. This type can accept an unlimited number of characters.
<b>Textbox</b>	There are nine textbox types. Select one of the following options to define the type of entry to accept.  <b>Alphanumeric:</b> Select <b>Alphanumeric</b> to accept all alphanumeric characters.

Control Type	Description
Textbox	<p><b>Currency:</b> Select <b>Currency</b> to accept numeric characters, decimals, commas, spaces and currency symbols, such as the dollar sign (\$). Entries are formatted according to the currency standards of the cultures entered on the <b>Web Configuration</b> tab of the <b>Data Access Block</b>.</p> <p>For example, if <b>en-ca</b> and <b>fr-ca</b> are entered, <b>\$50.00</b> or <b>50,00 \$</b> are accepted.</p> <p><b>Date:</b> Select <b>Date</b> to accept alphanumeric and special characters. The date is formatted according to the setting selected on the Update Retry.</p> <p><b>Date / Time:</b> Select Date / Time to accept alphanumeric and special characters. This is formatted according to the server.</p> <p><b>Numeric with Decimal:</b> Select <b>Numeric with Decimal</b> to accept numeric characters and decimals only. No letters or special characters will be accepted.</p> <p><b>Numeric without Decimal:</b> Select <b>Numeric without Decimal</b> to accept numeric characters only. No decimals letters or special characters will be accepted.</p> <p><b>Pattern:</b> Select <b>Pattern</b> to apply a field mask or pattern to the data entry. The field mask automatically formats the data entered in the field according to a set pattern. For example, you can define a pattern for phone numbers and apply it to the <b>Telephone</b> fields. If the user enters 18005618168, this is automatically formatted as 1-800-561-8168.</p> <p>When you select Pattern, the <b>Pattern Name</b> and <b>Custom Pattern</b> fields appear. You can select a pattern previously saved to the Govern database or create a new one.</p> <p><b>Tax Map Number:</b> Select <b>Tax Map Number</b> to apply the mask or pattern, saved in the Govern database, to the user entry tax map number.</p> <p><b>Time:</b> <b>Date / Time:</b> Select <b>Time</b> to accept alphanumeric and special characters. This is formatted according to the server.</p>

9. Select all behaviors that apply to the object.

Behavior	Description
<b>Encrypt</b>	Select <b>Encrypt</b> to encrypt the data in the database.
<b>Force Uppercase</b>	Select <b>Force Uppercase</b> to save and display the user entry in uppercase.
<b>Mask Entry with (**)</b>	Select this behavior to mask the user entry with asterisks, as with password entries.
<b>Perfect Match</b>	Select <b>Perfect Match</b> to accept a full and exact match only. For example, to retrieve an account, the user must enter the full account number. A partial number is ignored.
<b>Checked</b>	<p>The <b>Checked</b> behavior applies only to the <b>Check Box</b> control type.</p> <p>Select this option to display a checked box, by default.</p> <p>Deselect this option to display an unchecked box, by default.</p>
<b>Visible</b>	<p>This behavior is selected by default, meaning that if the object is added to the Web page, it will be displayed and made visible to the user.</p> <p>Deselect this behavior to make the object invisible to the user.</p>

10. Click **Add** to add the new object to the **Available Objects** list box and to the USR\_WEB\_SEARCH\_OBJ table.

## Create a Parcel ID Object

In the following example we will create a Parcel ID object which, when referenced, will be used for entering parcel ID numbers.

1. In the Search Object Management form, click **Clear All Entries** to start a new entry.
2. Enter **pcParcelIDseg** in the *Code* field.

3. Enter "**Parcel ID Seg**" in the *English Short and Long Description*, repeat the same description, or the following translation, "**ID de la propriete seg**" in the *French Short and Long Description* fields..

**Note:** When a *Short Description* is entered and you click in the *Long Description* field, it is copied into the *Long Description* field.

4. Under *Control Type*, select **Textbox - Numeric without decimals**.
5. Select **PC\_PARCEL** for the table type.
6. The *Column* that will be used is **P\_ID**; there will be no *Default Value*.

*Take note of the code name that the object is given so that you can reference it for other examples.*

## Create a Tax Map Object with Default Values

Certain municipalities may have specific requirements for Tax Map numbers. For example a specific numeric sequence may be required as part of the Tax Map number. To minimize errors during frequent entry, a default sequence may be set with the requisite numbers. In the following example we will create a Tax Map search object that will have default values in the fields.

**Note:** The system will only allow one pattern for the Tax Map Number. The mask for this pattern is defined in the **Global Field Validation Mask Editor**.

In the *Search Objects Management* editor...

1. Click **New**.
2. Enter pcTaxMapSeg in the Code field.
3. Enter English short and long descriptions called Tax Map Number Pre
4. Repeat the short and long descriptions for the French fields
5. Select a *Control Type* of **Textbox - Tax Map Number**.
6. Select **PC\_PARCEL** from the *Table* drop-down menu.
7. Select **TAX\_MAP\_UFMT** from the *Column* drop-down menu

The **Default Value** is where the required sequence is entered. When a Tax Map mask looks like the following: "**##-###-##-##-####**", and it needs to contain a default sequence with the following "**-110-33-**", i.e. all tax maps will

contain these numbers, this sequence can be entered in the *Default Value* field:

**Note:** When entering values into the *Default Value* field, **DO NOT** enter any quotation “ ” marks; only the dash “-” and the numbers are required.

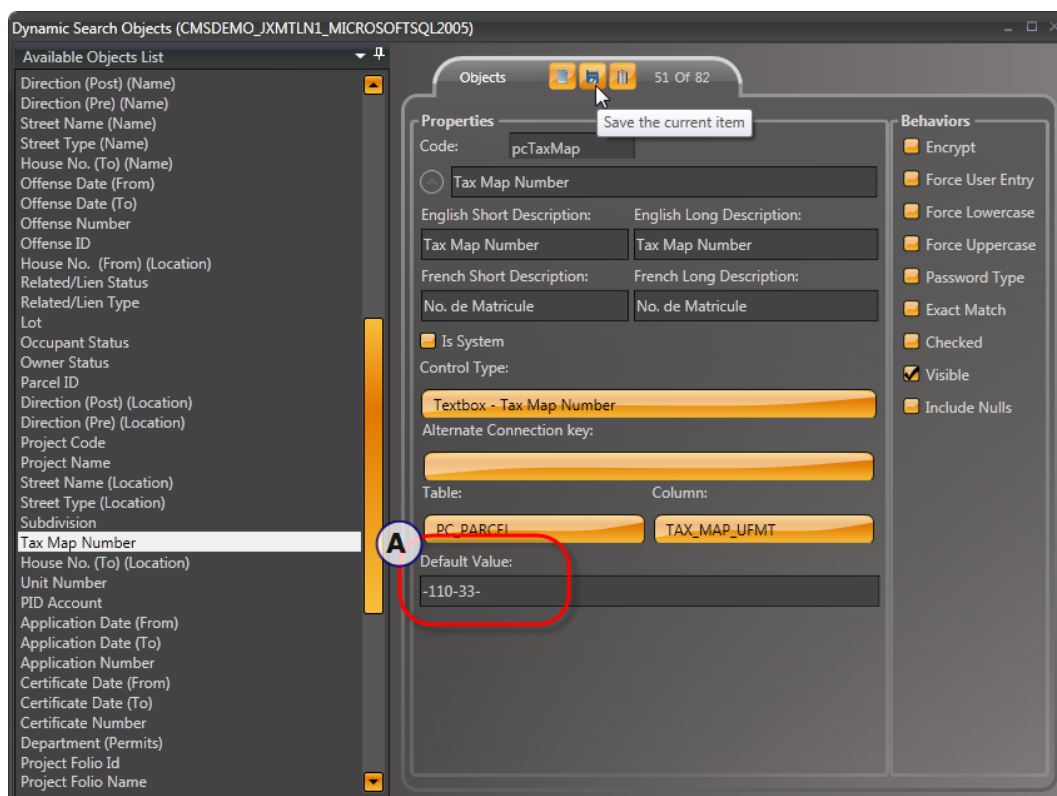
**Enter this sequence: "-110-33-"; without quotation marks.**

Do not use this sequence: "XX-110-33-XX-XXXX"

“X” represents space characters.

**Note:** Space characters in the **Default Value** field are not required and will not work.

8. In the *Default Value* field (A), enter **-110-33-** with no spaces before or after the sequence.
9. Click **Save**, to add the new object to the list.
10. If any additional changes are required, make them, then click **Save** to save the object again.



Dynamic Search Objects (CMSDEMO\_JXMTLN1\_MICROSOFTSQL2005)

Available Objects List

- Direction (Post) (Name)
- Direction (Pre) (Name)
- Street Name (Name)
- Street Type (Name)
- House No. (To) (Name)
- Offense Date (From)
- Offense Date (To)
- Offense Number
- Offense ID
- House No. (From) (Location)
- Related/Lien Status
- Related/Lien Type
- Lot
- Occupant Status
- Owner Status
- Parcel ID
- Direction (Post) (Location)
- Direction (Pre) (Location)
- Project Code
- Project Name
- Street Name (Location)
- Street Type (Location)
- Subdivision
- Tax Map Number**
- House No. (To) (Location)
- Unit Number
- PID Account
- Application Date (From)
- Application Date (To)
- Application Number
- Certificate Date (From)
- Certificate Date (To)
- Certificate Number
- Department (Permits)
- Project Folio Id
- Project Folio Name

Objects 51 Of 82

Properties

Code: pcTaxMap

☐ Tax Map Number

English Short Description: Tax Map Number English Long Description: Tax Map Number

French Short Description: No. de Matricule French Long Description: No. de Matricule

☐ Is System

Control Type:

Textbox - Tax Map Number

Alternate Connection key:

Table: PC\_PARCEL Column: TAX\_MAP\_UFMT

Default Value:

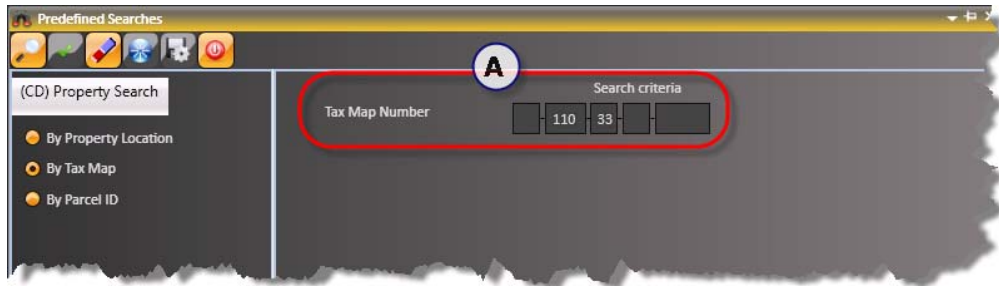
-110-33-

Behaviors

- ☐ Encrypt
- ☐ Force User Entry
- ☐ Force Lowercase
- ☐ Force Uppercase
- ☐ Password Type
- ☐ Exact Match
- ☐ Checked
- ☒ Visible
- ☐ Include Nulls



The resulting object when used in the *Govern* search form will appear with the entered sequence as a default (**A**).



## Modifying an existing Object

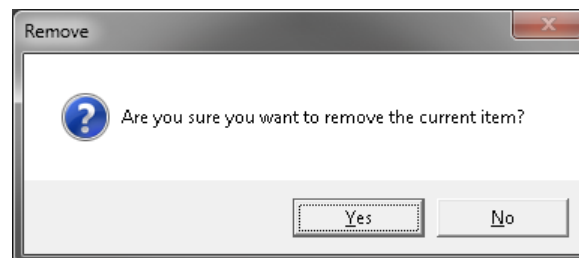
To modify an object:

1. Highlight the object in the **Available Objects** list box.
2. Make any required changes to the parameters on the form.
3. Click **Save**.

## Deleting an Object

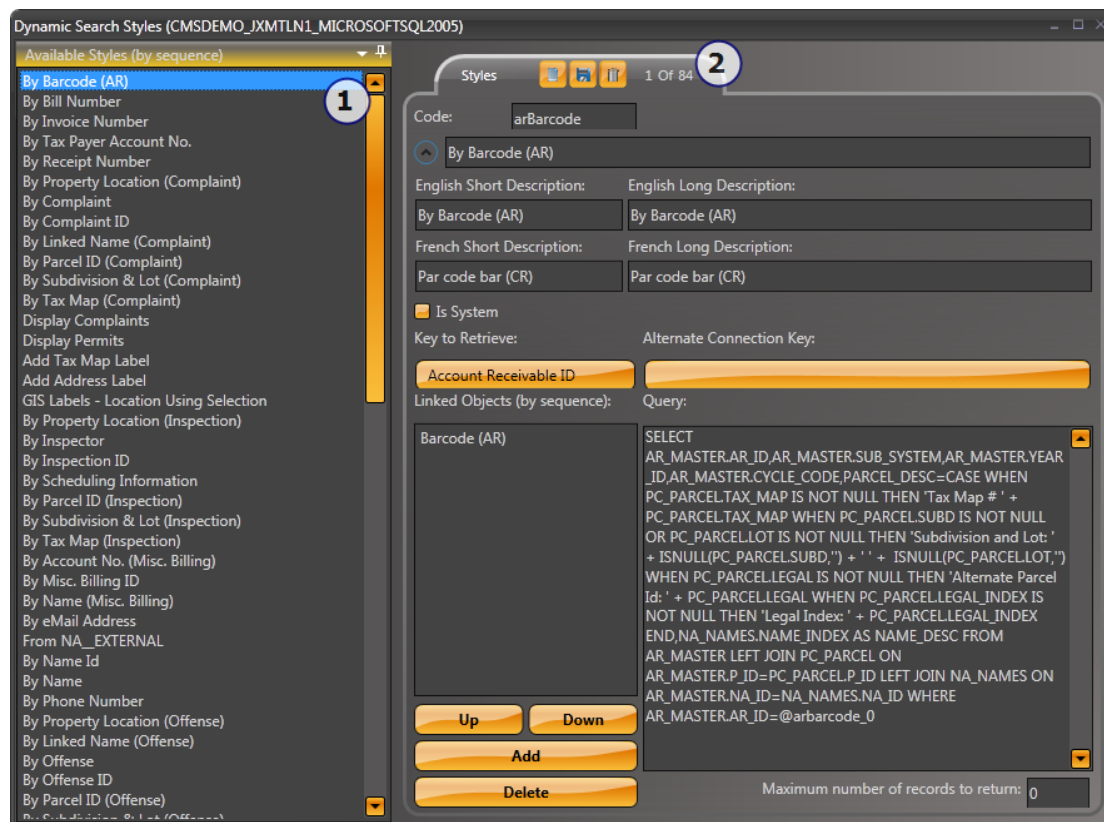
To delete an object:

1. Highlight the object under the **Available Objects** column on the left hand side (LHS).
2. Click **Delete**; a confirmation window will appear.
3. Click **Yes** to delete, or **No** to cancel.



## Dynamic Search Style Management

Use the *Dynamic Search Style* management form to create search styles. A *Search Style* displays the *Objects* that appear on the *Search* page, these include search criteria and labels, and when initiated, launches an SQL query.



The *Dynamic Search Style Management* tool consists of two parts (1), (2):

**Available Styles (by Sequence):** The **Available Styles** list box displays the existing search queries or *Styles*. To view the details on a style, highlight it in the list.

**Styles:** The **Styles** tab displays details on the selected object. Details include a list of the linked objects and the SQL query.

### Linked Objects

The linked objects are listed in the order that they appear on the Web page.

To modify an Object Sequence:

**Linked Objects:** *Linked Objects* appear on the Web page in the order they are listed in the sequence.



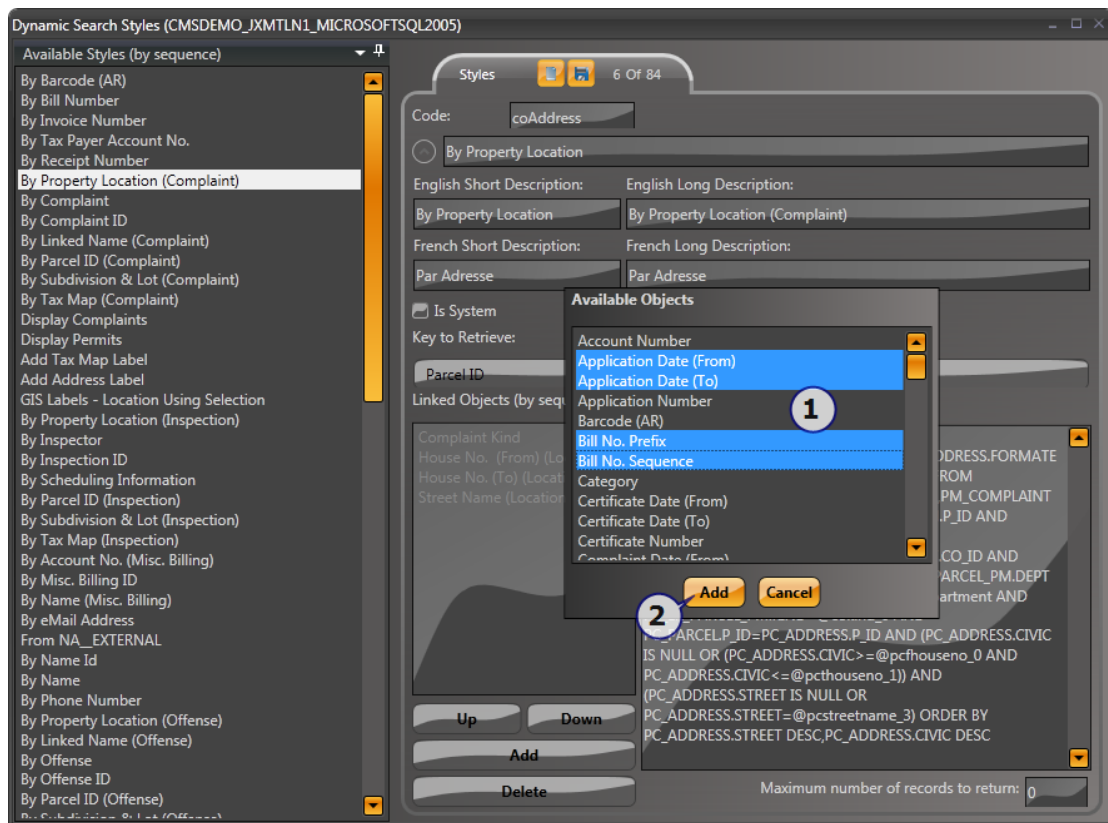
Click **Up** to move the object towards the top of the list; so that it is performed nearer to the beginning of the sequence.



To move the object towards the end of the list, click **Down**. When moved down it is performed closer to the end of the sequence.



Click **Add** to open a secondary form where you can select objects to add to the sequence.






Highlight the object or objects that you want to add (1). Then, click **Add (A)** on the secondary form.



To remove an object from an object sequence, highlight the object, in the **Linked Objects** list box and click **Remove**.

### Creating a Style

To create a new style:

1. Click **New**  to clear the form.
2. In the **Code** field, enter a string, with a maximum of 15 characters, to identify the style in the database.
3. From the **Key to Retrieve** drop-down menu, select the reference ID to retrieve in the search.
4. In the **English Short Description** field (or the Short Description field of your first language), enter a description to a maximum of 25 characters.
5. In the **English Long Description** field, enter a description to a maximum of 50 characters.
6. Repeat steps 4 and 5 for the **French**, **Spanish** (or your second language) fields.
7. Select the objects to link to the style, using the **Add** button.
8. Define the order of the *Object Sequence*, using the **Up** and **Down** buttons.
9. Compose your query in the **Query** edit box, or copy and paste it from another application.
10. Click **Add**, under the **Available Styles** list box to add it to the list.

### Modifying a Style

To modify an existing style:

1. Highlight the style in the **Available Styles** list box.
2. Make your change on the form.
3. Click **Save** to resave the style with the new parameters that have been search.

## Deleting a Style

To delete a style:

1. Highlight the object in the **Available Styles** list box.
2. Click **Delete**.

## Creating a Dynamic Search Style Query

**Note:** A basic understanding of Structured Query Language (**SQL**) queries is a prerequisite for this example.

### Design the Query

In the following example we will create a query that will perform a search by Parcel ID (**P\_ID**). This query will use an object that was created in an earlier example in this document. See *Create a Parcel ID Object on page 206*.

In the database, the table that is being searched is called **PC\_PARCEL**. In addition we will also retrieve information from other columns in that table. The additional information that would be of value would be the *Tax Map Number*, *Subdivision*, the *Effective Year*, and *Inactive Year*.

A basic **SQL** query would consist of three parts, a **SELECT** statement, a **FROM** statement, and a **WHERE** conditional clause.

The following is our example statement...

```
SELECT PC_PARCEL.P_ID, PC_PARCEL.TAX_MAP, PC_PARCEL.SUBD,  
PC_PARCEL.LOT, PC_PARCEL.EFFECTIVE_YEAR,  
PC_PARCEL.INACTIVE_YEAR FROM PC_PARCEL WHERE  
PC_PARCEL.P_ID=pcparcelidseg
```

The **SELECT** statement indicates the columns that are to be displayed in the *Results* pane.

The **FROM** statement will indicate the table that the columns are to be selected from.

The **WHERE** clause is used as a filter for the results, i.e. we say "WHERE" **PC\_PARCEL.P\_ID** is equal "=" to the **pcParcelID2** object.

The **pcParcelID2** object is a search object that was been created in the *Search Objects Management* form. See *Create a Parcel ID Object on page 206*.

### Creating the Query in GNA

To build the Query in *Govern New Administration (GNA)*...

1. In *GNA* select *Setup > Search Configuration > Manage Styles*.
2. To start a new entry, click **Clear All Entries**.
3. In the **Code** field, enter pcParcelID2.

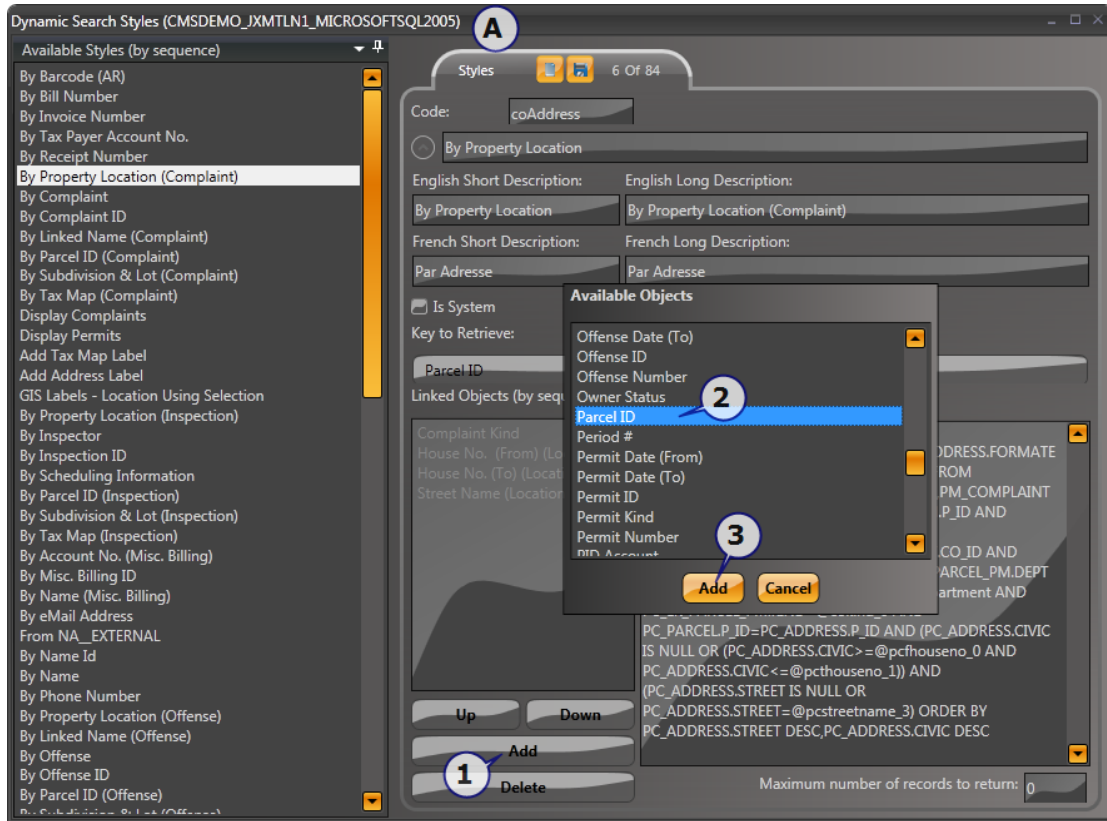
**Note:** Take note of this name as it is the name that will be used to reference the query when you are creating something like a Search group.

4. In the *English Short and Long Description* fields, enter **By Parcel ID2**.
5. Enter **Par ID de la Propriete** in the *French Short and Long Description* fields.

**Note:** This is the approximate translation of the English text that was entered. This entry is not critical as it is simply used by users to identify the type of search, but entries must be made in all fields.

6. In the *Linked Objects (by sequence)* field, click **Add (1)**; this will display an **Available Objects** screen (2).
7. In the *Available Objects* screen, select the parcel ID object that was created in the *Create a Parcel ID Object on page 206*, **Parcel ID Seg**. Click **Add (3)**.

8. You will be returned to the *Search Styles Management* form (A).



At this stage you are ready to enter the query that was designed earlier. If you find the *Query* field space too restrictive when typing, one method you can use is to create the query in a text editor. After typing in the statements, copy and paste it into the *Query* parameter.

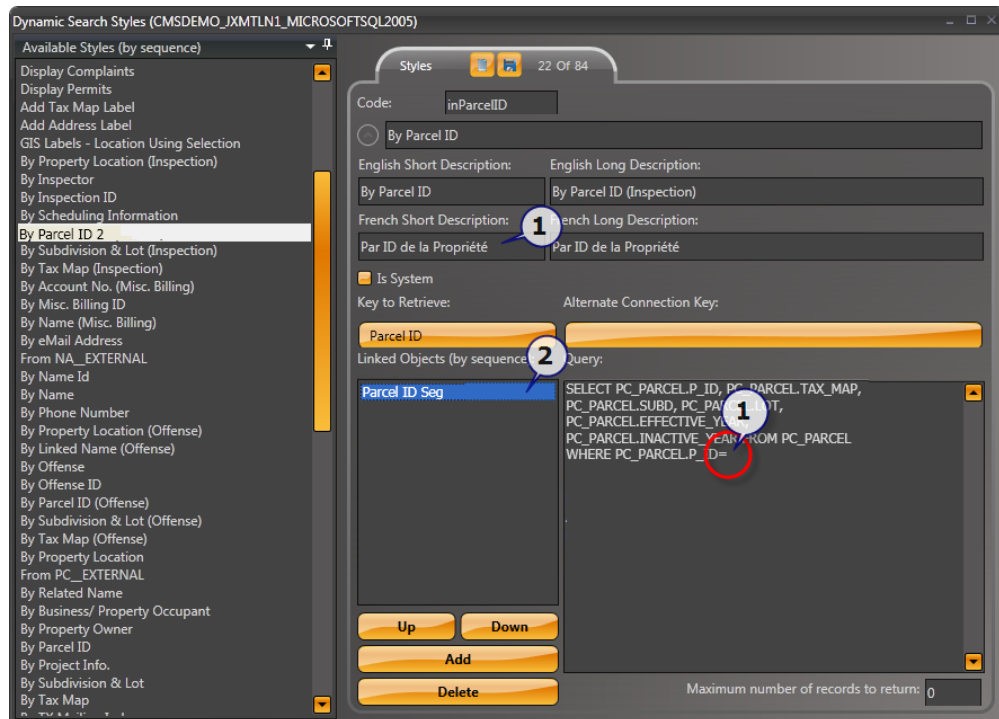
Type in the query as follows:

```
SELECT PC_PARCEL.P_ID, PC_PARCEL.TAX_MAP, PC_PARCEL.SUBD,
PC_PARCEL.LOT, PC_PARCEL.EFFECTIVE_YEAR,
PC_PARCEL.INACTIVE_YEAR FROM PC_PARCEL WHERE
PC_PARCEL.P_ID=
```

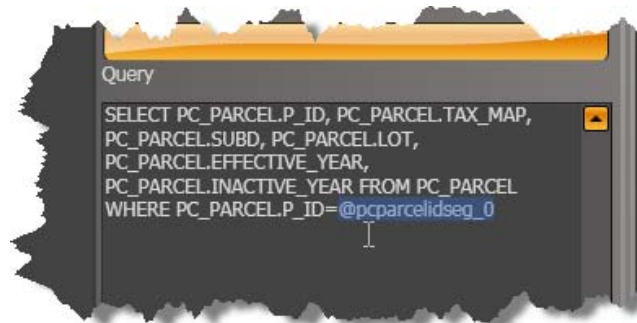
When we compare the above statement to the one that was create earlier, the object called pcParcelID2 has been left out. The reason for this is that when we want to include objects that are in the *Govern* system, the Search Styles Management form can take care of the entry and append any required special characters that the system may require.

To specify the *Parcel ID* object in your query...

9. Place your cursor immediately after the “=” sign (1) in your query statement, under the *Linked Objects (by sequence)* field (2), double-click on the **Parcel ID Seg**.



10. The object name is added to the query; click **Save**.



**Note:** In the above final statement you will note that there is no space before or after the “=” sign. This is one of the syntax rules that should be followed when creating queries.



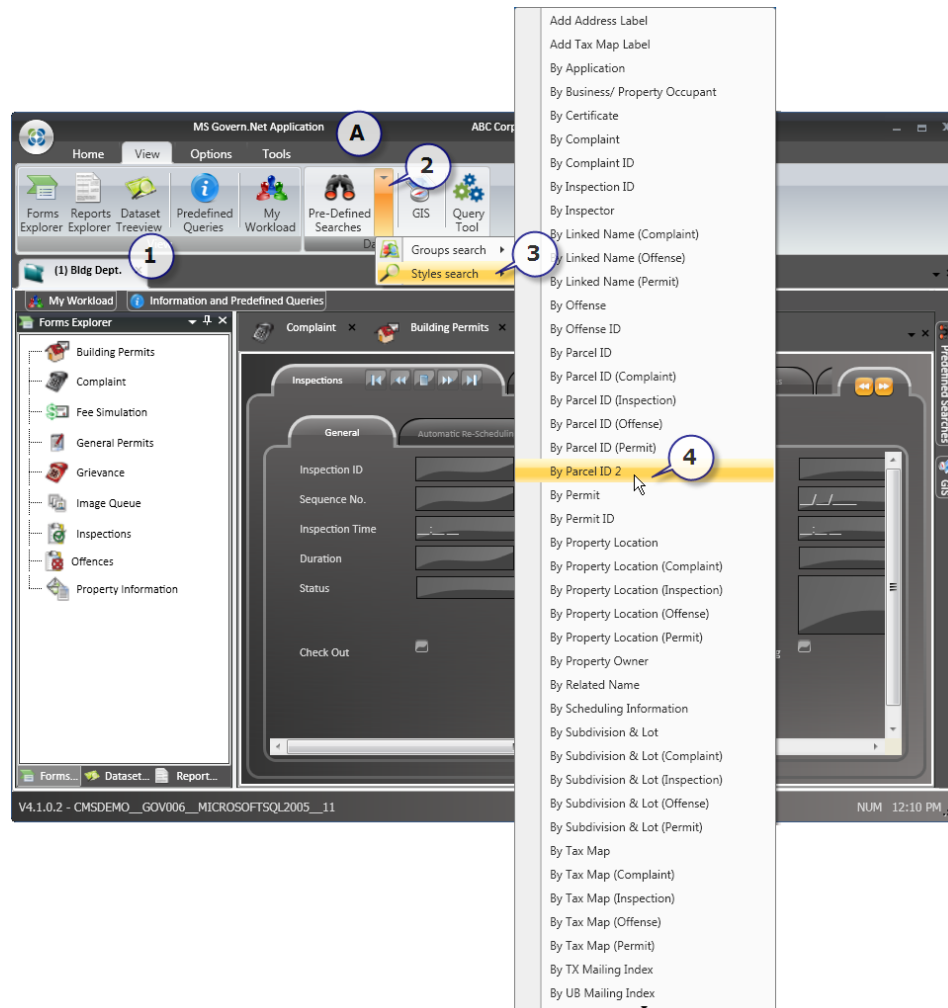
For a list of SQL query rules that should be followed in GNA, see the Appendix, SQL Syntax Rules for GNA on page 378.

## Viewing Results in Govern

When the style has been saved, it can be seen in Govern.

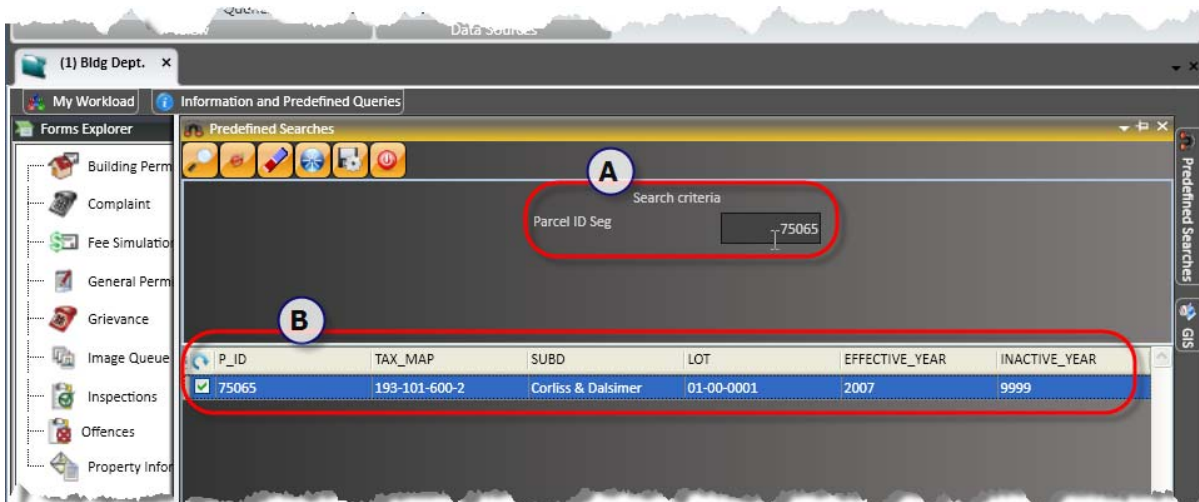
To view the *Search Style* in Govern...

1. Open a Profile in Govern.
2. From the Ribbon, select **Views** tab; *Predefined Searches* > *Search Styles* > **By Parcel ID 2**.



3. Click the **Predefined Searches** tab to display the *Search* form.

4. The search form will display your object (A) and when you perform a search, the columns that you had requested in your query will be displayed (B).



## Query Result Column Titles

As seen above (B), when results are displayed, the titles used for the requested columns are those of the database tables. When keeping an enduser in mind, column names used in the table, although acceptable for a database programmer, usually do not offer too much value to an end-user. For example, a column titled "P\_ID" is more understandable if it were called "Parcel ID", or "SUBD" if it were called "Subdivision".

## Change Column Titles with an Alias

To customize the display of the column titles in our query results, display titles that are descriptive to the user will involve the use of an Alias. The syntax for using an alias in our **SELECT** statement is as follows...

```
SELECT PC_PARCEL.P_ID AS 'Parcel ID'
```

The **SELECT** statement is used to indicate the columns that are to be displayed in the query results. **AS** is used to designate the alias name to be used for the resulting column title.

**Note:** When using **AS** ensure that the alias name is surrounded by an opening and closing single quote, e.g. 'Alias\_Name'.

If one were to modify the following Dynamic Search query for a search by Inspector, the following statement...

```
SELECT PC_PARCEL.P_ID,  
PC_PARCEL.TAX_MAP,  
PM_INSPECTIONS.INSPECTION_DATE,  
PM_INSPECTIONS.STATUS,  
NA_NAMES.NAME_INDEX  
FROM PC_PARCEL,  
PC_LK_PARCEL_INSP,  
PM_INSPECTIONS,  
NA_NAMES  
WHERE PC_PARCEL.P_ID=PC_LK_PARCEL_INSP.P_ID  
AND PC_LK_PARCEL_INSP.IN_ID=PM_INSPECTIONS.IN_ID  
AND PC_LK_PARCEL_INSP.MASTER_DEPT=PC_LK_PARCEL_INSP.DEPT  
AND PC_LK_PARCEL_INSP.MASTER_DEPT=department  
AND PM_INSPECTIONS.NA_ID=NA_NAMES.NA_ID  
AND NA_NAMES.NAME_INDEX LIKE @ininspector_0
```

...can be rewritten with aliases using the **AS** statement...

```
SELECT PC_PARCEL.P_ID AS 'Parcel No.',  
PC_PARCEL.TAX_MAP AS 'Tax Map No.',  
PM_INSPECTIONS.INSPECTION_DATE AS 'Inspection Date',  
PM_INSPECTIONS.STATUS,  
NA_NAMES.NAME_INDEX AS 'Inspector Name'  
FROM PC_PARCEL,  
PC_LK_PARCEL_INSP,  
PM_INSPECTIONS,  
NA_NAMES  
WHERE PC_PARCEL.P_ID=PC_LK_PARCEL_INSP.P_ID  
AND PC_LK_PARCEL_INSP.IN_ID=PM_INSPECTIONS.IN_ID  
AND PC_LK_PARCEL_INSP.MASTER_DEPT=PC_LK_PARCEL_INSP.DEPT  
AND PC_LK_PARCEL_INSP.MASTER_DEPT=department  
AND PM_INSPECTIONS.NA_ID=NA_NAMES.NA_ID  
AND NA_NAMES.NAME_INDEX LIKE @ininspector_0
```

## Column Titles That Should Not Be Used

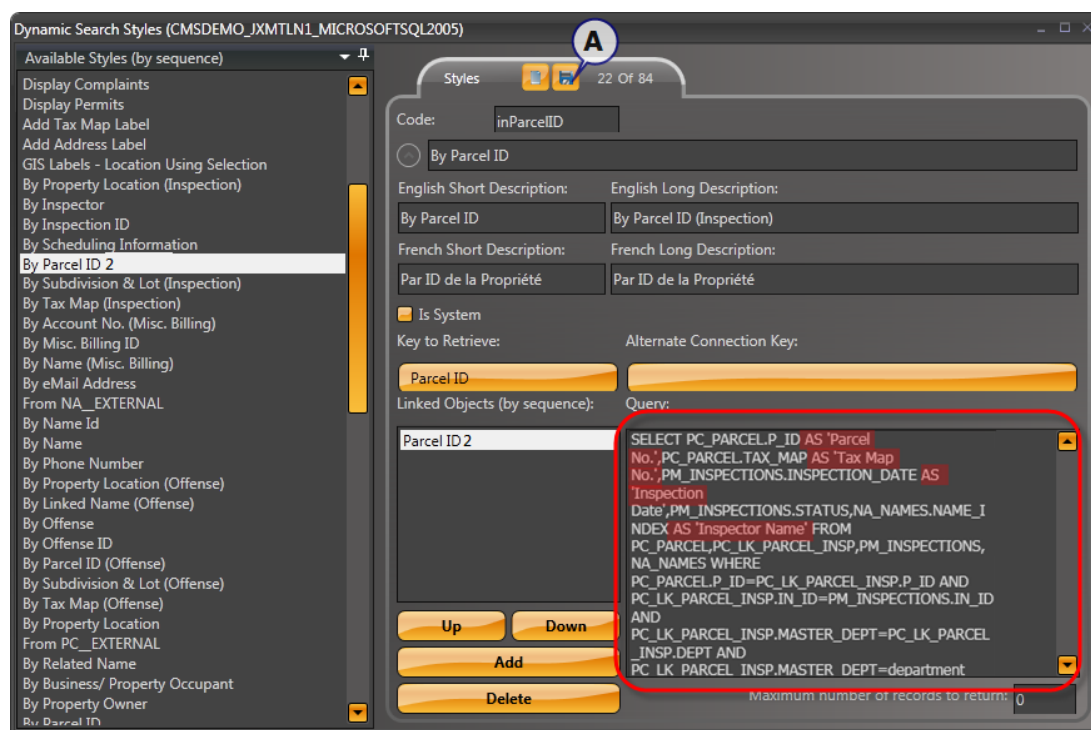
It should be noted that when you select an alias name for your column titles, it should not be the same as one of Govern's Keywords.

For example in the above, the obvious column title of **'Parcel ID'** was not used, instead **'Parcel No.'** was used. The reason for the change is that **'Parcel ID'** is a system reserved keyword.

Refer to *Govern Keywords* on page 158 for a list of **KEYWORDS THAT SHOULD NOT** be used.

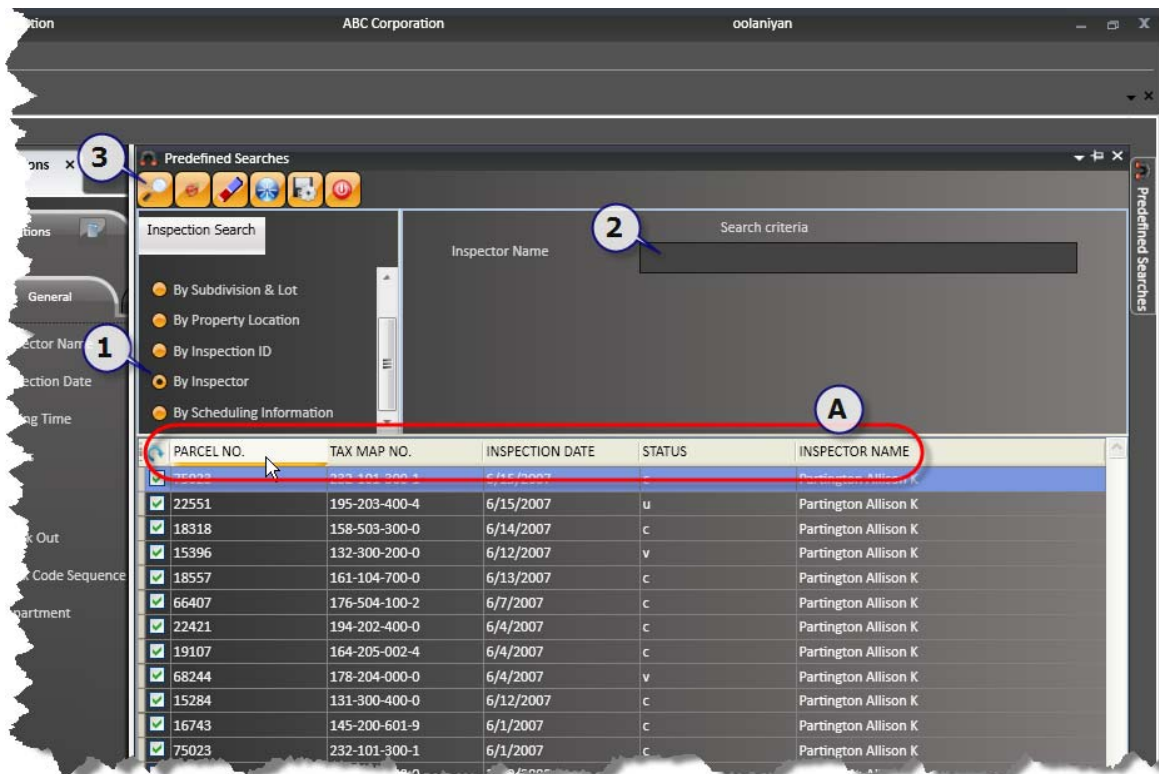
To use the above modified query in *Govern.NET*, in *GNA* either create a new query or for this example, modify an existing query.

1. Select *Editors (tab) > Dynamic Search Configuration > Dynamic Search Styles...*
2. In the *Web Search Styles Management* form, select an existing style, or create a new style. See *Creating a Dynamic Search Style Query* on page 213 for details.
3. Modify the query statements in the **Query** parameter.



4. Click **Save**  to save the modifications (A).

In *Govern.NET*...



- Perform an Inspector search in Govern.NET; specify **By Inspector** (1).
- Enter a required name in the parameter (2) or directly click **Search for Results** (3).
- You will note that the column names are using the specified alias titles.

**Note:** Alias names are not case sensitive, titles are presented in capital letters (A).

## Dynamic Search Queries on the Web

The process to create queries that are to be accessible on the web is the same as creating *Dynamic Search* queries. The major difference is in the location where the aliases are to be defined.

For Web searches column titles are defined in the resource file. This allows for the re-use of the column titles in other searches. For example if the **P\_ID** is defined as *Parcel No.*, it will always display as *Parcel No.* whenever it is used.

This approach centralizes the definitions and minimizes the chances of error when multiple aliases have to be defined in each search style.

To make the entries into the resource file, you will need to use the Govern Resource Editor. The Resource Editor is included in GNA. Under *Editors (tab)* > **Resource File Editor**. See *Resource File Editor on page 191 for details about using the Resource File Editor*.

**Note:** The *Resource File* is located in the root directory of the deployment folder and should only be edited by a system administrator.

## Modifying Web Search Result Column Headings

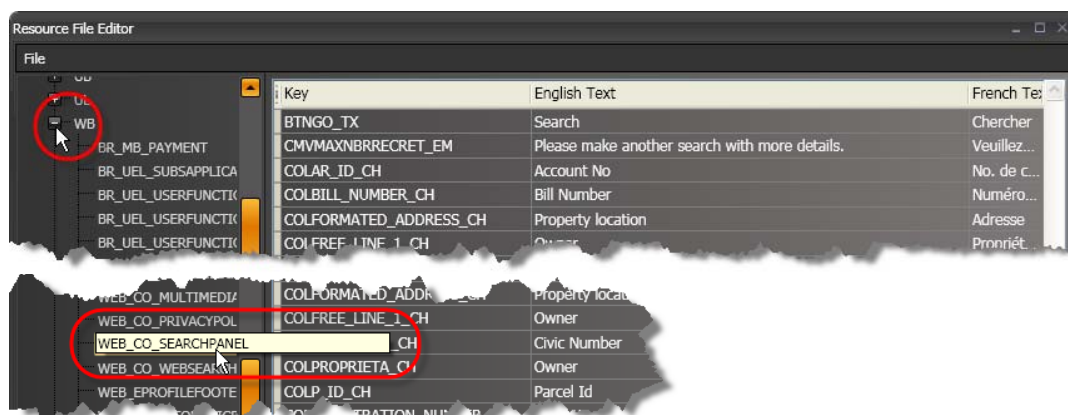
To make alias entries in the *Resource File*...

1. In GNA, select *Editors (tab)* > **Resource File Editor**.
2. In the *Resource File Editor* select *File* > **Open...**
3. Navigate to the root directory of your deployment; in the **ResourceFiles** folder, select the **GovernNet.en.resources** resource file.

**WARNING:** Editing Resource files should only be done by qualified individuals with Administrator privileges.

In the *Resource File*, the function that you will be looking for is called **WEB\_CO\_SEARCHPANEL**. This function is located in the Web (**WB**) module of the *Resource File*.

4. In the column on the left hand side; click on the “+” beside **WB** to expand it and view all the functions within the module, or perform a search for the string with the find menu option. See



- When the **WEB\_CO\_SEARCHPANEL** function has been located, click to select it; the keys will be displayed in the pane on the right hand side.

**Note:** The *Resource File* is shared by all applications in the *MS Govern .NET* suite. Any additions made to this file will automatically be updated.

## Format for Entering the Alias Key

When the keys for the aliases are entered into the function, they must be named in a format that the system is expecting. The format to be used is as follows:

**COL**myHEADING**\_CH**

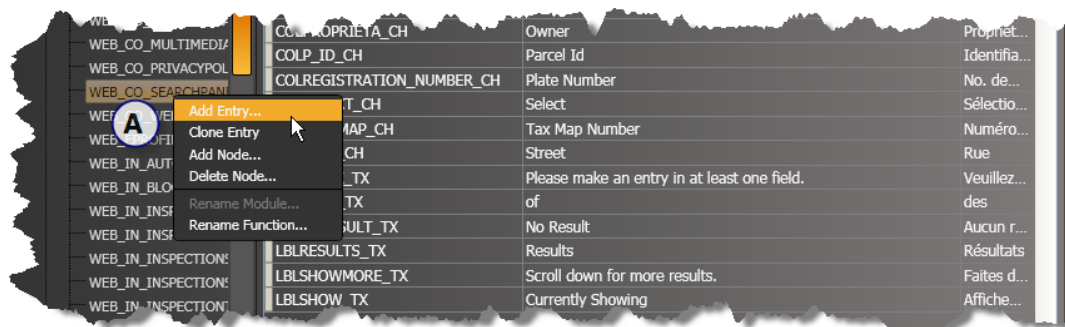
Where **myHEADING** is the title of the column in the table. The entry is padded with “**COL**” on the left hand side and “**\_CH**” on the right hand side. For example if we wanted to enter a column title called **SUBD**, the entry would be **COLSUBD\_CH** the alias title to be used will be Division.

**Note:** The **COL** and **\_CH** padding are mandatory for your entry to be recognized by the system.

To make your entry you will need to use the *Resource File Text Editor*. In the *Resource File Text Editor*, the *Label* parameter will contain the “padded” key entry, and the alias that will be used is entered in the text section of the form.

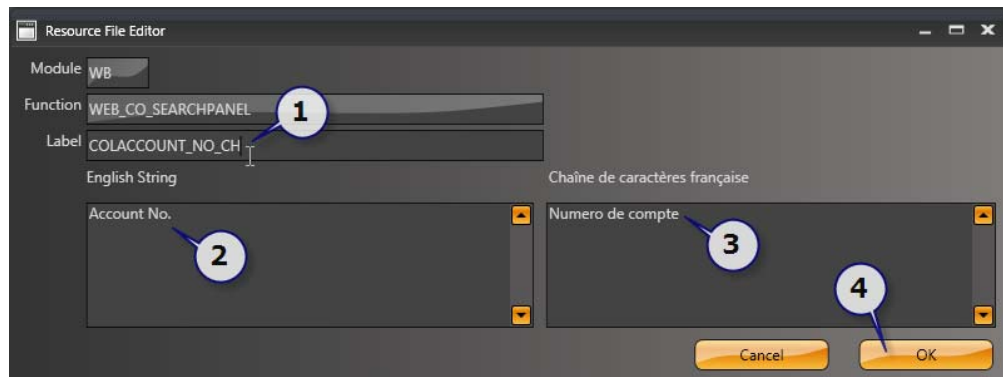
To add an alias to the function...

- To add an alias to the **WEB\_CO\_SEARCHPANEL** function, on the left hand side, right click on the function name; select **Add Entry...** (A) from the floating menu.





2. In the *Resource File Text Editor*, enter the column name into the **Label** parameters (1).
3. Enter the alias column name in the **English String** and other language parameters (2), (3).
4. Click **OK** to accept the change.



When entered, this aliased column title will be displayed online.

**Note:** Unlike the the column titles in Govern.NET, titles will be displayed as they are entered, i.e. in both upper and lower cases.



## Before Alias

Enter Your Search Criteria

House No. (From) (Location)

House No. (To) (Location)

Street Name (Location)

Parcel Id	Tax Map Number	Property location	SUBD
<input checked="" type="checkbox"/> 26802	232-204-200-0	276 N Main St	01-00-0001

## After Alias

Enter Your Search Criteria

House No. (From) (Location)

House No. (To) (Location)

Street Name (Location)

Parcel Id	Tax Map Number	Property location	Division
<input checked="" type="checkbox"/> 26802	232-204-200-0	276 N Main St	01-00-0001

**Note:** All column header aliases will apply to all search style queries containing the same field name or alias name. In addition, search style queries using aliases are required to use the alias name instead of the field name in the table.

## Dynamic Search Group Management

Use the *Dynamic Search Group* management tool to group together multiple *Search Styles*.




The *Dynamic Search Group* management tool consists of two parts:

**Available Groups:** The existing groups appear in the **Available Groups** list box (1). To view the details on a group, highlight it in the list.

**Search Groups:** The **Search Groups** tab displays details on the selected group (2).

### Creating a Group


To create a group:

1. Click **New**  to reset the form; so that you can enter new data.

2. In the **Code** field, enter a string, with a maximum of 15 characters, to identify the style in the database.
3. In the **English Short Description** field (or the Short Description field of your first language), enter a description to a maximum of 25 characters.
4. In the **English Long Description** field, enter a description to a maximum of 50 characters.
5. Repeat steps 4 and 5 for the **French, Spanish** (or second) language fields.
6. Select the styles to link to the group, using the **Add** button.
7. Click **Add**, under the **Available Groups** list box to add it to the list.

## Modifying a Group

To modify a group:

1. Highlight the group in the **Available Groups** list box.
2. Make your change on the form.
3. Click **Save** .

## Changing the Style Order

To change the order of the linked styles:



Click **Up** to move the style towards the top of the list; so that it is performed nearer to the beginning of the sequence.



Click **Down** to move the style towards the end of the list; so that it is performed closer to the end of the sequence.



Click **Add** to open a secondary form where you can select styles to add to the group.




Highlight the style or styles that you want to add (1) and click **Add** (2) on the secondary form.



To remove a style, highlight it in the **Linked Styles** list box and click **Remove**.

## Deleting a Group

To delete a group:

1. Highlight the object in the **Available Group** list box.
2. Click **Delete** .

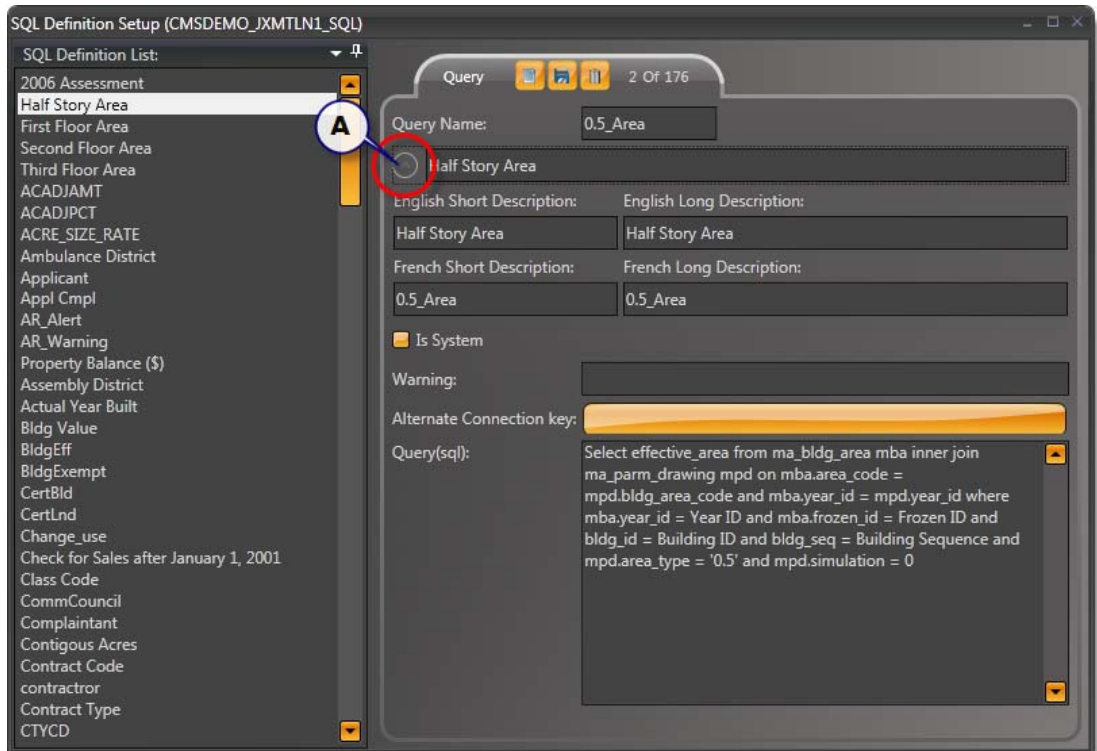
# SQL Query Editor

## Overview

The *Govern New Administration (GNA) SQL Query Editor* allows you to create both *Action* and *Selection* SQL queries. Selection queries are used to search and view data, while *Action* queries allow you to update, or delete data in the database. As with the SQL Query editor in the *Govern for Windows Admin*, the queries you design are validated for syntax.


To access the *SQL Query Editor* in **GNA**:


1. Select *Editors (tab)* > **SQL Editor...**



**Note:** By default the fields on a form are “collapsed”, i.e. they are not fully visible. This is to give the form a cleaner appearance. Additional fields can be displayed with a click on the *Collapse/Expand* button (A).

## SQL Query Editor Command Buttons

**New:** Click **New**  to clear the screen so you can create a new *SQL Query*.

**Note:** When you click on **New**, the button changes to **Cancel** ; this will allow you to cancel the creation of the current record. The **Cancel** button is present until the new record is saved.

**Save:** Click **Save**  to save a new query or modifications to an existing one.

**Delete:** Click **Delete**  to remove the current record.

### Closing the Editor

To close the editor, click the *Close Window* button in the upper right hand corner of the form.

## SQL Query Editor Parameters

**Query Name:** Enter a name or code to identify the query.

For the queries that retrieve data and display a value, you can add the following characters to the beginning of the name. These characters format the value in the result:

Character	Format Type	Example
\$	Currency with decimals	\$2,000.25
@	Currency without decimals	\$2,000
#!	Numeric with decimals	2,000.25
.	Numeric without decimals	2,000

For example, the following query retrieves the appraised value of the property and formats it as the *Currency without decimals* type:

**Query Name:** @GetApp

<b>Query:</b>	<code>SELECT appraised_value FROM MA_MASTER WHERE p_id = parcel id and frozen_id = frozen id and year_id = year id</code>
<b>Result:</b>	\$288,000

**English Short Description:** Enter a short description to identify the department. This is useful for fast data entry and look-ups if space is limited on the forms.

**English Long Description:** Enter a long description to identify the department. This will be displayed for look-ups on forms and will be normally used for reporting.

## Second Language Fields

When there is a 2nd language, or multiple languages, ensure that these description fields are also completed.

**Is System:** This flag / option is reserved for constants that are designated as Govern.NET system data.

## About System Reserved Values

Only users with Super-User access will be able to select and deselect the **Is System** option. In addition Super Users can also create new values and flag them for Govern.NET system use.

**Note:** *System* constants are reserved for use by the *Govern.NET* system and as such should not be modified or deleted without a full understanding of the implications. Deletions of system values can damage the Govern.NET system, rendering it inoperable. Modifications that are made to *System* values should always be noted. When a system wide update is performed, these modifications may be overwritten.

**Warning:** Enter a message to be displayed before the query is executed, in this optional field. For example, if you are linking a query to the **Delete** button of a function, create a message to notify the user that one or more records will be deleted. The user can confirm or cancel the action.

**Alternate Connection Key:** Database connections are usually set in the *General Settings* form, they can be overridden if required. An alternate *Connection Key* can be specified.

**Query (SQL):** Enter the new *SQL Query* statement or modify an existing one, in this edit box.

## Creating Queries

### Create a Simple SQL Query

For this example we will create a basic SQL query that will retrieve lot size information from the Govern table (Table: MA\_LAND).

The query will need to get the lot size entry under the LOT\_SIZE column in the MA\_LAND table. The query should look like the following:

```
SELECT MA_LAND.LOT_SIZE
```

This means that we need the LOT\_SIZE column...

```
FROM MA_LAND
```

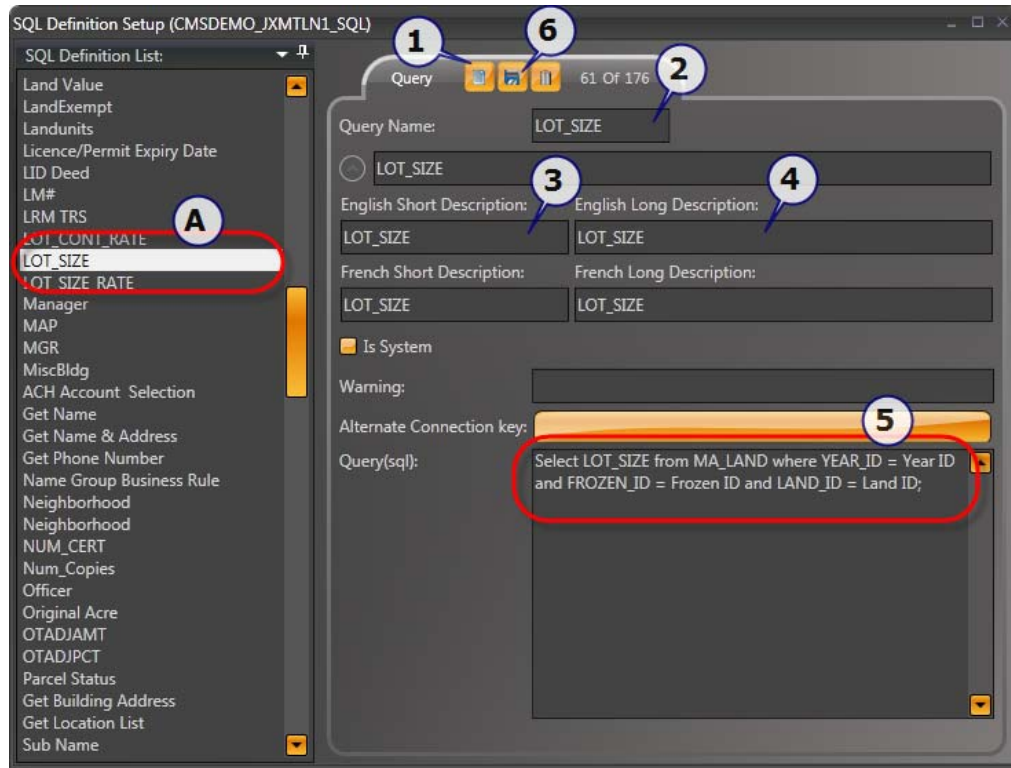
...from the MA\_LAND table...

```
WHERE MA_LAND.YEAR_ID = Year ID AND MA_LAND.FROZEN_ID =  
Frozen ID AND MA_LAND.LAND_ID = Land ID
```

...the YEAR\_ID is the same as the current Year ID, the FROZEN\_ID is the same as the current Frozen ID, and the LAND\_ID is the same as the current Land ID.



To create a simple query...



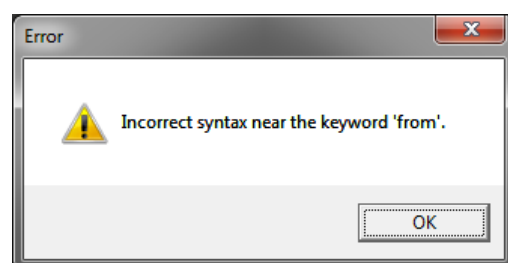
1. In GNA, select *Setup > Editors... > Sql Queries Editor...*
2. Click **New** (1) to start a new query.
3. Enter **LOTSIZE2** in the *Query Name* field (2)
4. In the *Short Description* field enter **Lot Size** (3)
5. Click into the *Long Description* field (4), the *Short Description* will be copied into the *Long Description*, add any additional information to the name.
6. Click in the *Query (Sql)* field (5); begin typing in the query created earlier.

```
SELECT MA_LAND.LOT_SIZE FROM MA_LAND
WHERE MA_LAND.YEAR_ID=Year ID AND
```

`MA_LAND.FROZEN_ID=Frozen ID AND  
MA_LAND.LAND_ID=Land ID`

**Note:** When entering the query, ensure that there are no spaces before and after the “=” sign. *For other syntax rules, see SQL Syntax Rules for GNA.*

7. To save the new query, click **Save (6)**; if an error exists within the query, the system will not allow it to be saved. You will be presented with a dialog box like the following; click **OK** and make any necessary corrections to the syntax of the query.



**Note:** To minimize the chances of errors when composing your queries, *refer to SQL Syntax Rules for GNA on page 378 for details.*

8. The new query will appear under the *SQL Definition List (A)* on the left hand side.

The query will appear on the left hand side under the *SQL Definition List*. When saved this query will be accessible for use in formulas and logical expressions. *See Formula Editor on page 150 and Logical Expression Editor on page 171 for details.*

## Query Types

You can compose and store both *Action Queries* and *Selection Queries* in the *SQL Query Editor*. To retrieve or to use a value from the current record; for example, while running a query from a function or formula, you can include a *keyword*. *See Using Keywords on page 237 for details.*

**Note:** Keywords can be included on the *SQL Definition Setup* form, only.

**Note:** On the *SQL Definition Setup* form, you must use SQL syntax for Microsoft® Access®.

## Selection Queries

Selection Queries are used to retrieve records from one or more specified tables, according to the selection criteria.

The syntax is as follows:

```
SELECT [column] FROM [table] WHERE [criteria]
```

For example, the following query, retrieves the City District name from the PC\_AREA table for the record matching the current parcel ID, frozen ID and year.

```
SELECT DIST_CITY FROM PC_AREA WHERE p_id=parcel id and  
frozen_id=frozen id and year_id = year id
```

## Action Queries

*Action Queries* are used to perform actions, such as updating records in one or more tables, adding records to a table, deleting records from a table or creating a new table or index.

This section provides simple examples of *Update*, *Append* and *Delete Queries*. Since the *SQL Definition Setup* form is used for queries that are run multiple times, it is better to compose and run a *Create Query* from outside Govern.

### Update Queries

*Update Queries* are used to modify records in one or more tables, by changing values in specified tables and fields, according to certain criteria.

The syntax is as follows:

```
UPDATE table.* SET value WHERE criteria
```

For example, the following query enters the value *abc* in the *Fire District* field of the PC\_AREA table, wherever the value for this field is null.

```
UPDATE pc_area SET dist_fire = 'abc' WHERE dist_fire IS  
NULL
```

*Update Queries* are typically used when you need to change multiple records in a table or records in multiple tables.

**Tip:** You do not obtain a list of results from running this type of query. To verify which records will be changed, you can run a *Selection Query* using the same parameters and criteria and view the *Results* screen.

## Insert Queries

*Insert Queries* are used to add a single record to one or more table. You need to specify the fields to which you are adding values and the value for each field. Otherwise, the default value or Null is entered.

The syntax is as follows:

```
INSERT INTO table (column list) VALUES (value list)
```

For example, the following query adds a record to the VT\_USR\_NAMECODE table, entering the values ENG, LD, ITR and In Trust in the language, department, code, short description fields.

```
INSERT INTO vt_usr_namecode (language,dept,code,short_desc)
VALUES ('ENG',' ','ITR','In Trust')
```

You can also append multiple records to a table, by first selecting the records in another table. For this, a *Selection Query* is added to the *Append Query*.

## Delete Queries

*Delete Queries* are used to remove records from one or more tables.

The syntax is as follows:

```
DELETE [table.*] WHERE criteria
```

For example, the following query, add records containing the year 2004 are deleted from the PC\_AREA table.

```
DELETE FROM pc_area WHERE year_id = 2004
```

**Tip:** The *Delete Query* deletes more than the specified fields, it deletes the entire record. To delete data from specific fields only, create an update query that changes the values to Null.

## Using Keywords

You can include a *keyword* in a query to retrieve or perform an action on a value in the current record, or the record most recently saved and still in memory.

To include a keyword, double-click in *SQL Definition Setup* form. This displays the following list of keywords (Table: VT\_SY\_BRULE):

Code	Keyword	Description
ar_id	Account Receivable ID	Unique identification number of the current <i>Account Receivable</i> record
key_counter	Activity ID	Identification number of the current <i>Activity</i> record
ac_id	Aircraft ID	Unique identification number of the current <i>Aircraft Excise Tax</i> record
br_id	Bankruptcy ID	Identification number of the current <i>Bankruptcy</i> record
bt_id	Boat ID	Unique identification number of the current <i>Boat Excise Tax</i> record
bldg_id	Building ID	Identification number of the current <i>Building</i>
bldg_seq	Building Sequence	Sequence number of the current <i>Building</i>
cc_id	Cash Collection ID	Identification number of the current <i>Cash Collection</i> record
co_id	Complaint ID	Identification number of the current <i>Complaint</i> record
*date	Current Date	The <i>Current Date</i>
dept	Department	The <i>Department</i> code

Code	Keyword	Description
frozen_id	Frozen ID	Identification number of the current <i>Frozen</i> record
haz_id	Hazard ID	Identification number of the current <i>Hazard</i> record
h_id	Hearing ID	Identification number of the current <i>Hearing</i> record
in_id	Inspection ID	Identification number of the current <i>Inspection</i> record
land_id	Land ID	Unique identification number of the current <i>Land</i>
mb_id	Misc. Billing ID	Identification number of the current <i>Miscellaneous Billing</i> account
misc_id	Miscellaneous ID	Identification number of the current <i>Miscellaneous Billing</i> account
mv_id	Motor Vehicule ID	Identification number of the current Motor Vehicle Account
na_id	Name ID	Unique identification number of the current Name
of_id	Offence ID	Unique identification number of the current <i>Offense</i> record
p_id	Parcel ID	Unique identification number of the current parcel
pm_id	Permit ID	Unique identification number of the current <i>Building Permit, Electrical Permit, General Permit, Plumbing Permit, Permit to Name, Animal License, Business License, License to Name, Approval, Bond, Decision, Prosecution</i> or <i>Appeal</i> record
pp_id	Personal Property ID	Identification number of the current <i>Personal Property</i> account
pp_det_id	PP Detail ID	Unique identification number of the current <i>Personal Property Item</i>
folio_id	Project Folio ID	Identification number of the current <i>Project Folio</i>

Code	Keyword	Description
prj_id	Project ID	Identification number of the current <i>Project</i> record
tax_id	Real Estate ID	Identification number of the current <i>Real Estate Tax</i> record
sale_id	Sale ID	Identification number of the current <i>Sale</i> record
st_acct_id	Self Reported Tax Acct ID	Identification number of the current <i>Self Reported Tax Account</i> record
st_id	Self Reported Tax ID	Identification number of the current <i>Self Reported Tax</i> record
si_id	Site ID	Identification number of the current <i>Site</i>
sa_id	Special Assessment ID	Identification number of the current <i>Special Assessment</i> record
tax_map	Tax Map Number	Tax Map Number of the current record
usr_id	User ID	Unique identification number of the current user
ub_id	Utility Billing ID	Unique identification number of the current <i>Utility Billing</i> account
year_id	Year ID	Year identification of the current record

For example, in the following query, the *parcel id*, *frozen id* and *year id* keywords are used to retrieve the appraised property value from the MA\_MASTER table, where the P\_ID, FROZEN\_ID and YEAR\_ID fields match the values for the current record.

```
SELECT appraised_value FROM ma_master WHERE p_id=parcel id  
and frozen_id=frozen id and year_id=year id
```

## Best Practices for SQL Queries

When creating SQL queries, it is good practice to specify both the table and the field names in your **WHERE** query statement.

**EXAMPLE 1:** The *Original* query below would function in *Govern for Windows*, but would result in an error in *Govern.NET*. In order for it to function in *Govern.NET* it is necessary to include the table name in the **WHERE** statement. This was done in the *Corrected* example by using a “.” as a separator.

## Original

```
select count(*)
from pm_lk_permit_name,na_company_info
where key_id = permit id
and pm_lk_permit_name.na_id = na_company_info.na_id
and link_type = 'contr'
and cont_type = 'SI'
and (in_exp_date < current date or in_exp_date is null)
```

## Corrected

```
select count(*)
from pm_lk_permit_name,na_company_info
where pm_lk_permit_name.key_id = permit id
and pm_lk_permit_name.na_id = na_company_info.na_id
and pm_lk_permit_name.link_type = 'contr'
and na_company_info .cont_type = 'SI'
and (na_company_info.in_exp_date < current date or
na_company_info.in_exp_date is null)
```

Specifying the table name in the **WHERE** statement is a good practice to follow when building *SQL* queries.



**EXAMPLE 2:** Another example of a query is the following. This is a SELECT query for PRIMARY\_LAND

#### Original

```
SELECT DISTINCT
  I.PRIMARY_LAND
FROM
  PC_LEGAL_INFO I LEFT JOIN
  PC_AREA A ON A.P_ID = I.P_ID
WHERE
  I.P_ID = Parcel ID AND
  I.YEAR_ID = Year ID AND
  A.FROZEN_ID = Frozen ID
```

#### Corrected

```
SELECT PC_LEGAL_INFO.PRIMARY_LAND FROM PC_LEGAL_INFO WHERE
PC_LEGAL_INFO.P_ID = Parcel ID AND PC_LEGAL_INFO.YEAR_ID =
Year ID AND PC_LEGAL_INFO.FROZEN_ID = Frozen ID
```

## Controlling Appearance of Results in the Govern Treeview

One feature of the Govern.NET application is the users ability to control the appearance of results in the Treeview. This feature will appeal to users that perform queries that require that they display a Tax Map as opposed to a Parcel.

#### FOR EXAMPLE:

In the following query, the Tax Map Number ('**TAX\_MAP**') is being replaced with the Roll Number ('**ROLL NO**').

#### SAMPLE LISTING:

**Name: ParcelDesc001**

```
SELECT
CASE
WHEN A.NON_PARCEL_FLAG = -1 AND NON_PARCEL_ID > 0 THEN 'PREMISE ID: ' ||
CAST(A.NON_PARCEL_ID AS VARCHAR(30)) || ' ' || B.CURRENT_TENANT
```

```

WHEN A.NON_PARCEL_FLAG = -1 AND NON_PARCEL_ID IS NULL THEN 'P ID: ' || CAST(A.P_ID
AS VARCHAR(30))

ELSE 'ROLL NO: ' || A.TAX_MAP

END

FROM PC_PARCEL A LEFT JOIN V_PC_OCCUPANT_CURRENT_TENANT B ON A.P_ID = B.P_ID

WHERE A.P_ID = 261362 AND ROWNUM = 1
    
```

When the above sample code is incorporated in the query, results with Tax Map numbers will be displayed with the Roll Number.

## SQL Query Editor Custom Control

**Note:** The following section requires use of the *Govern Model Designer (MoD)*; refer to the *MS Govern Model Designer (MoD) release 5.0* user guide for details about using the application.

Developers that are creating custom queries for their users have options for presenting their **SELECT** query results. As a custom Control, it must be launched from a form. A generic custom control is available to present query results in a pop-up window, or embedded in a grid under a tab in *MS Govern.NET*.



## Custom Control Display Methods

As stated above, there are two (2) display options or *Methods* used for query results:

**LoadQueryForModalWindow:** This method is used for displaying popup windows. The trigger, a button in the form tab area is clicked by the user and it launches the query. The results of the query are displayed in the resulting popup window.

**LoadQuery:** The *LoadQuery* method is used to embed the results in a separate tab area. For this type of display, a new tab is required.

## Configuring Results in a Popup Window

In the following example, we will insert a custom control in the Building Permits tab of the Building Permits openform. This control will display the fee history for a building permit record. The method of display for our query results will be in a popup window.

To set up and display results of this query in *Govern.NET* we will need to follow these steps...

### Step 1 - Design a query

The query that will be used for the Fee History popup is one that is already available in the *SQL Query Editor* in **GNA**. Queries can contain keywords like `P_ID` that can be used to filter parcels. For our example we need a `SELECT` query that will return the fee history for a permit record. This type of query is part of the reference database. When developing your own *SQL* queries, refer to the *SQL Query Editor* on page 229 of this guide for details. The query that will be used is called *Fee History (Permit)*, or more accurately, its *Query Name*, **pmFeeHistoryPM**. Take note of the *Query Name*, it will be the one that will be selected in the *Model Designer (MoD)*.

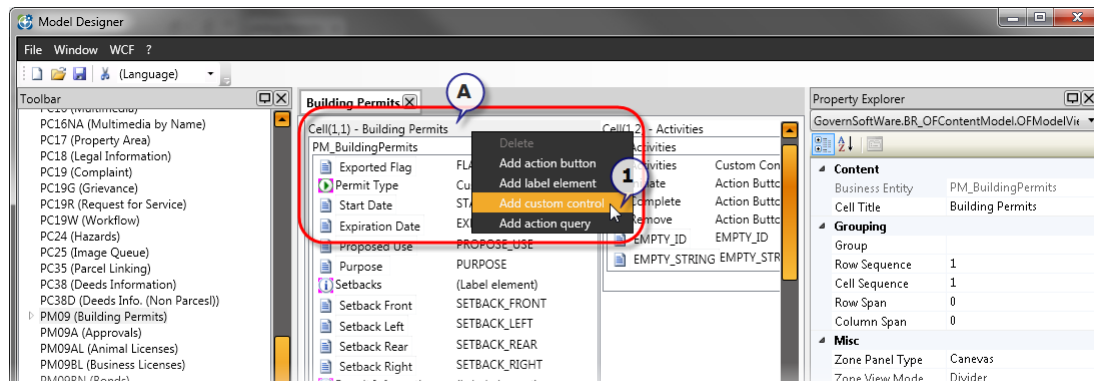
### Step 2- Setup the Custom Control in the MoD

The Custom Control is added and configured in the *MoD*. It is here that the method that the *Custom Control* is presented in a form is defined. For our example the display method will be a popup window, i.e.

**LoadQueryForModalWindow.**

In the *Model Designer (MoD)*...

1. At the *Cell* level (A), right click and select the **Add custom control** option.



2. Locate the newly created *Custom Control* entry and click to select it.
3. On the right hand side in the *Property Explorer* pane modify the controls flags as follows:

Section	Flag Name	Settings	Comments
<b>defaultaccessrights</b>	CanExecuteLogExp		
<b>Misc</b>	DividerTabSequence	1	The tab number that control button will appear in
<b>Action Settings</b>	(...)		
	Assembly Name	WPFCustomControl.dll	
	Class Name	ViewQuery	
	Method Name	LoadQueryForModalWindow	Method indicating that popup window is to be used for results
	Embedded Image	Icon_ActionButns	Image for button
	External Image		
	Is Alone	False	
	Is Overlapped	False	
	In New Row	True	
	First Row	True	
	In New Column	True	
	First Column	True	
	Is Always Visible	False	
	ToolTip	Click to display Fee History	Tool tip description of button

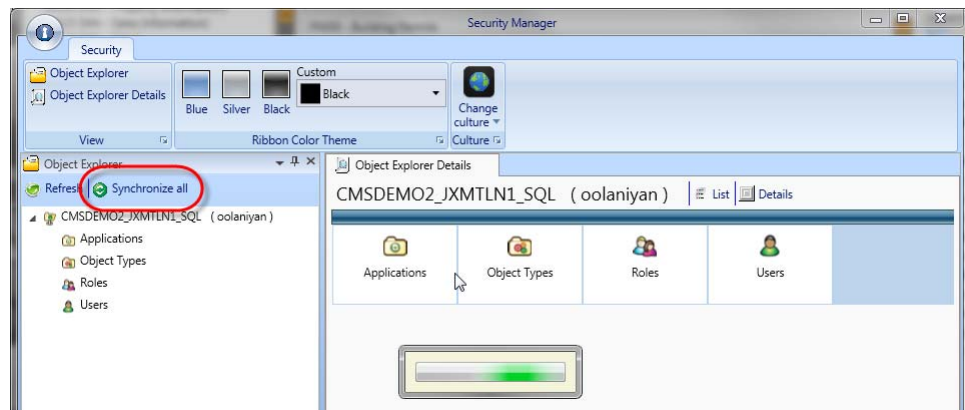
Section	Flag Name	Settings	Comments
	Width	700	Display width of popup
	Height	350	Display height of popup
	Left	0	
	Top	0	
	Start in New Window	True	Indicates that new windows is required
	OpenInModalWindow	True	Will open as a popup
	Will Be Closed	False	
	Will Be Opened	False	
	Arguments		
	Return Property		
	Return Property		
	Special Feature	None	
	Query	<b>pmFeeHistoryPM</b>	Name of query to be run - taken from GNA
	Report		
	Connection		
	Activate Force Refresh	False	
	Call Without Data	False	
	Show Label	False	
	To Be Audited	False	
<b>Label Text</b>		Fee History	Label for the window

- Click **Save** to save the modifications that have been made to the *Model*.

As the OpenForms Model has been modified, a synchronization process will be required in the *Govern Security Manager (GSM)*.

### Step 3 - Synchronizing in the GSM

The *Synchronize All* button is used when modifications have been made to the settings of any of the *Govern* applications, or changes have been made that will affect the database.



In the GSM...

1. Click **Synchronize All**.
2. Close the application.

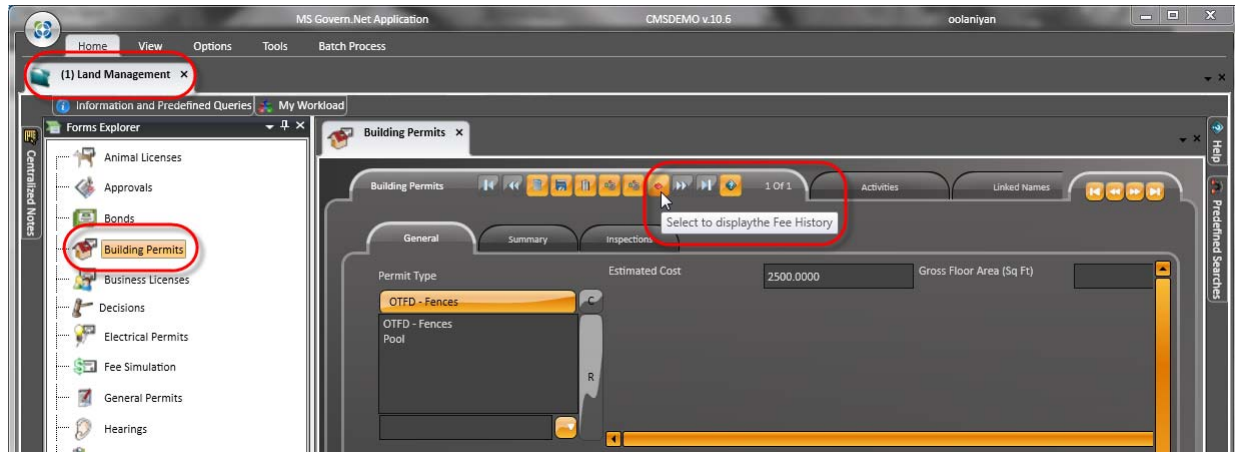
### Step 4 - Review and Test in MS Govern.NET

After the *synchronization* in the *Govern Security Manager (GSM)*, the control can now be displayed in *MS Govern.NET*.

In *MS Govern.NET*...

1. Open the *Land Management* profile.
2. Perform a property search; open a record.
3. Double click on the *Building Permits OpenForm*.

4. You will note the addition of a new button in the tab.



5. When you hover your pointer over the button, you will see the **Click to display Fee History** text that was entered in the ToolTip flag in the MoD.
6. Click the button; a popup window titled *Fee History* is displayed with the results of the **pmFeeHistoryPM** SQL query.

The contents that are displayed in the Popup Window are the results of the query that is associated with the custom control. Other SELECT queries may be substituted for the one in the above example.

## Configuring Results in a Separate Tab

In this example, instead of a Custom Control button triggering a popup window that displays the query results, the results will be displayed in a permanently displayed tab. As with the popup display method above, we will again need to first design a query in the SQL Query Editor. For the sake of simplicity, we will use the same query as above, **pmFeeHistoryPM**. The only change this time will be in the manner that the query results are displayed.

### Step 1 - Design a query

This example is using a query that is available in the *Govern* reference database. It can be seen through the *SQL Query Editor* in **GNA**. Users should always take time to review the design of their SELECT query to ensure that the results are as requested.

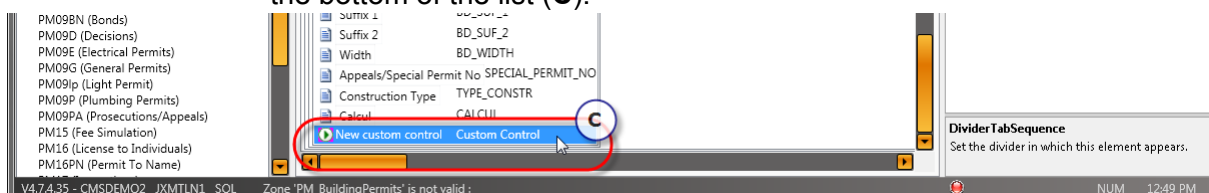
The query that will be used for this example is called *Fee History (Permit)*. Take note of the *Query Name*, **pmFeeHistoryPM**, it will be used to set a flag field in the *Model Designer (MoD)*.

## Step 2- Setup the Custom Control in the MoD

The *Custom Control* in this example will be used to display query results. These results will be in a separate tabbed area within the *Building Permits* tab of the *Building Permits OpenForm*. We first need to create a tab called **Fee History**.

When working with tabbed forms, when you click at the *Cell* level, in the *Property Explorer*, under the **Misc** heading, there can be three (3) settings for the **Zone View Mode** flag:

- **Table** - This setting, is not recommended for embedding the Custom Control; results will not be displayed correctly and the preset contents of the tab will not be legible.
- **OneByOne** - If this is the setting, when inserting the custom control, ensure that it is the last item in the list of entities, i.e. it should appear at the bottom of the list (C).



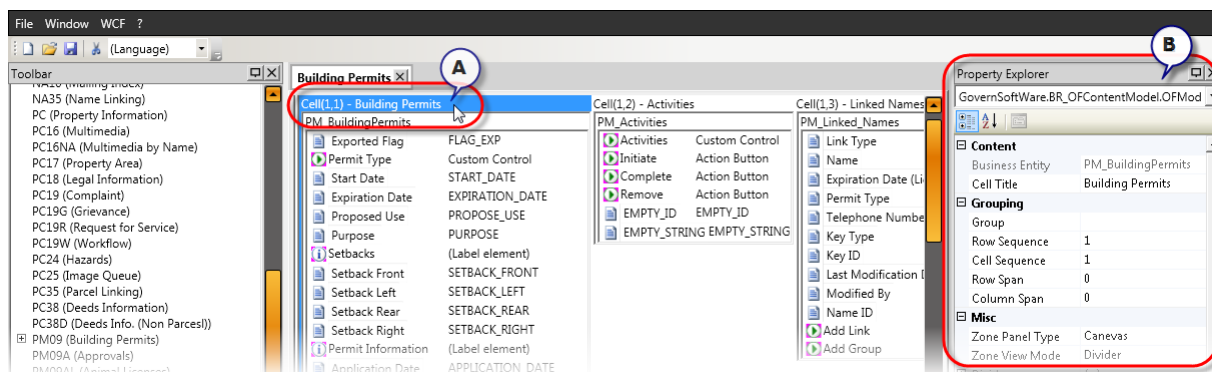
- **Divider** - A flag setting of *Divider* is the ideal setting.

**Note:** Refer to the *Govern Model Designer (MoD)* release 5.0 user guide for additional details about the *Business Model (BM)* flag settings.

To create the tab in the *Model Designer (MoD)*...

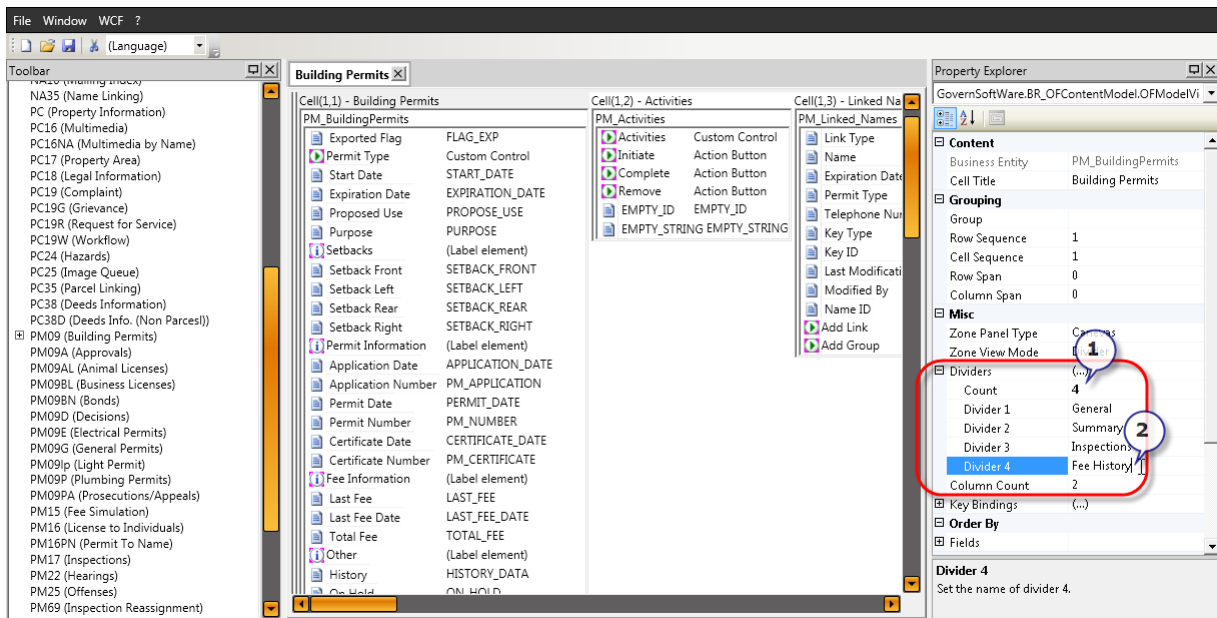
In the *Model Designer (MoD)*...

1. In the center pane, click at the *Cell* level (A).





- On the right hand side in the *Property Explorer* pane (B) click to expand the **Dividers** flag; increase the Count flag by one (1). The extra one will be the additional tab that the results grid will be embedded in.



- Click **Save** to save the change

You will note that after the save, a new flag called **Divider "X"** has been created, where "X" is the previous number of dividers plus the one 1 that was added. For example if the previous number of dividers was **3**, the newly generated divider flag name will be **Divider 4**.

- Enter the name **Fee History** in the *Divider 4* field (2), this will be the label of the tab.



- Return to the center pane and right click *Building Permits* at the *Cell* level; select **Add custom control**, from the floating menu.
- Locate the newly created *Custom Control* entry and click to select it.

7. On the right hand side in the *Property Explorer* pane modify the controls flags as follows:

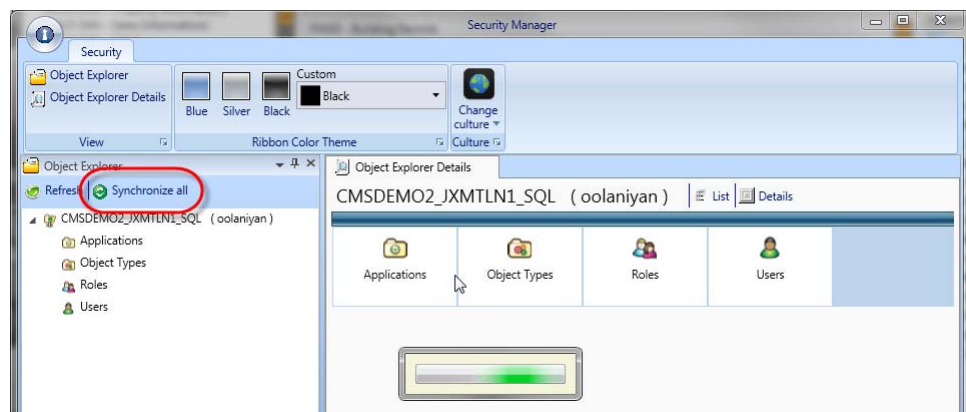
Section	Flag Name	Settings	Comments
<b>defaultaccessrights</b>	CanExecuteLogExp		
<b>Misc</b>	DividerTabSequence	4	Tab number that custom control grid will appear in
<b>Action Settings</b>	(...)		
	Assembly Name	WPFCustomControl.dll	
	Class Name	ViewQuery	
	Method Name	<i>LoadQuery</i>	Method indicating that an embedded grid is to be used
	Embedded Image	Icon_ActionButns	Image for button
	External Image		
	Is Alone	True	
	Is Overlapped	False	
	In New Row	True	
	First Row	True	
	In New Column	True	
	First Column	True	
	Is Always Visible	True	
	ToolTip	Fee History	Tool tip description of button
	Width	600	Display width of popup
	Height	400	Display height of popup
	Left	0	
	Top	0	
	Start in New Window	False	Indicates that new window is required
	OpenInModalWindow	False	Will open as a popup
	Will Be Closed	False	
	Will Be Opened	False	
	Arguments		

Section	Flag Name	Settings	Comments
	Return Property		
	Return Property		
	Special Feature	None	
	Query	<b>pmFeeHistoryPM</b>	Name of query to be run - taken from GNA
	Report		
	Connection		
	Activate Force Refresh	False	
	Call Without Data	False	
	Show Label	False	
	To Be Audited	False	
<b>Label Text</b>		Fee History	Label for the window

8. Click **Save** to save the modifications that have been made to the *Model*.

The *OpenForms Model* has been modified, you will need to go to the *Govern Security Manager (GSM)* and select *Synchronize All*.

## Step 3 - Synchronizing in the GSM



In the GSM...

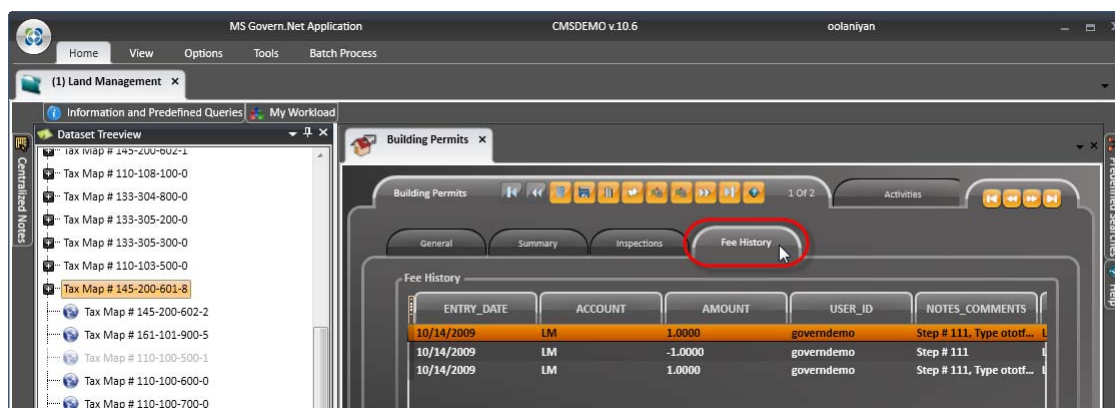
1. Click **Synchronize All**.
2. Close the application.

## Step 4 - Review and Test in MS Govern.NET

After the *synchronization* in the *Govern Security Manager (GSM)*, the control can be displayed in *MS Govern.NET*.

In *MS Govern.NET*...

1. Open the *Land Management* profile.
2. Perform a property search; open a record.
3. Double click on the *Building Permits OpenForm*.
4. You will note the presence of the **Fee History** tab.



5. Click to select the tab, you will see the embedded **Fee History** grid.
6. Click the button; a popup window titled *Fee History* is displayed with the results of the **pmFeeHistoryPM** SQL query.

The contents displayed in the grid are the results of the query that is associated with the custom control. Unlike the popup window, the results are permanently displayed. Other SELECT queries may be substituted.

## Troubleshooting Queries

During the development of queries, it may be necessary to determine why the designed query is having performance issues, i.e. taking too long to run, or causes the system to “hangs”. In Govern there are trace logs built in the system that can be enabled to assist in troubleshooting. *Refer to Diagnostic Configuration form Trace Log on page 424 for details.*

# System Validation Table Editor

**WARNING:** System Validation tables are never to be in any way modified or deleted unless directed by Govern Technical Support. Modifications to System table can lead to severe damage to the application. With an understanding of the implications, users are free to modify User tables.

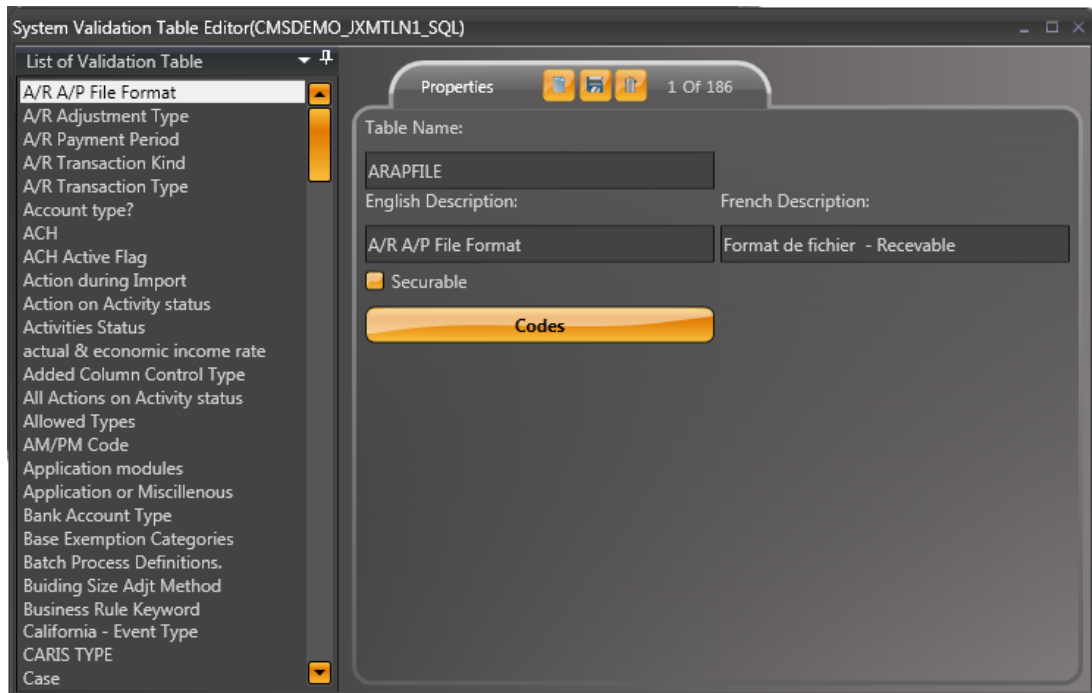


## Overview

Maintain the System Validation Tables in this form. These tables are used to validate the information entered in the various fields. Create and maintain the elements of the tables on the Validation Codes form.


To access the *System Validation Table Editor*, in the *Govern New Administration (GNA)*:


1. Select *Editors (tab) > System Validation Table Editor...*




The screenshot shows the 'System Validation Table Editor(CMSDEMO\_JXMTLN1\_SQL)' window. On the left is a 'List of Validation Table' with a scrollable list of table names. 'A/R A/P File Format' is selected. The main area on the right is titled 'Properties' and shows '1 Of 186' tables. It contains fields for 'Table Name:' (ARAPFILE), 'English Description:' (A/R A/P File Format), and 'French Description:' (Format de fichier - Recevable). There is a 'Securable' checkbox and a 'Codes' button at the bottom.

## System Validation Table Editor Command Buttons

**New:** Click **New**  to create a new *System Validation Table*.

**Note:** When you click on **New**, the button changes to **Cancel** ; this will allow you to cancel the creation of the current record. The **Cancel** button is present until the new record is saved.

**Save:** Click **Save**  to save any changes to an existing validation table or to save a new table.

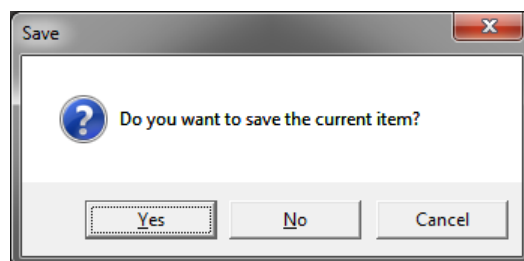
**Delete:** Click to select an existing Validation table from the *List of Validation Table* list on the left hand column; click **Delete**  to delete the table.

**Securable:** Select **Securable** to enable administrators to secure the codes within the validation table. *Refer to the Vertical Security section of the GSM release 4.6, or later guide.*

**Codes:** Click **Codes** to access the code editor for the validation table.

### Closing the Editor

To close the editor, click the close window button in the upper right hand corner of the form..



## System Validation Table Editor - Properties Tab

**List of Validation Table:** This column contains the list of the existing system validation tables; newly added tables will appear in this list.

**Table Name:** This field displays the name of the table. Use a descriptive name such as *acctNum* for *Account Number*. Table names can be a maximum of eight characters.

**English / French Description:** Use these fields to enter a brief description or title for the table.

## Creating a System Validation Table

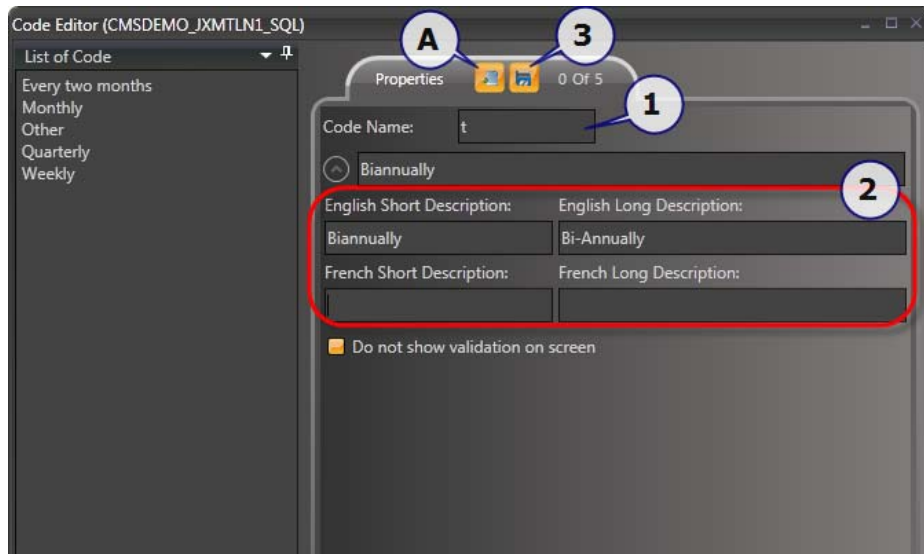
To create a new validation table...

1. Click **New** to clear the form fields.
2. Enter a *Table Name*.
3. Enter an *English Description* and a *French Description* in the description fields.
4. Click **Save** to create a new *System Validation Table*.

After the save, the new system validation table is added to the list column on the left hand side. To add codes to the new table, click **Code**, and follow the steps for *Adding a System Validation Table Code* on page 255.

## Adding a System Validation Table Code

To add codes to a new validation table:



Code Editor (CMSDEMO\_JXMTLN1\_SQL)

List of Code

- Every two months
- Monthly
- Other
- Quarterly
- Weekly

Properties 0 Of 5

Code Name:

Biannually


English Short Description:  English Long Description:

Biannually Bi-Annually

French Short Description:  French Long Description:

☐ Do not show validation on screen

1. Either follow the steps above to create a new system validation table, or select an existing table from the *List of Validation Table* column on the left hand side (1).

**Note:** When you click on **New**, the button changes to Cancel  ; this will allow you to cancel the creation of the current record. The Cancel button is present until the new record is saved.

2. Click **Codes** to display the *Code Editor* form.
3. Click **New (A)** to clear the forms fields for a new code entry.
4. Enter a *Code Name* (1); enter English Short and English Long Descriptions, and any other 2nd language descriptions in the required fields (2).
5. Click **Save** (3).



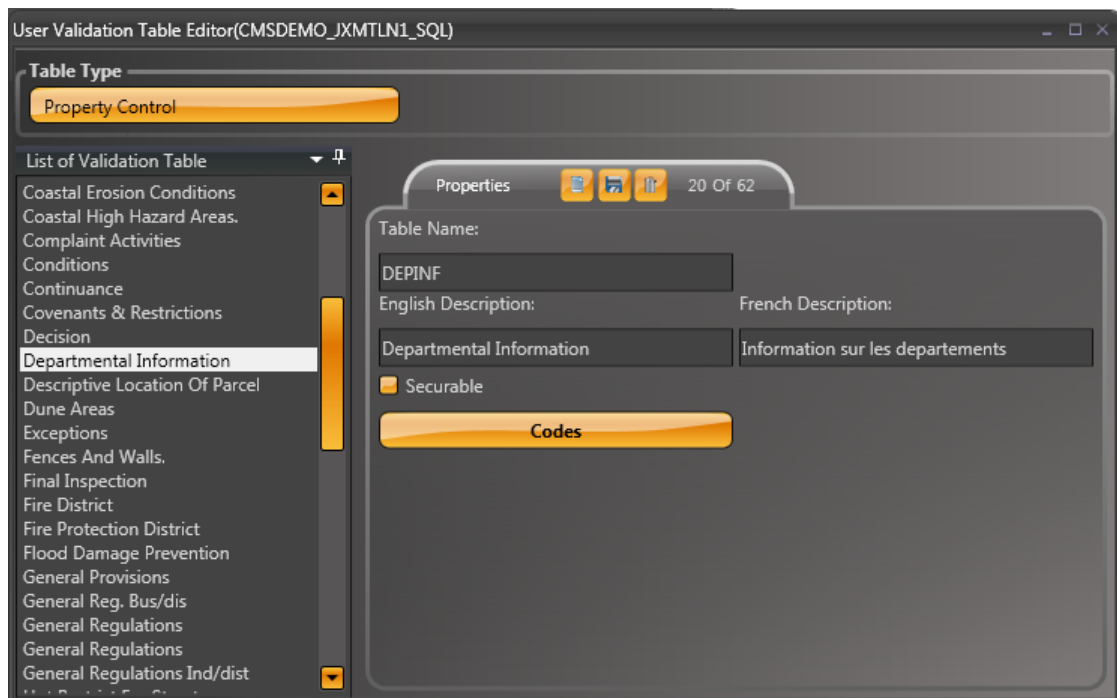
# User Validation Table Editor

## Overview


Maintain the User Validation Tables in this form. These tables are used to validate the information entered in the various fields. Create and maintain the elements of the tables on the Validation Codes form.


To access the *User Validation Table Editor*, in the *Govern New Administration (GNA)*:


1. Select *Editors (tab)* > **User Validation Table Editor...**



## User Validation Table Editor Command Buttons

**New:** Click **New**  to create a new System Validation Table.

**Note:** When you click on **New**, the button changes to **Cancel**  ; this will allow you to cancel the creation of the current record. The Cancel button is present until the new record is saved.

**Save:** Click **Save**  to save any changes to an existing validation table or to save a new table.

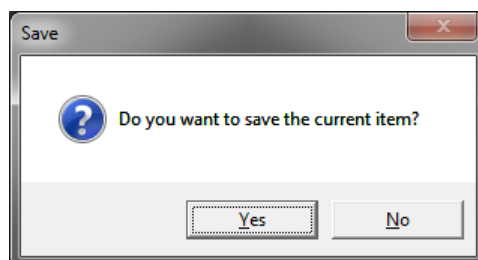
**Delete:** Click to select an existing Validation table from the *List of Validation Table* list on the left hand column; click **Delete**  to delete the table.

**Securable:** Select **Securable** to enable administrators to secure the codes within the validation table. *Refer to the Vertical Security section of the GSM release 4.6, or later guide.*

**Codes:** Click **Codes** to access the code editor for the validation table.

### Closing the Editor

To close the editor, click the *Close Window* button in the upper right hand corner of the form.



## User Validation Table Editor - Properties tab

**Table Type:** The *Table Type* is system-generated and is used, as follows:

- **R:** Regular
- **A:** Accounts / Receivable
- **C:** Property Control (for multimedia and zoning information)
- **B:** Property Control (for the Property Area function)
- **M:** Mass Appraisal
- **P:** Permits and Inspections
- **S:** Super User
- **T:** Tax: Aircraft, Boat, Motor Vehicle, Personal Property and Real Property
- **U:** Utility Billing

All tables created with the *User Validation Table* form are automatically assigned the **Regular table** type.

**List of Validation Tables:** This column contains the list of the existing system validation tables; newly added tables will appear in this list.

**Table Name:** This field displays the name of the table. Use a descriptive name such as *acctNum* for *Account Number*. Table names can be a maximum of eight characters.

**English / French Description:** Use these fields to enter a brief description or title for the table.

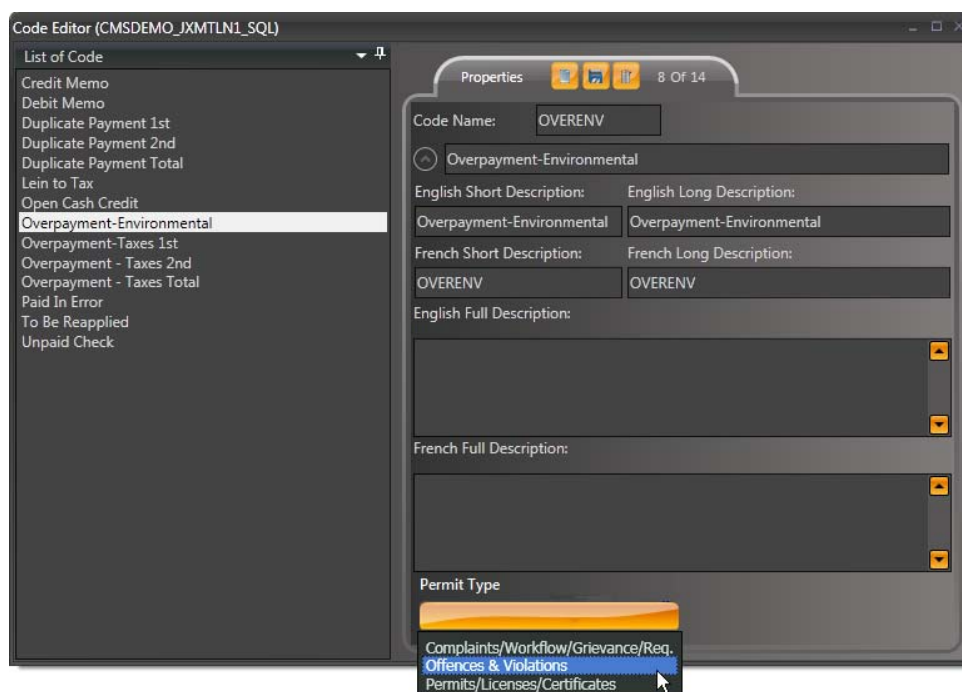
## Creating a User Validation Table

To create a new user validation table...:

1. Click **New** to clear the form fields.
2. Enter a *Table Name*.
3. Enter a description in the *Description* fields.
4. Click **Save** to create a new *User Validation Table*.

## Adding a User Validation Table Code

To add codes to a new or existing validation table:



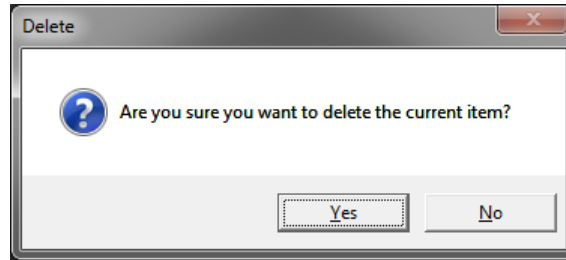
1. Either follow the steps above to create a user validation table, or select an existing table from the *List of Validation Table* column on the left hand side.
2. Click **Codes** to display the *Code Editor* form.
3. Click **New** to clear the form fields.
4. Enter a *Code Name*; enter Short and Long Descriptions, and any other second language descriptions in the required fields.
5. Click **Save**.

## Deleting a User Validation Table Code

To delete a Validation Table code...:

1. Either follow the steps above to create a new user validation table, or select an existing table from the *List of Validation Table* column on the left hand side.

2. Click **Codes** to display the *Code Editor* form.
3. Select an existing code from the *List of Codes* column on the left hand side.
4. Click **Delete**; a dialog box will appear to confirm the deletion.



5. Click **Yes**.

## A Note about Validation Table Codes in the GNA

When the *Verify the Existence, and Creation of Database Object* process is run in GNA, the Govern user validation tables; i.e, the tables that are preceded by VT\_USR\_ in the Govern database are transferred to a single VT\_USER table. During this process all codes are also transferred. Note that there is no process to copy the codes for User Validation tables that are created in GNA to Govern for Windows.

## Permit Type Validation

In the *Code Editor*, it is possible to configure the system to apply a name type validation. This validation or filter is based upon the permit type that is being created. By default, when linking a name type, regardless of what permit type is being selected the system will display all name types. This applies to linking a name to a *Complaint/Grievance/Request For Service/Workflow, Offence/Violation, or Permit/License/Certificate* permit type in *Govern.NET*. When there are many name types in the list, the searching process for the name type can be tedious. When the validation filter is used, only the name types that apply to the permit type is displayed.

Permit Types that can be filtered are as follows:

- Complaints/Workflows/Grievance/Request for Services
- Offences/Violations
- Permits/Licenses/Certificates

To apply a filter to a name type...

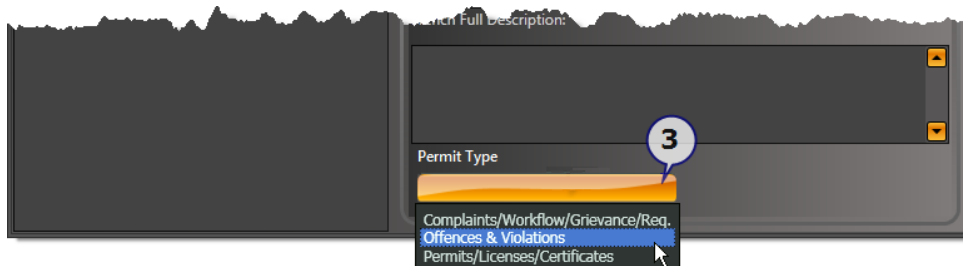
1. In GNA select *Editors (tab) > User Validation Table Editors*.

2. In the *User Validation Table Editor (A)*, under the *List of Validation Tables* look for **Name Types (1)**.

3. Click **Codes**, to display the *Code Editor*.

4. In the *Code Editor*, select a code from the *List of Codes* column on the left hand side.

5. Under the *Permit Type* drop down menu, select the permit type that the code will be filtered by (3).



6. Click **Save**  on the tab.

Now in MS Govern.NET, when making a link to a permit type that matches the filter, only the filtered name types appear in the list.

**Note:** When no *Permit Type* filter is applied in *GNA*, the name type will be visible for all *Permit Types*.

# Data Mapping Editor

## Overview

When an external application, e.g. a *GIS* application, is required to communicate with the *Govern* system, it will need to understand how data is stored within the system. *Govern's* *Web service* methods accept requests, to *Retrieve*, *Update*, or *Delete* data.

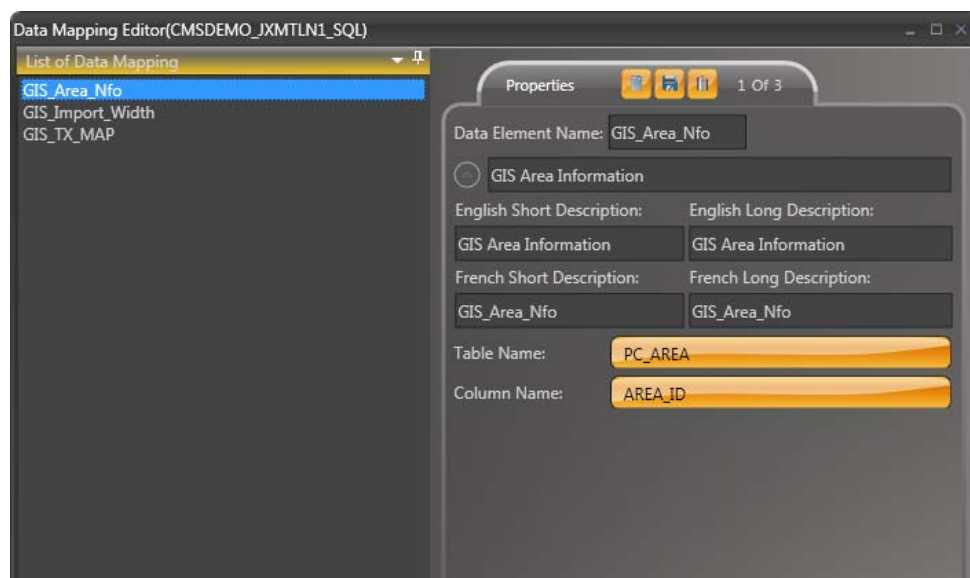
The *Data Mapping Editor* allows users to map specific tables and columns within the *Govern* database to unique *Data Element Names*. When the application makes a request from *Govern*, the data element names must be included in the methods that are sent to the *Web services*.

There are specific rules that are required when making a request to the Web Service, e.g. the Data Element Name of the data map must exist, or the parcel ID requested must exist in the database, etc. *Refer to the MS Govern Property Control System Service API guide for the list of methods and file structure details.*

There are three (3) tables in the Property Control section that can currently be updated, (Table: **PC\_AREA**, **PC\_PARCEL**, and **PC\_LEGAL\_INFO**).

To access the *Data Mapping Editor*...

1. In *GNA* select *Setups/Editors > Editors > Data Mapping Editor...*




## Data Mapping Editor Command buttons

**New:** To create a new data mapping record click **New**.

**Cancel:** Use Cancel to cancel the creation of a new entry. The Cancel button replaces the New button a save of the entry is made.

**Save:** Click **Save** to save a new record or any changes to an existing record. New records will appear under the **List of Data Mappings** column on the left hand side of the editor.

**Delete:** After selecting an existing mapping record from the *List of Data Mappings* list on the left hand column, click **Delete**  to delete the record.

## Data Mapping Editor parameters

### Choosing Data Element Names

The names that are used for Data Elements must ensure that no *Special Characters* or *Reserved Keywords* are used. Refer to *Govern Keywords* on page 158 for a list of keywords that should not be used.

### Oracle Users and Data Element Names

Due to the case sensitivity of table names, a convention of all Uppercase or all Lowercase names should be decided upon. Do not use any Oracle Keywords for *Data Element Names*.

**Data Element Name:** Specify a *Data Element Name* for the mapping record. This is a unique name that must be included in the request from the external application to the *Web service*.

**Note:** This field has a maximum of 15 characters; no special characters or spaces are allowed.

Enter a descriptive name for the mapping record that will be used in the following parameters:



**English Short Description:** Enter a short description for the mapping record. This is useful for fast data entry and look-ups if space is limited on the forms.

**English Long Description:** Enter a long description for the mapping record. This will be displayed for look-ups on forms and is normally used for reporting.

## Second Language Fields

When there is a 2nd language, or multiple languages, ensure that these description fields are also completed; i.e. *French Short Description*, and *French Long Description*

**Table Name:** From the drop down menu, select the name of the Govern table that the data will be mapped to. Available tables are:

- PC\_LEGAL\_INFO
- PC\_AREA
- PC\_PARCEL

**Column Name:** The table columns that are listed are filtered according to the table that is selected in the *Table Name* parameter.

## Creating a Data Map record

To create a data map record, use a **Data Element Name** that will be acceptable to the requesting external application. This name will be used in the method that will be sent to the Web service.

1. In GNA, select *Setups/Editors > Editors > Data Mapping Editor...*
2. Click **New** in the Data Mapping Editor.
3. Locate the parameter called *Data Element Name*; enter the **Data Element Name**.

4. If not expanded click the expansion arrow **(A)** to display the additional parameters in the form; complete the parameters..



5. Select a table from the Table Name drop down menu.
6. Choose a column name within the table that was selected.
7. Click **Save** to save the mapping record to database.

When the external application makes a request to the web service, if the *Data Element Name* is in the method, the data will be retrieved, updated or deleted from the *Govern* database.

## Testing a Web Service Request

As an example, we want to make a request that will obtain the tax map and the zoning information of the following *Parcel ID*'s, 16800, 16804, and 16807. This can be done in three (3) steps.

### STEP 1 - Create the data mapping records

It is necessary to create the data mapping records for the elements that will be called in the method structure. For our example we will be using the **pcTaxMap** and **areaZoning** elements.

1. In GNA select, *Setups/Editors > Editors > Data Mapping Editor...*
2. Click **New**, to create a new Data Mapping Record.
3. Enter a Data Element Name of **pcTaxMap**.

4. Click to expand the fields and enter an English Short and Long Description; enter *PC Tax Map* as a description.
5. The tax map information will be coming from is the PC\_AREA table in the ZONING column; select PC\_PARCEL for the Table Name, and TAX\_MAP for the Column Name.
6. Click **Save** to save your mapping record.

Repeat the above steps to create the **areaZoning** data element. Use *PC Area Zone* as the description. The Table Name and Column Name are PC\_AREA and ZONING

## STEP 2 - Create the XML request structure

Refer to the *Service Contract* section of the *MS Govern Property Control System Service API* guide; this will provide you with the expected structure of the **MSGovern\_GetElementValue** function. From the guide we obtain the following information:

```
Function MSGovern_GetElementValue (
ByVal strXmlElement As String ) As String
The retrieve elements must in structure of xml:
<?xml version="1.0" encoding="utf-8"?>
<getElementValue>
  <ParcelIds>
    <ParcelId value="16800"/>
    <ParcelId value="16807"/>
    <ParcelId value="23452"/>
  </ParcelIds>
  <ElementItems>
    <ElementItem name="areaZoning"/>
    <ElementItem name=" areaSchDist "/>
  </ElementItems>
</getElementValue>
```

For our example we will use the following...

```
<?xml version="1.0" encoding="utf-8"?>
<getElementValue>
  <ParcelIds>
    <ParcelId value="16800"/>
    <ParcelId value="16804"/>
    <ParcelId value="16807"/>
  </ParcelIds>
```

```
<ElementItems>
  <ElementItem name="pcTaxMap" />
  <ElementItem name="areaZoning" />
</ElementItems>
</getElementValue>
```

The *Parcel ID*'s that we are requesting are specified within the <ParcelIds> tags. our *Element Items* are specified within the <ElementItems> tags. Note that the names are identical to what was specified in *GNA* in *STEP 1* above.

**Note:** Verify that the XML structure is identical to specifications in the *MS Govern Property Control System Service API* document.

Always ensure that the Element Item name is identical to the one created in GNA.

### STEP 3 - Validate the XML request with the Test Client

Locate the **WcfTestClient.exe** application that is included with the WCF PC Web Services package. This program is usually located in a folder called *Test Application*. Refer to the *MS Govern Property Control Service Setup and Configuration guide* for details about using the test application.

1. Start the test application; add the WCF Service.
2. On the left hand side, under the list of available methods in the service, locate the **MSGovern\_GetElementValue()** method.

3. Double click on the method to load it in the *Test Client*.

**Note:** A limitation of the supplied test client is that Return characters and Line feeds are not recognized. These characters must be manually removed in the editor.

As an example, the following formatting will become a single line when the returns and line feeds are removed.

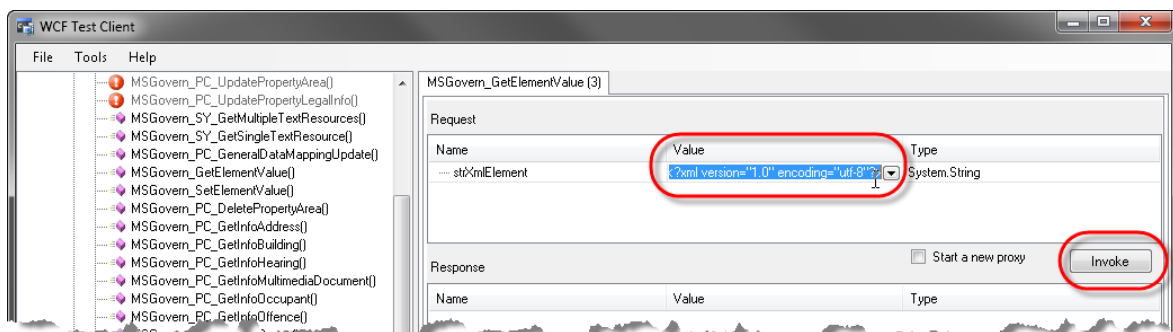
```
<?xml version="1.0" encoding="utf-8"?>
<getElementValue>
  <ParcelIds>
    <ParcelId value="16800"/>
    <ParcelId value="16804"/>
    <ParcelId value="16807"/>
  </ParcelIds>
  <ElementItems>
    <ElementItem name="pcTaxMap"/>
    <ElementItem name="areaZoning"/>
  </ElementItems>
</getElementValue>
```

**becomes...**

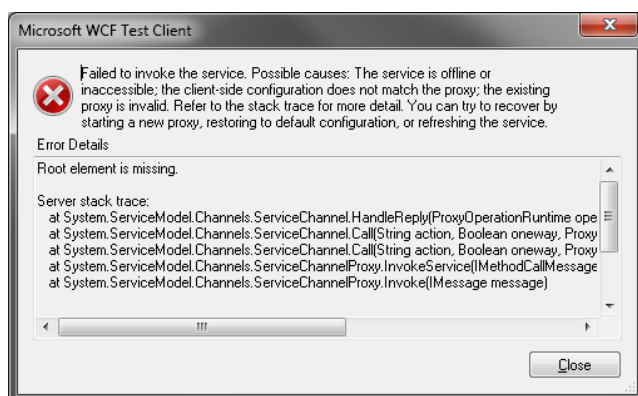
```
<?xml version="1.0" encoding="utf-8"?><getElementValue><ParcelIds><ParcelId value="16800"/>
><ParcelId value="16804"/><ParcelId value="16807"/></ParcelIds><ElementItems><ElementItem name="pcTaxMap"/>
><ElementItem name="areaZoning"/></ElementItems></getElementValue>
```

The above is only a characteristic of this test client; other clients may differ in behavior.

- Copy the single line version of your XML code and paste it into the Value field in the *Test Client*.



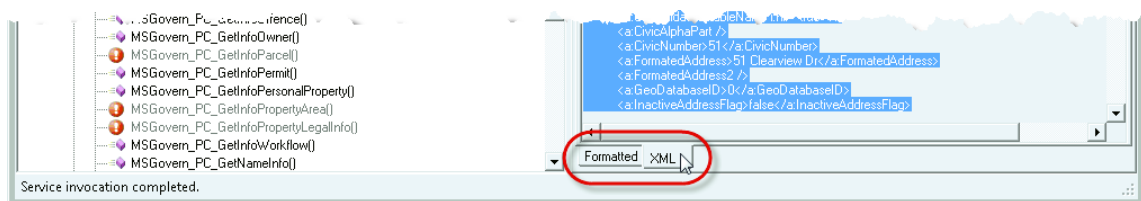
- Click **Invoke**; any errors will be displayed in a dialog box.



- When the action is successful, a response is displayed in the *Response* pane of the *Test Client*.

## Viewing the Results

In the Test Client, the request and response parameters can be displayed in two (2) modes, **Formatted**, and **XML**. You can switch between the two views with a click on the corresponding tabs along the bottom of the *Request* pane. When you are in XML mode results from the successful requests to the *Service* can be observed.



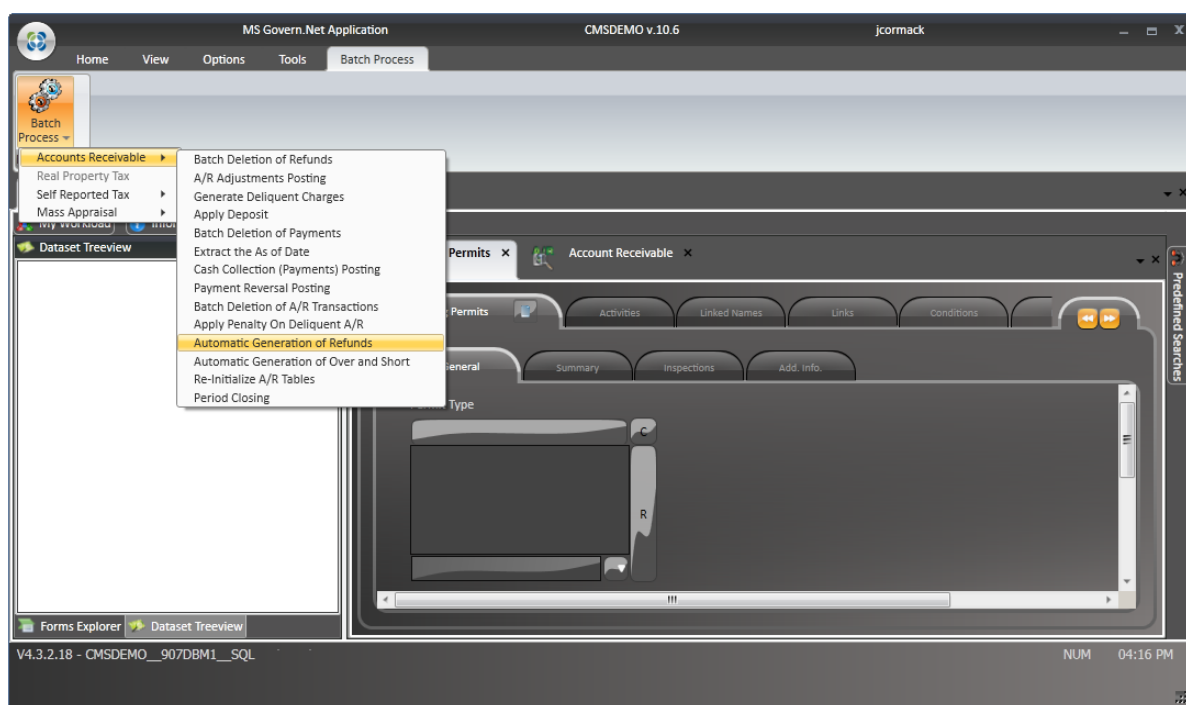


# Batch Process Definitions

## Overview

This section describes the *GNA Batch Process Definitions* form. Use this form to define how you want your batch processes to appear and run in Govern.NET. This includes setting up the menus and submenus for organizing your batch processes, configuring whether each process is run on a single server or on multiple servers, associating one or multiple reports, and finally synchronizing the batch process definitions and adding permissions.

When complete, the batch processes are displayed in Govern.NET as in the following screen shot:



This procedure has two major steps:

- *Configuring Batch Process Definitions on page 273*
- *Adding Batch Processes Definition to Govern on page 290*



# Configuring Batch Process Definitions

## Overview

This section describes the following topics:

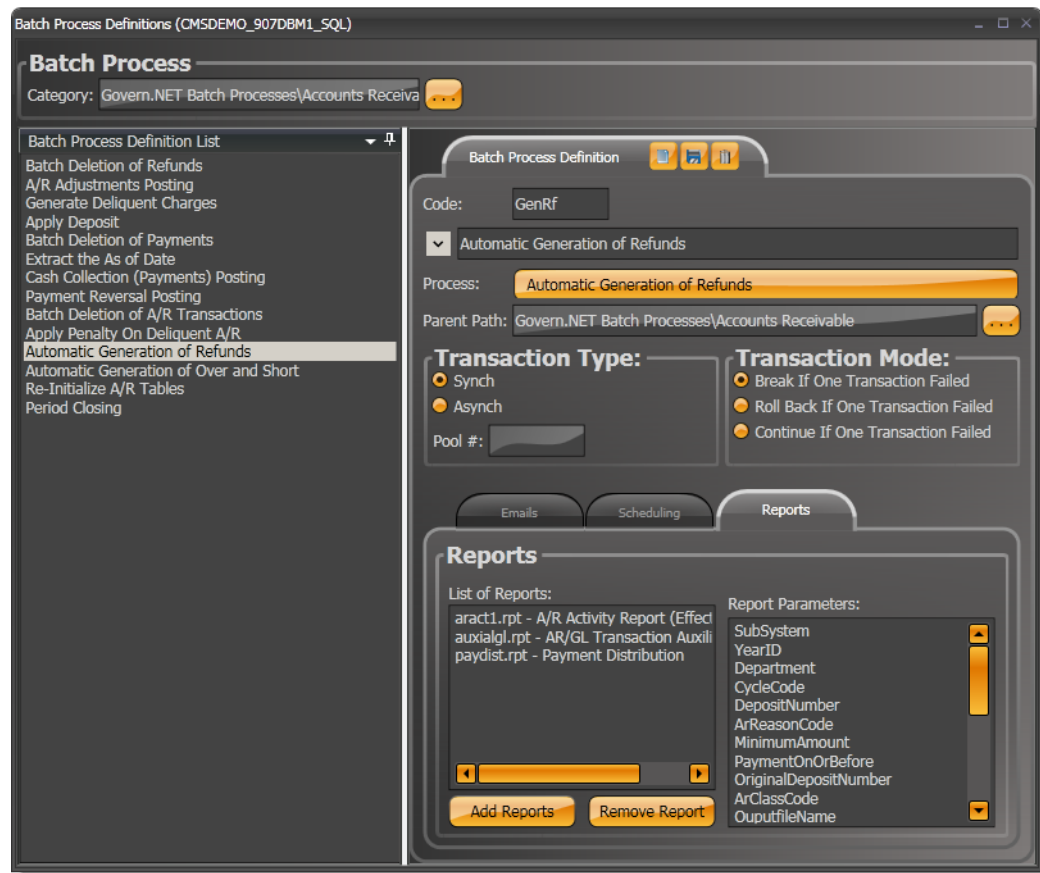
- User Interface
- Creating a Category on page 277
- Deleting a Category on page 279
- Selecting a Category on page 280
- Defining a Batch Process on page 284
- Defining the Transaction Type on page 286
- Defining the Transaction Mode on page 287
- Adding a Report on page 287
- Deleting a Batch Process Definition on page 289

## Batch Process Definitions User Interface

This section provides a tour of the Batch Process Definitions UI. The interface is comprised of a treeview, the definition form, and a secondary window for creating the menus and submenus or categories.

To access the Batch Process Definitions form:

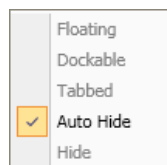
1. Launch *Govern New Administration (GNA)*.
2. Select **Batch Process > Definitions**.




## About the Treeview

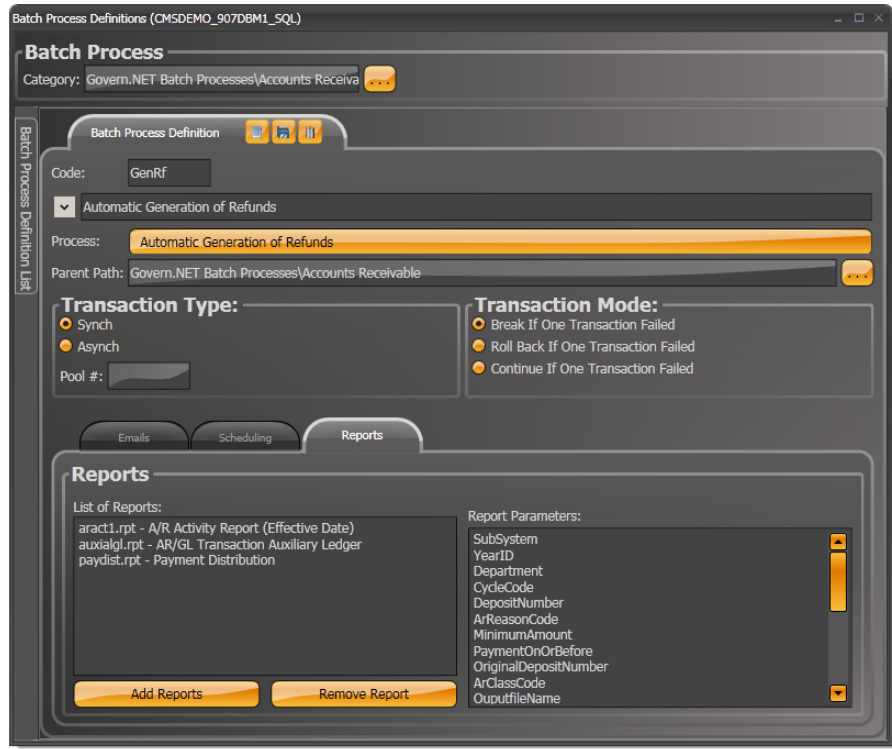
Once you create menus and define batch processes, the selected items are listed in a treeview on the left of the form. You can display or hide the treeview according to your preference.

To hide the treeview:



Click the drop-down arrow ▼; Then, select **Auto hide** from the context menu:

Click the Pin . When it is in a horizontal position, the treeview is in the Auto Hide position.



**Batch Process**  
Category: Govern.NET Batch Processes\Accounts Receivable

**Batch Process Definition**

Code: GenRf

Automatic Generation of Refunds

Process: Automatic Generation of Refunds

Parent Path: Govern.NET Batch Processes\Accounts Receivable

**Transaction Type:**

☒ Synch  
☒ Asynch

Pool #:

**Transaction Mode:**

☒ Break If One Transaction Failed  
☐ Roll Back If One Transaction Failed  
☒ Continue If One Transaction Failed

**Reports**

List of Reports:


- aract1.rpt - A/R Activity Report (Effective Date)
- auxialgl.rpt - AR/GL Transaction Auxiliary Ledger
- paydist.rpt - Payment Distribution

Report Parameters:

- SubSystem
- YearID
- Department
- CycleCode
- DepositNumber
- ArReasonCode
- MinimumAmount
- PaymentOnOrBefore
- OriginalDepositNumber
- ArClassCode
- OutputFileName

Add Reports Remove Report

To display the treeview in the default position on the left of the interface, do one of the following:

- Select **Dockable** from the menu.
- Click on the **Batch Processes Definitions** tab on the left of the form.
- Click the Pin to change it to a vertical position .

## About Batch Process Definitions

You can view, add, or modify a batch process definition, as described later in this section.


To display or hide the English and French long and short descriptions, click on

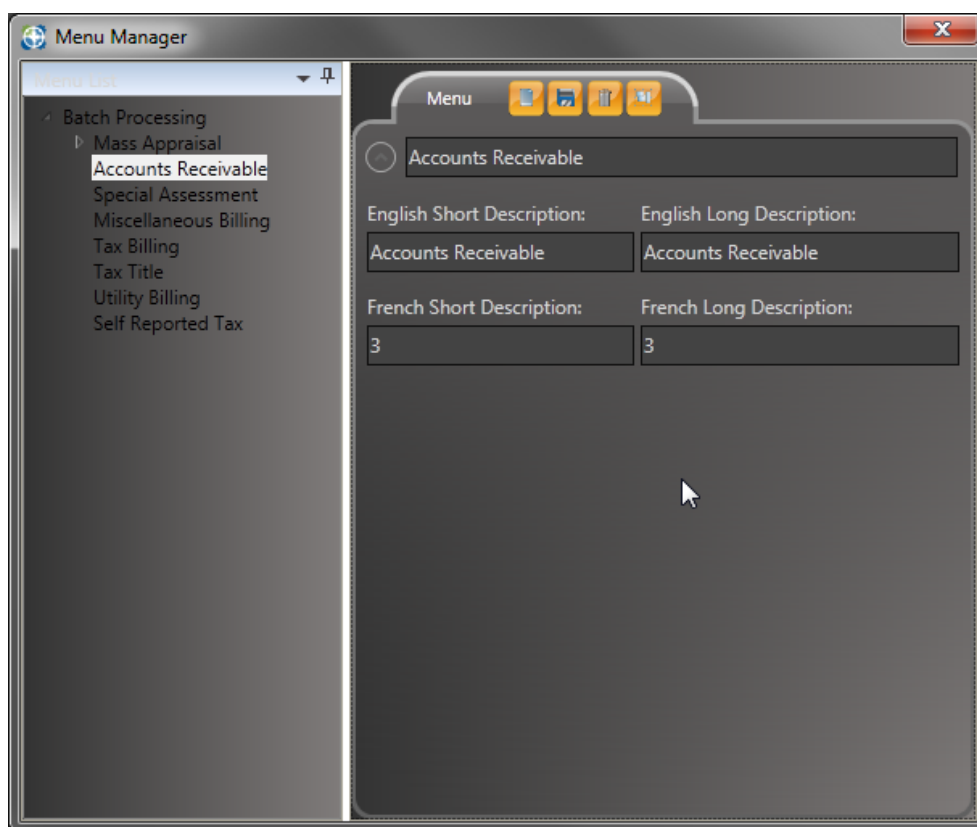
the arrow  beside the text box at the top of the form.

## About the Menu Manager

The Menu Manager form is used for creating the menus and submenus for organizing your batch process definitions in Govern.NET.

To access the Menu Manager

1. Launch *Govern New Administration (GNA)*.
2. Select *Batch Process* > **Definitions**.
3. Click the ellipsis button  beside the **Category** text box.



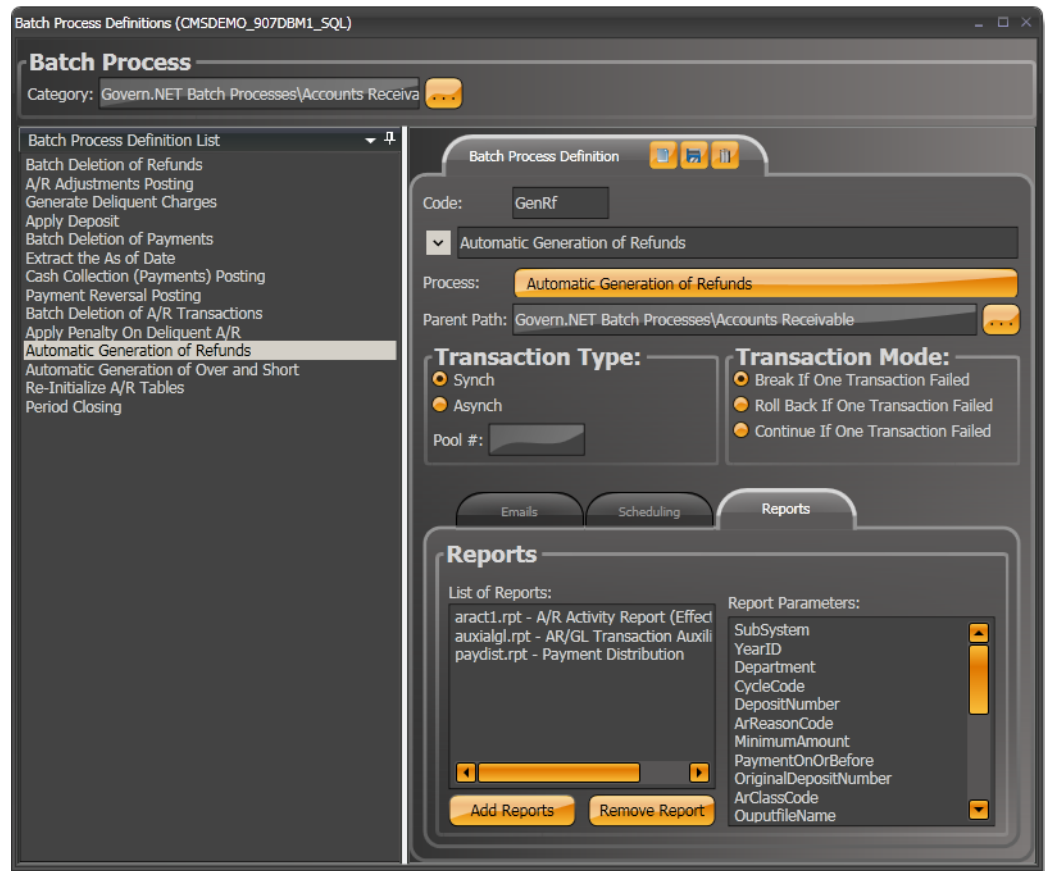
If categories are already created, they are listed on the left. You can expand a category to view secondary levels if they exist. The name of selected menu is displayed on the right. You can expand the name to view the English and French short and long descriptions.


### Creating a Batch Process Category

The first step is to create categories for your batch processes. The categories are used for displaying the batch processes in the Govern .NET menu. Create as many categories as required in order to facilitate user input.

To create a Batch Process:

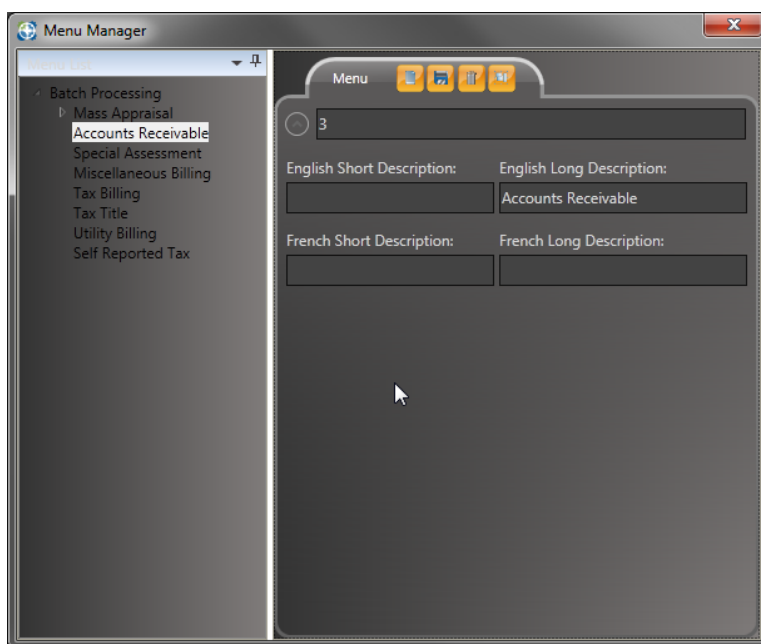
1. Launch Govern New Administration (GNA).
2. Select *Batch Process* > **Definitions**.





3. Click the ellipsis button  beside the **Category** text box. This opens the Menu Manager.

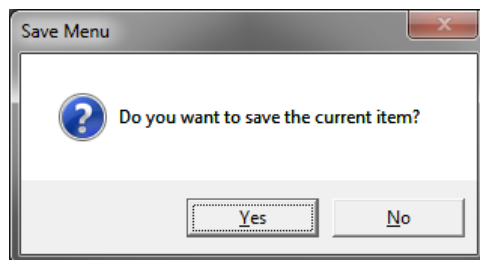
The Menu Manager is used for creating categories for the batch processes. You can have multiple levels. For example, you could group batch processes by module, such as: Accounts / Receivable, Tax Billing,

and Mass Appraisal. Then, you could add another level that groups processes according to when they need to be run; i.e., daily, monthly, or yearly. You can create any type of category that is useful for your organization.




4. Enter a name for the category in the text box at the top right. This is automatically added to the **English Long Description** field.
5. Click the button  to the left of the text box where you entered the category name. This expands a menu with additional descriptions.
6. Add an **English Short Description** and **French Short and Long Description** as required. These fields are optional.
7. Click **Save**  to add the category to the menu.

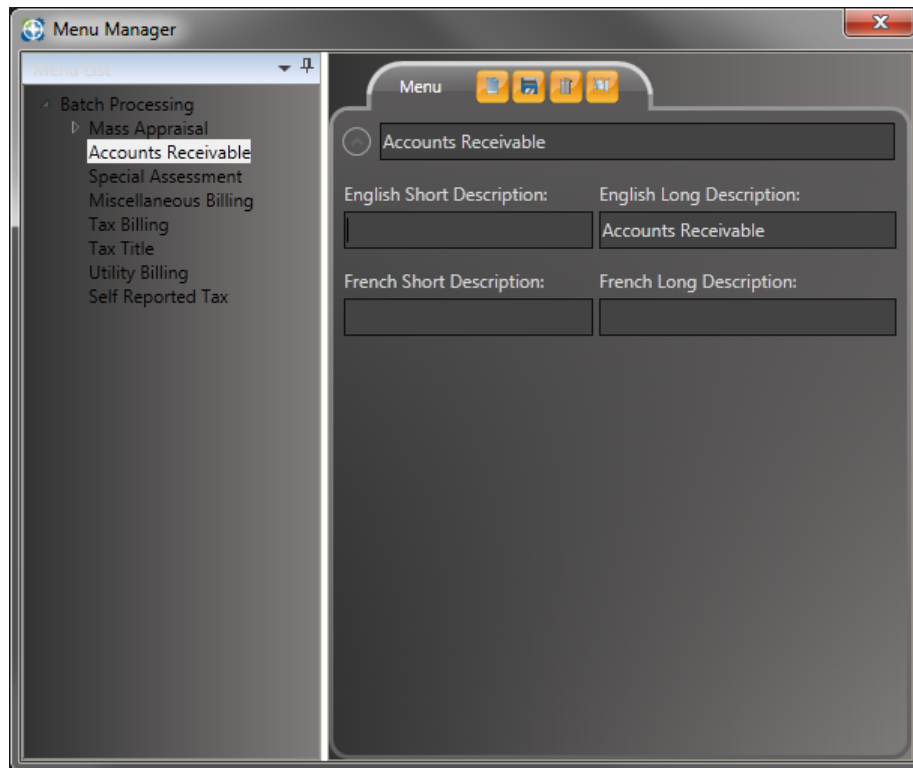
If you click the **Select** button without saving your new category, the following confirmation message appears:




## Deleting a Menu Category

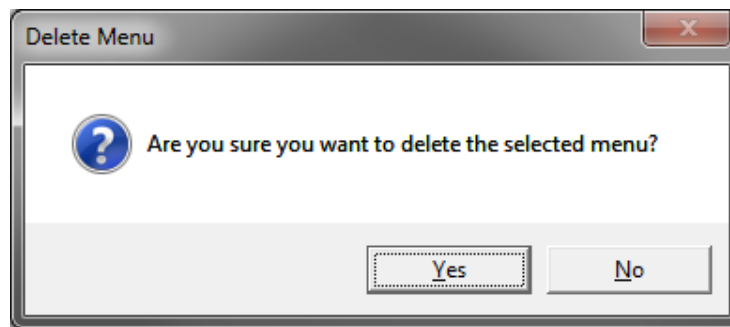
To delete a menu category from the Menu Manager:

1. Launch Govern New Administration (GNA).
2. Select *Batch Process* > **Definitions**.
3. Click the ellipsis button  beside the **Category** text box to open the Menu Manager.



4. Expand the applicable menu.
5. Select the category from the Menu list on the left.
6. Click the **Delete** button  in the menu at the top right.

The following confirmation message appears:



7. Click **Yes** to delete the record.


## Selecting a Category for the Batch Process

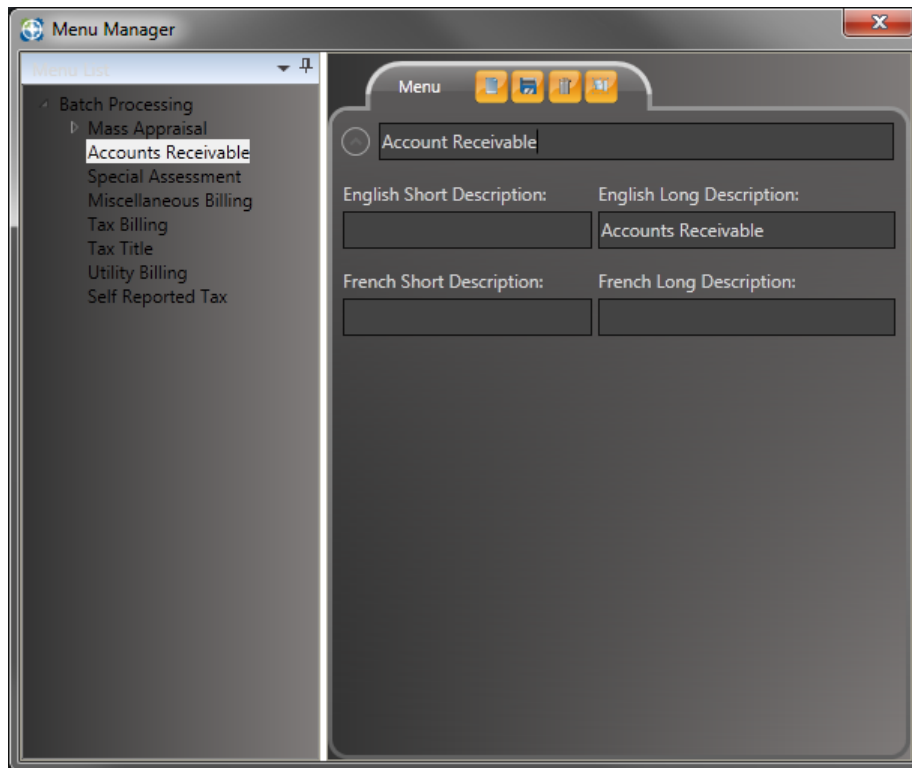
You need to define the processes under the categories to which they are assigned and will appear in Govern.NET. Before defining a batch process, select the menu category where it will be saved.

To select a Batch Process:

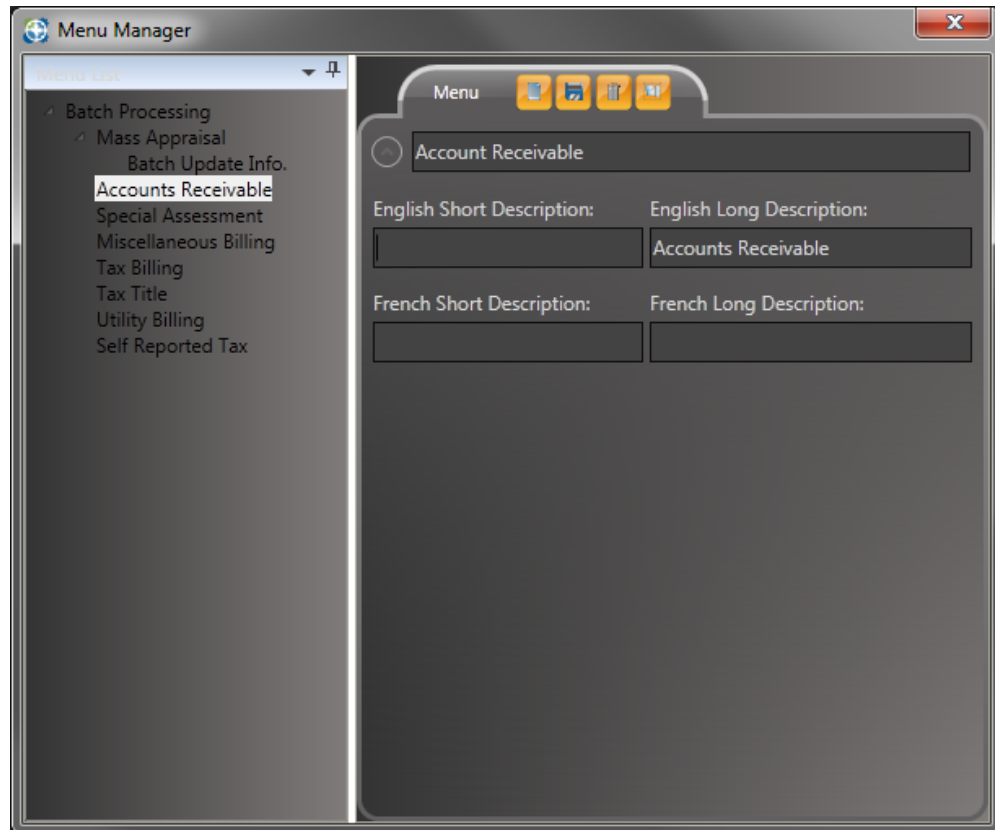
1. Launch Govern New Administration (GNA).
2. Select **Batch Process > Definitions**.



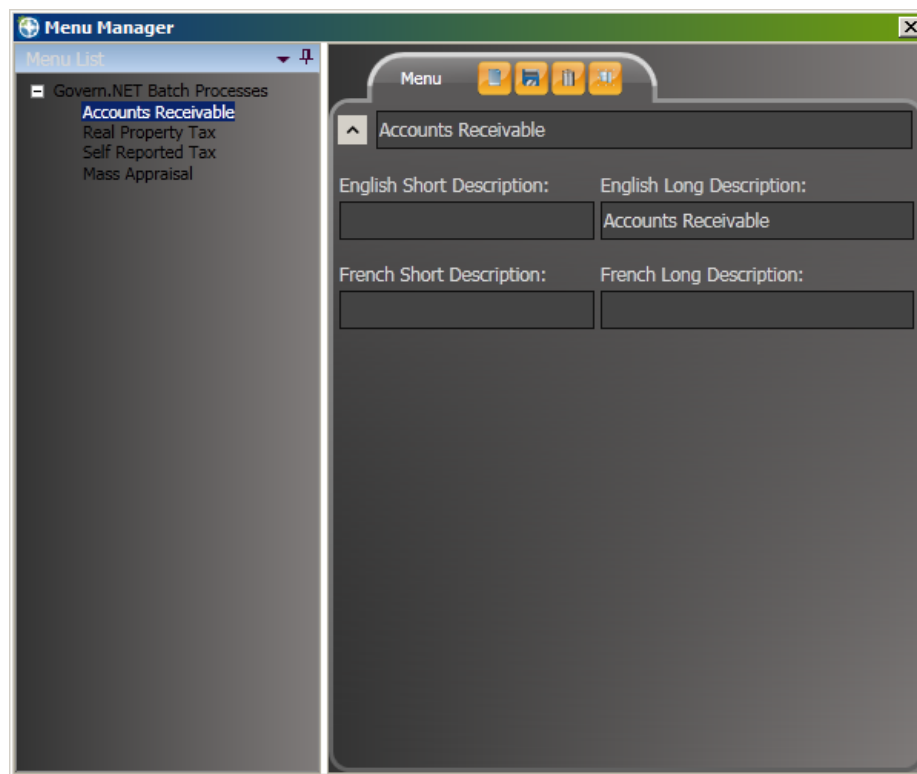
3. Click the ellipsis button  beside the **Category** text box to select the category for the batch process. This opens the Menu Manager.




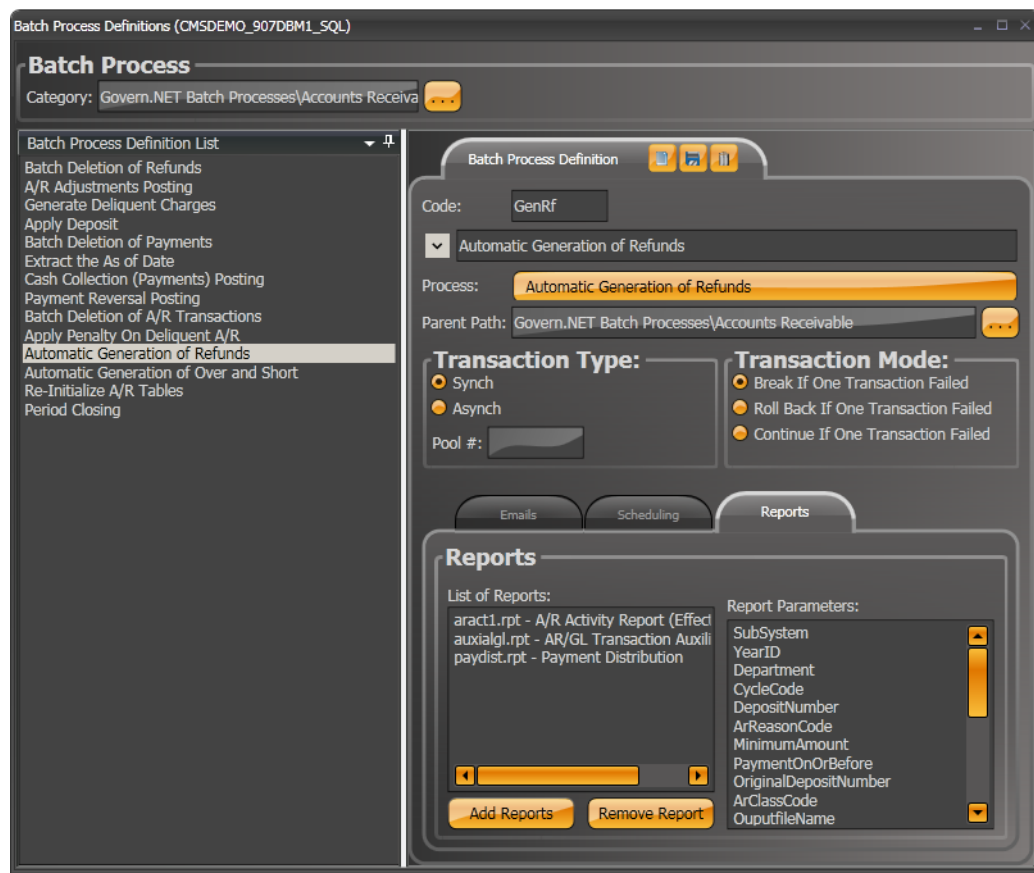
4.



The screenshot shows the 'Menu Manager' application window. On the left, a 'Menu List' pane contains a tree view with the following items: 'Batch Processing', 'Mass Appraisal', 'Batch Update Info.', 'Accounts Receivable' (highlighted), 'Special Assessment', 'Miscellaneous Billing', 'Tax Billing', 'Tax Title', 'Utility Billing', and 'Self Reported Tax'. The main area on the right is titled 'Menu' and contains a search bar with 'Account Receivable' entered. Below the search bar, there are four input fields: 'English Short Description:', 'English Long Description:', 'French Short Description:', and 'French Long Description:'. The 'English Long Description:' field contains the text 'Accounts Receivable'.



5. Expand the root menu to display the submenus.
6. Select the applicable submenu or category.
7. Click the **Select** button .



The root menu and all submenus are displayed in the **Category** text box and in the **Parent Path** text box. The existing batch processes are listed on the left.

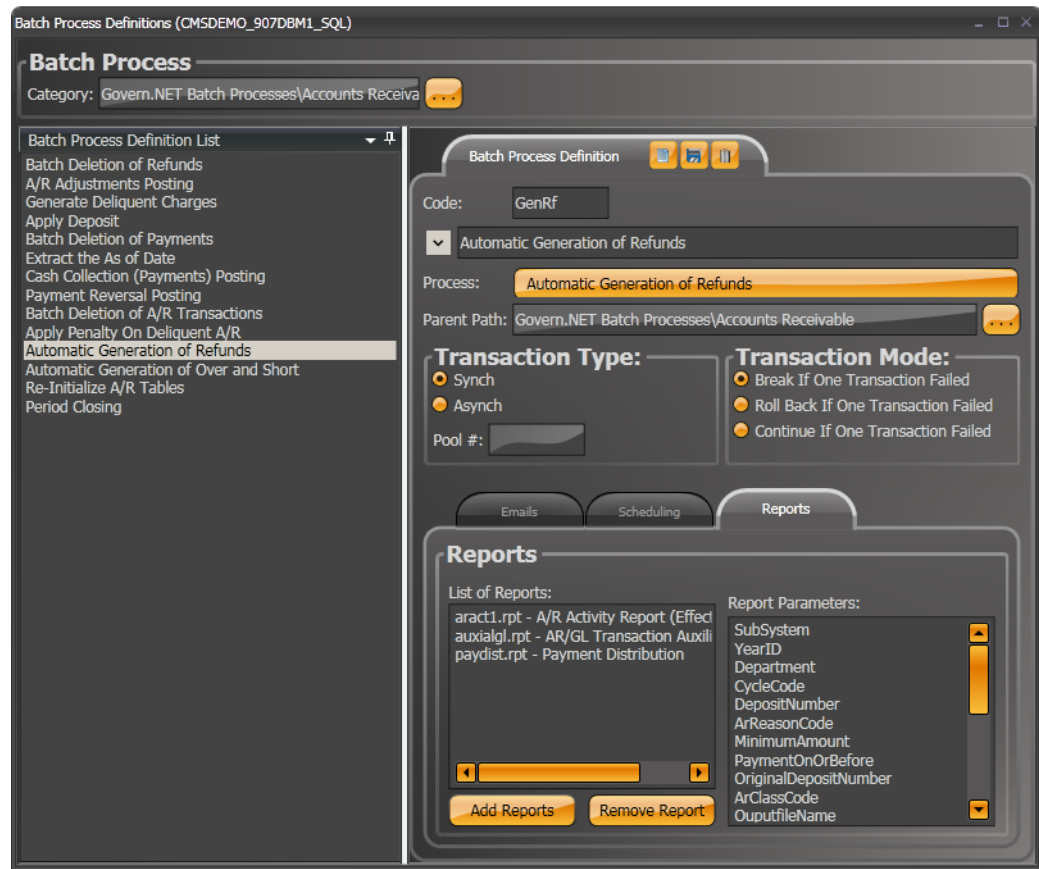
## Defining a Batch Process

Use the following process to name the definition and to associate it with a Govern Batch process.




**Note:** You need to define the processes under the category to which they are assigned and will appear in Govern.

To define a Batch Process:

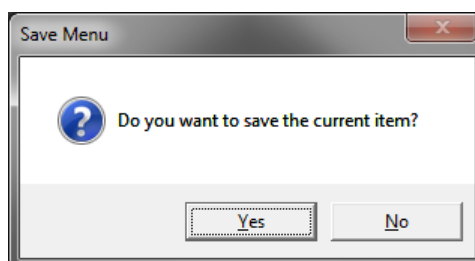
1. Select the category where you are defining the process as described under *Selecting a Category for the Batch Process on page 280*.



The batch processes already defined for the category are displayed in the treewview on the left.

2. Click the **New** button .
3. Enter a code for the new batch process definition. This is a required field.
4. Select a Govern batch process from the **Process** drop-down list. This is a required field.
5. Enter a name for the record in the text box at the top right. This is automatically added to the **English Long Description** field.
6. Click the button  to the left of the text box where you entered the name. This expands a menu with additional descriptions.
7. Add an **English Short Description** and **French Short and Long Description** as required. These fields are optional.
8. Click the **Save** button  to add the category to the menu.

If you click the **New** button without saving your modifications, the following confirmation message appears:



## Defining the Transaction Type

The Govern batch processes can be run synchronously or asynchronously. If they are run synchronously, they are run on the same server. If run asynchronously they are run on multiple servers at the same time.

Select **Synch** or **Asynch** as required. For processes with multiple transactions, it is recommended to use asynchronous processing as this spreads the load over multiple servers and makes for faster processing time.

**Pool #:** For **Asynchronous** processes only, enter the maximum number of transactions to be handled by the client servers at any one time.

This works as follows: If you are running asynchronous batch processing, there is one master server that manages all the transactions and is responsible for sending them to the client servers. The value in the Pool # field indicates the maximum number of transactions to send out by the master server at any one time.

## Scenario: Running a Batch Process Asynchronously

The following scenario illustrates how asynchronous batch processing works. The parameters are as follows:

- **Master server:** one
- **Client servers:** five
- **Transactions:** 50,000
- **Pool #:** 50

The master server sends out the first 50 transactions to the client servers. Each server is responsible for ten transactions. As soon as a server completes

one transaction, the master server sends it another. This continues until all transactions have been processed. However, there are never more than 50 transactions being handled by the client servers at any given time.

## Defining the Transaction Mode

Select one of the following transaction modes for the process.

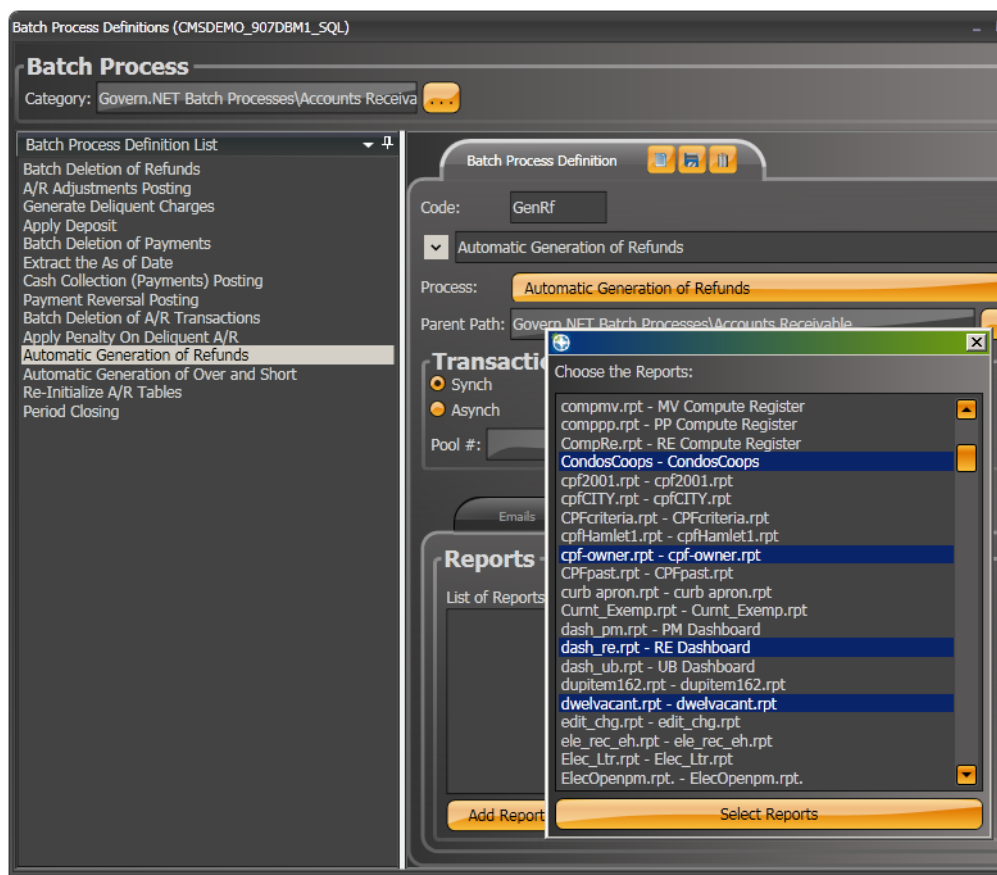
- **Break If One Transaction Failed:** the process terminates when the transaction fails.
- **Roll Back If One Transaction Failed:** the process terminates when a transaction fails and all the transactions that were completed are cancelled. Computations are returned to the starting point.
- **Continue If One Transaction Failed:** Continue to run the process even if a transaction fails.

## Adding a Report

Use the following procedure to associate one or more reports with the selected batch process.

To add a report: to the batch process:

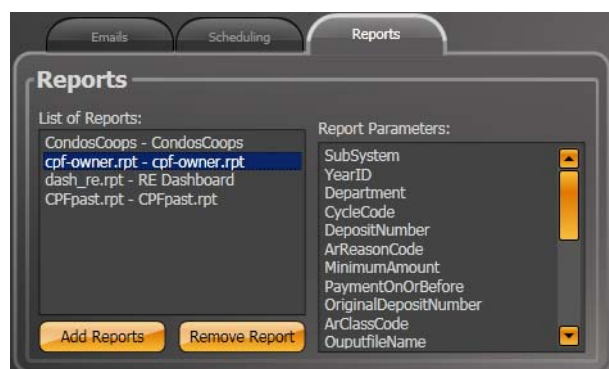
1. Launch the Batch Process Definitions form.
2. Select the category for the process as described under *Selecting a Category for the Batch Process on page 280*.
3. Select the batch process from the treeview on the left.
4. Click **Add Reports**.



5. Select one or more reports from the *Choose the Reports* menu.

**Tip:** You can select multiple reports using the left mouse button.

6. Click **Select Reports**.






The selected reports are displayed in the List of Reports text box. The parameters for the report are displayed in the Report Parameters list box.

The List of Parameters text box displays the parameters that can be included in the report and that can be used to build an external report; for example, these could include **Date To** and **Date From** fields. The purpose is to give you the exact reference and wording of these fields.

## Deleting a Batch Process Definition

To delete a batch process:

1. Launch the Batch Process Definitions form.
2. Select the category for the process as described under *Selecting a Category for the Batch Process on page 280*.
3. Select the batch process from the treeview on the left.
4. Click the **Delete** button .

# Adding Batch Processes Definition to Govern

## Overview

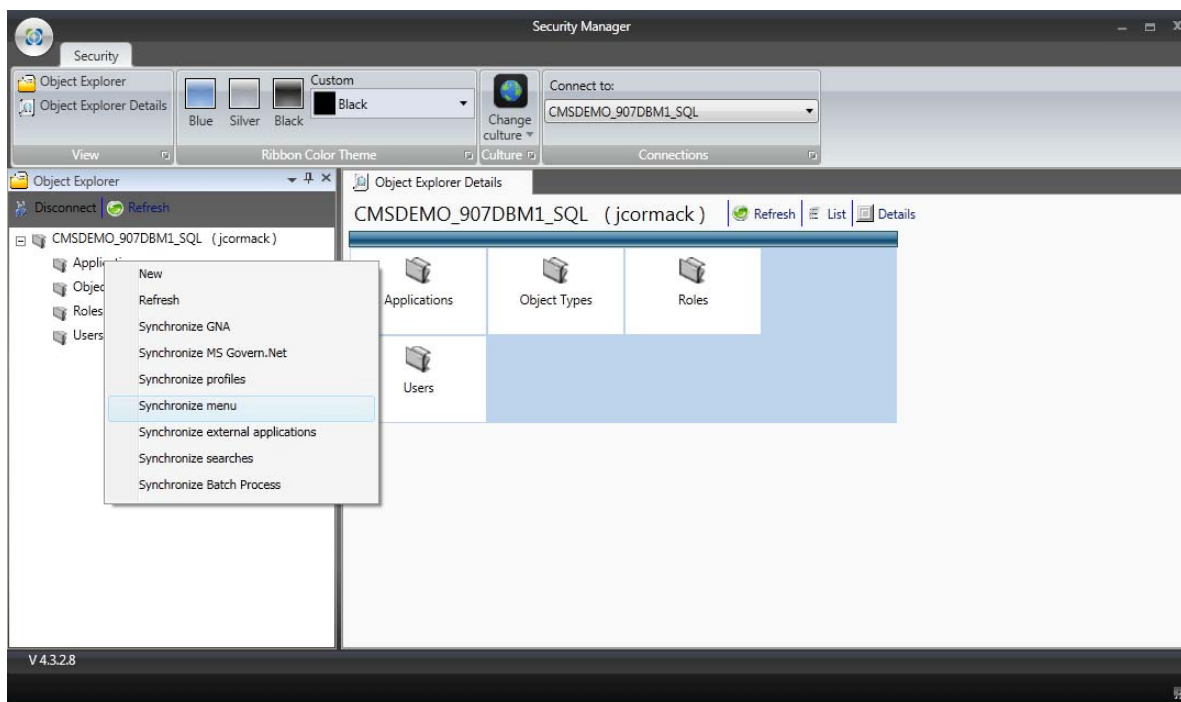
When you have defined your batch processes, you need to add them to Govern.NET. In order to do this, you need to launch the Govern Security Manager and synchronize your new processes between GNA and Govern.NET. Then, you need to assign access permissions.

## Synchronizing Batch Process Definitions

When you have synchronized your new batch process definitions, they appear on the Govern.NET menu.

To synchronize the new batch processes:

1. Launch the MSGovern Security Manager (GSM).
2. Select your database connection key.

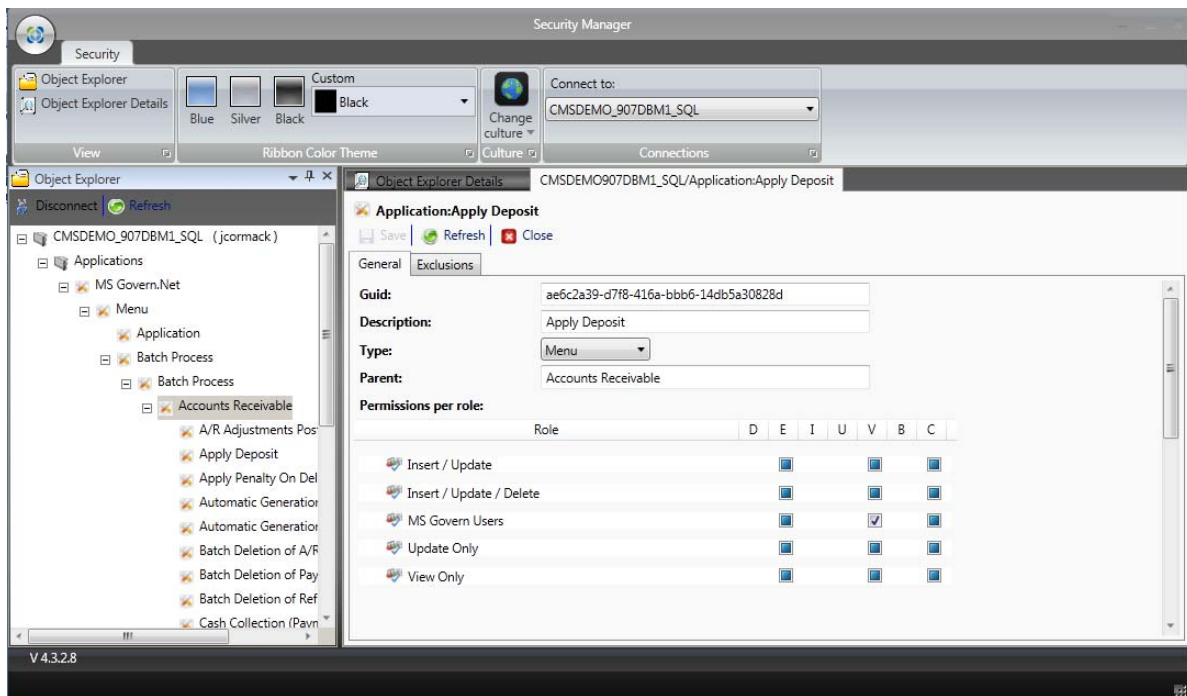


3. Right-click on **Applications** and select **Synchronize menu** from the drop-down list. A confirmation message appears.
4. Click **Yes** on the confirmation message.

## Granting Permissions to Batch Processes

Use the following procedure to assign access permissions to the new batch process definitions. You can grant permissions by batch process, batch process menu, or by batch process definition.

1. Launch the MSGovern Security Manager (GSM).
2. Select your database.
3. Expand **Applications > MSGovern.NET > Batch Process > Batch Process**.
4. Continue to expand the menus until you are the level where you want to grant permission.



5. Right-click on the item that you want to secure.
6. Define the permissions and exclusions as required and as described in the *Govern Security Manager* guide.

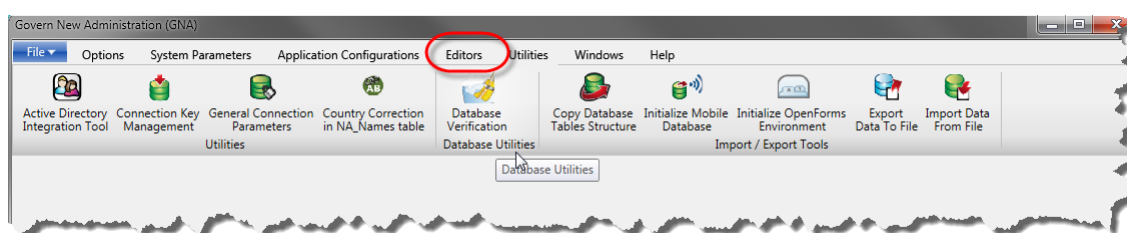
# GNA Utilities

## Overview

The *Govern New Administration (GNA)* contains system administrative tools, data import and export tools, and database maintenance utilities. These programs are software routines and utilities used to configure and maintain databases for *Govern* applications.

## Database Utilities

Release 6.0 of the GNA consolidates processes that were available as separate utilities in previous releases. The following are overviews of their uses.



## Active Directory Integration Tool

The unidirectional Active Directory Integration Tool allows for the importation of users from Active Directory into Govern's user database. Once imported into Govern, administrators can then manage which forms and functions users will have access to through Govern's Administration program. See *Importing Active Directory Users into Govern on page 335*

## Connection Key Management

This form is used to create or modify the parameters for a Connection Key. This form allows you to specify required parameters, access credentials, and any additional parameters required. See *The Connection Key Management form on page 340*

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## Connection Key General Parameters Management

This form allows you to change the default parameters found in the Connection Key General Parameters Management form. See *Connection Key General Parameters Management* on page 345

## Country Corrections in NA\_NAMES table

This process is required to clean up the text field used in early versions of *Govern for Windows*. See *Country Corrections in NA\_NAMES table* on page 368

## Database Utilities

- **Database Verification** - The *Database Verification* is a process that should be run after defining the database connections and configuring your Web sites with GNA. Run this process to verify that these objects are present. This process can be run, for example, whenever new tables are added to the *Govern* database or when a database object becomes corrupted. See *Processing a Database Verification* on page 297 for details. Within the process are the following subprocesses; note the two (2) that are optional.
  - **Creating Govern System Stored Procedures** - This process is to be run only upon the recommendation of your *Govern Support* representative. A situation that would warrant the use of this process would be when performing a major upgrade.
  - **Verifying Database Objects** - The *Database Verification* process, when first run, required database objects are loaded. You can run *Verify Database Objects Existence* to update the database. The only difference between this option and the *Database Verification* option is that this option does not include the test to verify the location of the VT\_USR and VT\_SYSTEM tables. See *Verifying Database Objects* on page 309.
  - **Rebuild VT System Table (OPTIONAL)** - In running the *Database Verification*, the VT\_SYSTEM table is created and all *Govern's* *System Validation* (VT\_SY) tables are copied to it. You can run this process separately, as required. An example of use is when VT\_SY tables are added to the *Govern* database. See *Verifying Database Objects* on page 309.
  - **Rebuild VT User Table (OPTIONAL)** - When you run the *Database Verification* process, the VT\_User table is created and all *Govern's* *User Validation* (VT\_USR) tables are copied to it. Running this process will rebuild the VT\_User table. You can run this process

separately, as required. See *Rebuild the VT\_USER Table from VT\_USR* on page 304.

- **Verify VT\_USR Table Indexes (SQL Server Only)** - When transferring all VT\_USR\_XXX table to the .NET VT\_USER table, or performing a database upgrade with *Updata*, indexes may be lost during the procedure. Lost indexes can be recreated with the **Verifying VT\_USR Table Indexes Existence (SQL Server Only)** process. See *Verifying VT\_USR Table Indexes (SQL Server Only)* on page 305.
- **Recompile Database Objects (Oracle Only)** - Database upgrades can invalidate schema objects. This process will recompile invalid schema objects. See *Recompile Database Objects (Oracle Only)* on page 305.

- **Create Govern System Stored Procedures** - The *Govern* system requires a minimum set of basic procedures to be present in the database, in order to access and manage current, and future stored procedures.

This procedure must be run at least once in order to build the tables that are required to access *Govern's System Stored Procedures*. See *Deleting All MS Govern Stored Procedures* on page 307

- **Create only Tables needed for Dynamic Search Component** - This process is to be run only by users that are already using Web components; configuration information will be migrated to new tables while preserving old settings. See *Deleting All MS Govern Stored Procedures* on page 307.

## Use of Upper and Lowercase when Naming Database Tables

Users of *Govern for Windows* and *OpenForms* should note the following; the SQL database used in *Govern for Windows* has no issues with naming database tables with uppercase or lowercase characters. In *openForms*, all tables must be in uppercase characters. When there is a conversion process from *Govern for Windows* to *OpenForms*, any tables with lowercase characters are automatically converted to uppercase. In a conversion, what needs to be considered are tables names from external sources, e.g. *Marshall & Swift*. For a SQL database, when these external source table names are converted from lower to uppercase for *OpenForms*, there are no issues.

## Oracle Database Users

Oracle users should note that the same type of conversion mentioned above will result in duplicate keys. This is identified when performing the *Verify Database Objects Existence* process. See *Verify Database Objects on page 300*.

### Sample Script to Identify Lower Case Table Names

To avoid any issues, verify that table names are in uppercase. The following script can be run to identify any lower case table names in external database sources:

```
SELECT DISTINCT(UPPER(TABLE_NAME))  
FROM VT_USER  
WHERE TABLE_NAME=LOWER(TABLE_NAME)
```

When tables with lowercase names have been identified, users can then create and run their own custom script to change the lowercase characters into uppercase.

# Import / Export Tools



## Overview

The *Import / Export Tools* submenus contains the tools that can be used for customizing new databases. This can include preparing mobile databases, copying database structures, or updating OpenForms profiles from a reference database.

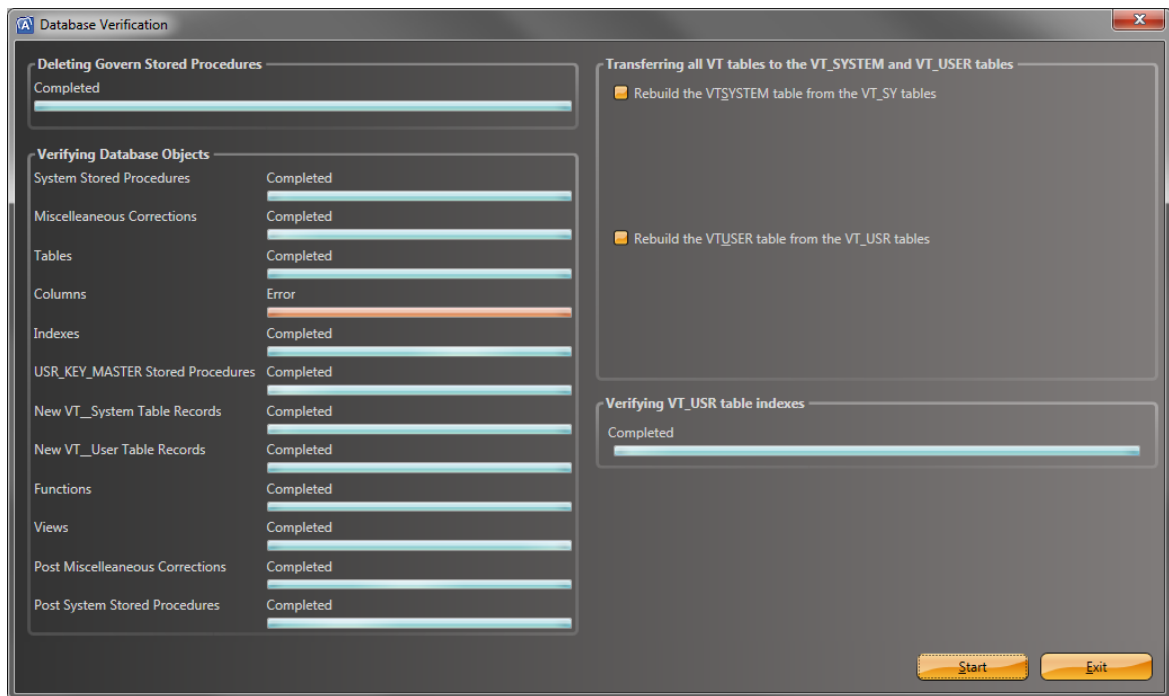
- **Copy Database Table Structure** - After creating an empty database that will be used for a mobile deployment, this process will copy the structure of the master database to the mobile database. This process should be run for empty, newly created databases. See *Initialize Mobile Database on page 311*.
- **Initialize Mobile Database** - The *Provision Mobile Database* process is used to remove synchronization objects, i.e. triggers and tracking tables. In addition to this, the process checks to see whether required database objects, exist in the mobile database so that there are no errors when provisioning an existing database. See *Initialize Mobile Database on page 311*.
- **Initialize OpenForms Environment** - The *Initialize OpenForms Environment* process is used principally to transfer OpenForms™ models from one database to another. This refers to all *OF\_XXX* type tables. This process can be used to duplicate the OpenForms profiles from one database to another.
- **Export Data to File** - The Export Data form is used to export content from a specified database to an .XML file. See *Export Data to File on page 315 for details*.
- **Import Data from File** - The Import Data form is used to import content from an XML data file into a database. See *Import Data from File on page 329 for details*.



# Processing a Database Verification

## Overview

**Note:** You need to run the *Database Verification* process after defining the database connections and configuring your Web sites. This updates your databases so that they can be accessed by the *Govern OpenForms™* applications.



The following is a list of the *Database Objects* that are updated:

- System Stored Procedure
- Miscellaneous Corrections
- Tables
- Post System Stored Procedures
- Sequences (Oracle Only)
- Columns
- Indexes

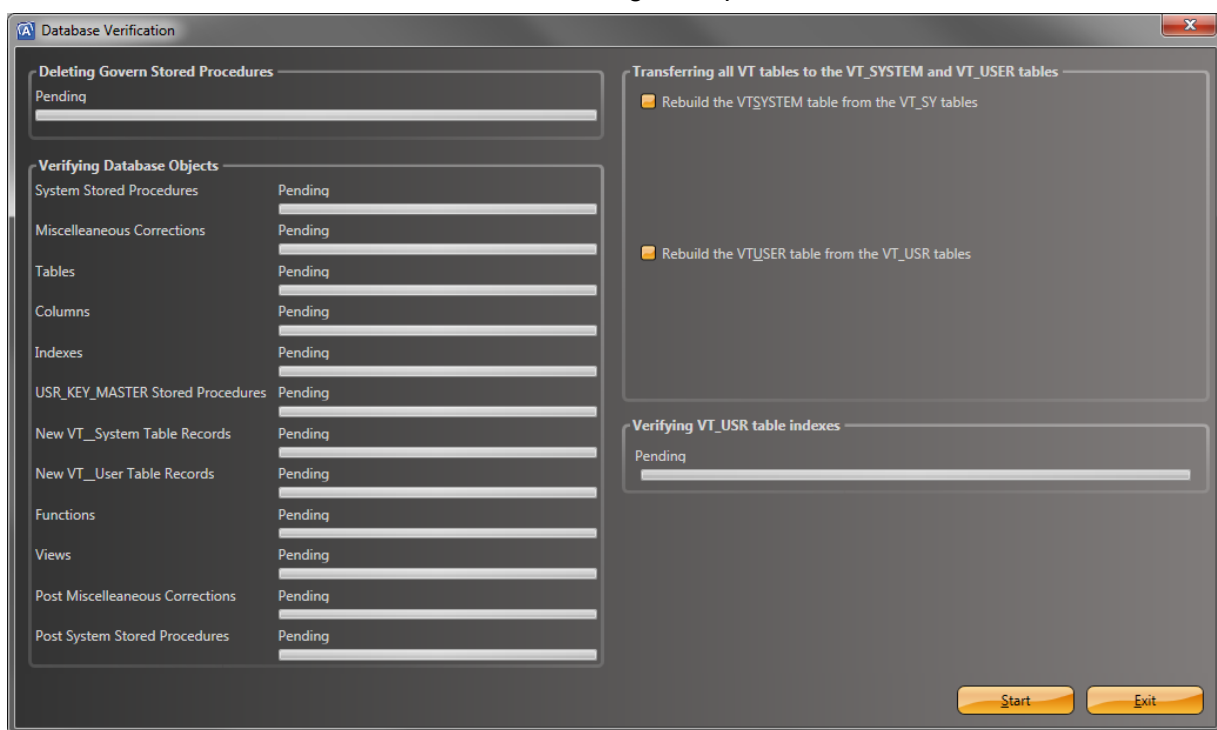
See *Verify Database Objects* on page 300 for details.

- Copying all VT\_SYSTEM Table Records

- Copying all VT\_USER Table Records.
- Views - This process will create the standard virtual tables or “Views” that are required by select *OpenForms*.
- Post Miscellaneous Corrections. See *Miscellaneous Corrections on page 301*.

To access this process:

1. In GNA select the *Utilities* tab.
2. In the *Database Utilities* group, select **Database Verification...**
3. In the form, click **Start** to begin the process,



This process can be run repeatedly to verify that the database objects mentioned above are present. This could be done for example, whenever tables are added to the *Govern* database or when a database object becomes corrupted. You can alternate the running of this process with the *Verify DB Objects Existence* process. See *Verifying Database Objects on page 309*.

## System Stored Procedures

### Overview

*Stored procedures* are subroutines that are available to applications accessing a relational database. *Stored Procedures* are automatically created, in *Govern*, when the user performs a search or modifies a table by updating, inserting or deleting a record.

In order to be able to access and manage the database, a minimum set of basic procedures must be present in the database to access and manage current, and future stored procedures.

The *Create MS Govern System Stored Procedures* option is incorporated during first time access to the database to create a required minimum set of procedures. This procedure must be run at least once in order to build the tables that are required to access *Govern's System Stored Procedures*. This process prepares the database by creating tables such as **Sy\_Gov\_Sel\_Sys**.

To access this process:

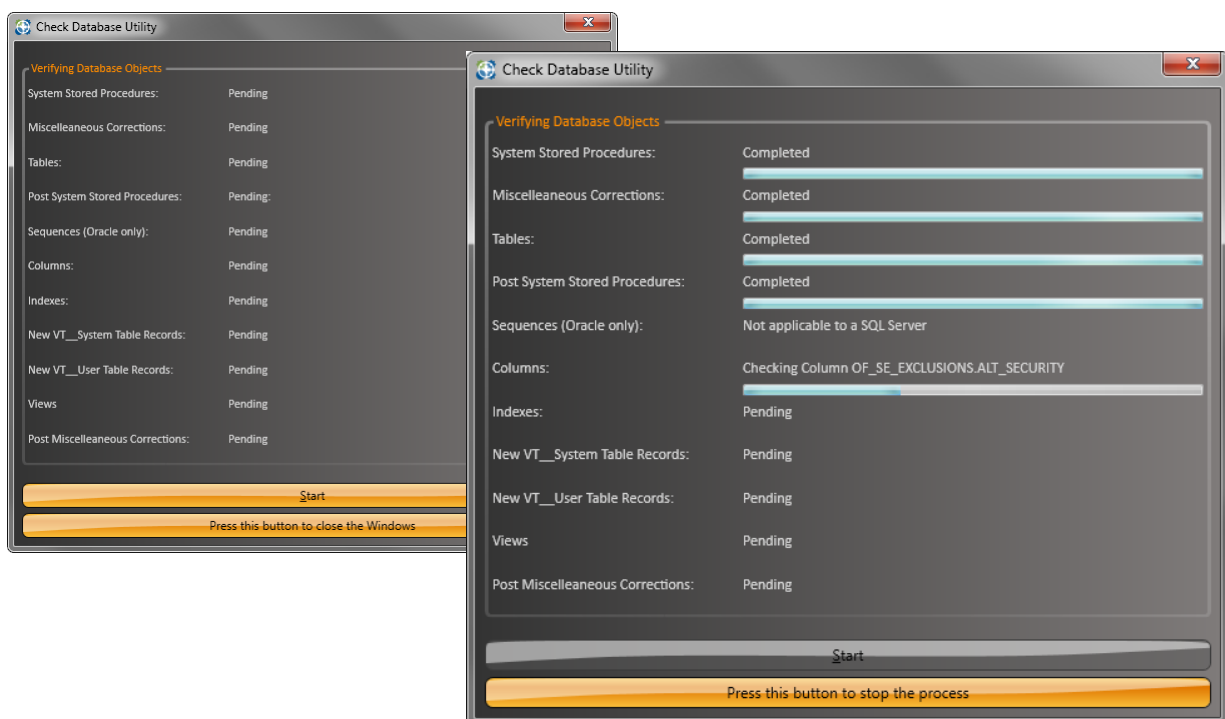
1. Select *Utilities* (tab) > *Database Utilities* > **Database Verification**
2. When complete, click **Exit**.

## Verify Database Objects

*Database Objects* are objects that make up a relational database. These are objects that are used to store or reference data. Examples of database objects are tables, columns, indexes, and stored procedures.

This process creates the following required database objects the first time it is run. When the process is repeated, it verifies that the following database objects are present:

- System Stored Procedure
- Miscellaneous Corrections
- Tables
- Post System Stored Procedure
- Sequences (Oracle Only)
- Columns
- Indexes
- New VT\_SYSTEM Table Records
- New VT\_USER Table Records
- Views
- Post Miscellaneous Corrections



## System Stored Procedures

This process creates system stored procedures. These stored procedures are required by the *Data Access Block (DAB)*.

Stored procedures are saved to SY\_STORED\_PROC\_LIST and the parameters used in the search or modification are saved to the SY\_STORED\_PROC\_PARAM table.

The procedures in **SY\_STORED\_PROC\_LIST** can begin with the following:

- s\_: Select
- i\_: Insert
- d\_: Delete
- u\_: Update

Examples of parameters stored in **SY\_STORED\_PROC\_PRM** are:

- **@na\_id**: This parameter is equal to the current NA\_ID
- **@user\_id**: This parameter is equal to the current user ID
- **@internet\_acct**: This parameter is equal to the current Internet account

## Miscellaneous Corrections

The *Post Miscellaneous Corrections* process performs the following actions:

1. Removes the blank spaces from the CODE column, In the VT\_USR\_STATE table. All values in this column are state and provincial codes and are two characters in length.
2. Creates the records, in the VT\_SY\_ECOMP\_FIELDS table, using a stored procedure.
3. Creates records, under the *Validation Table Brule* heading, in the VT\_SYSTEM table.
4. Creates records, under the *Validation Table LangIdent* heading, in the VT\_SYSTEM table.
5. Creates records, under the *Web\_PayType* heading, In the VT\_SYSTEM table.
6. Encrypts the nonencrypted number in the CC\_CC\_WEB table.
7. Updates the codes, under the table <month>, in VT\_SYSTEM.

8. Transfers old column data to new ones.

### Tables

For a complete list of the tables that are required for the eProfile and eComponents, refer to the MSGDatabaseStructureMods.xml file.

### Post System Stored Procedures

This is a correction script, i.e. cleanup procedures, for *Govern Stored Procedures*.

### Sequences (Oracle Only)

For Oracle users, this process loads the *Sequences* required by the .NET applications. Sequences are used for generating numbers for autonumber fields.

### Columns / Indexes

This process will verify the columns and indexes of the database. It ensures that columns types are correct, and rebuilds indexes if required.

### New VT\_SYSTEM Table Records / New VT\_USER Table Records

When running, these processes will verify any changes in Miscellaneous Structure improvement tables.

### Views

A *SQL View* is the equivalent of a *Virtual Table*. Views are generated as a result of a SQL query. When the query is run, the resulting “virtual tables” are then referenced like a normal table. This process verifies the presence of views that are required by specific OpenForms.

### Post Miscellaneous Corrections

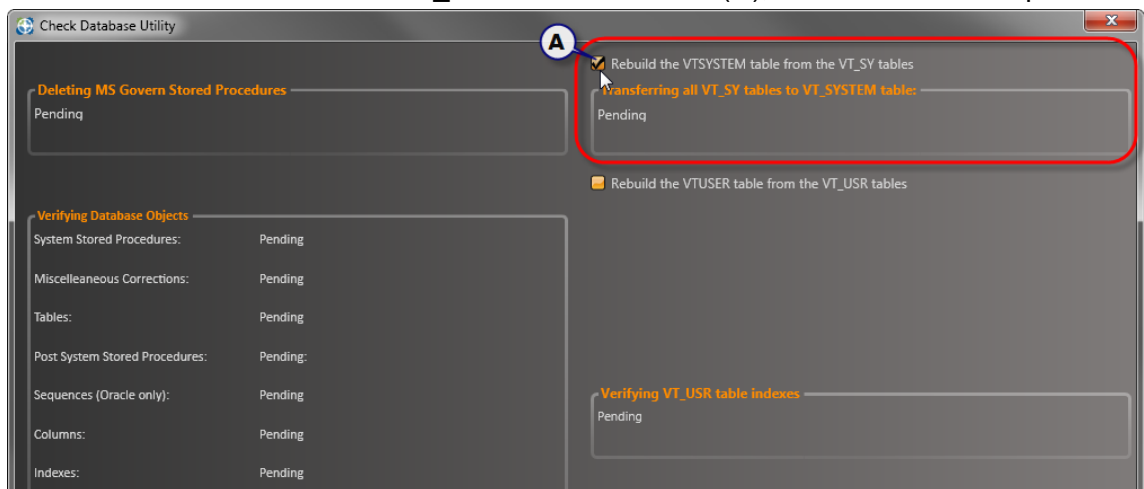
This script is a final cleanup process for the Miscellaneous Corrections.

## Rebuilding the VT\_SYSTEM Table

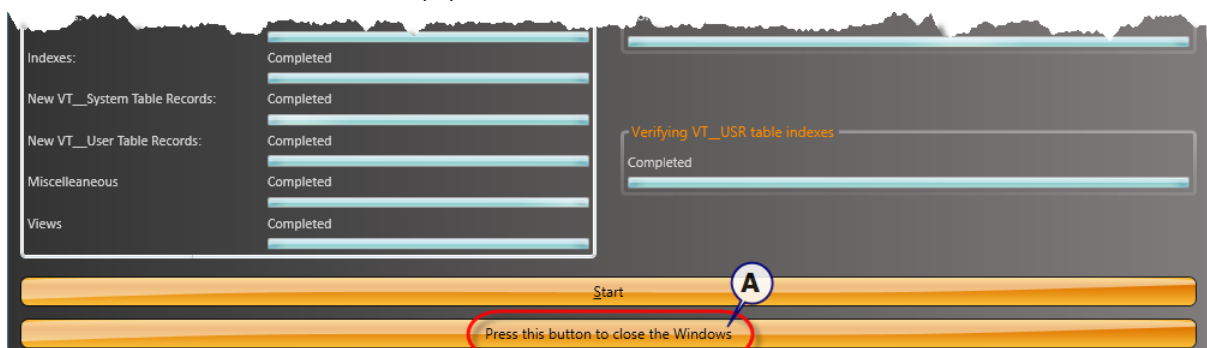
This is an optional process that is part of the **Database Verification** process. In running the *Complete Database Check* process, the VT\_SYSTEM table is created and all Govern's System Validation (VT\_SY) tables are copied to it. Run this process when new VT\_SY tables are added to the Govern database.

To run this and other processes in the *Govern New Administration (GNA)*:

1. Select: *Utilities (tab) > Database Utilities > Database Verification*.
2. In the Check database Utility form, click the **Rebuild the VT\_SYSTEM table from the VT\_SY tables** checkbox (A), this will enable the process.



3. Click **Start**.
4. When the process is complete click **Press this button to close the Windows (A)**..

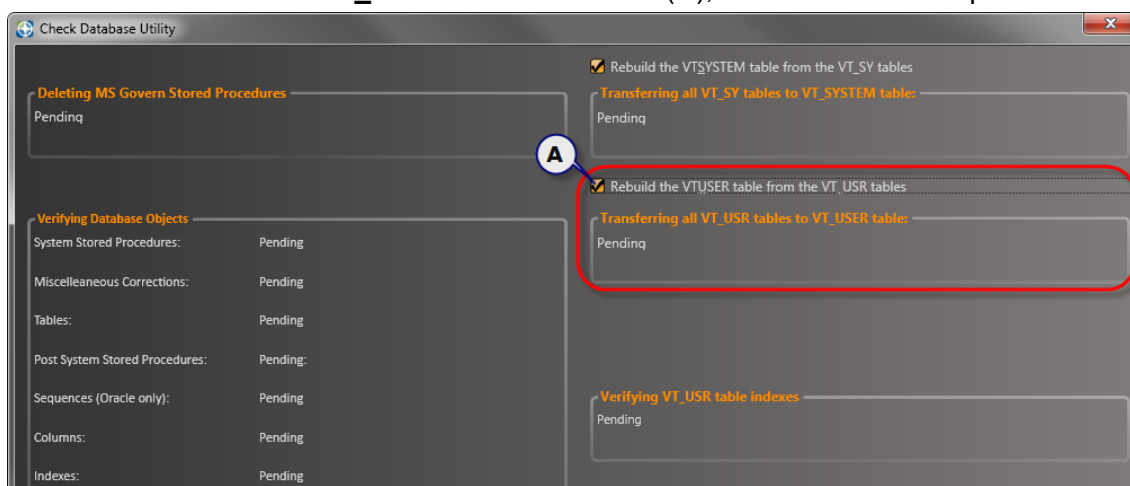


## Rebuild the VT\_USER Table from VT\_USR

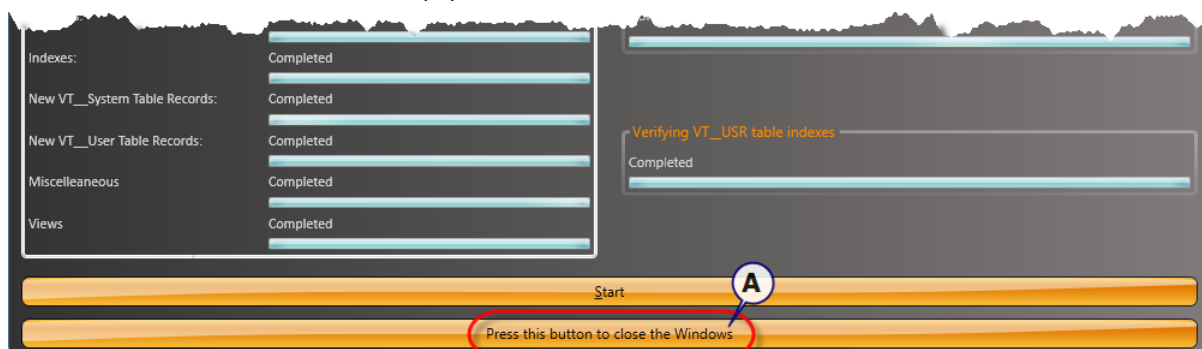
This is an optional process that is part of the **Database Verification** process. When first running the *Database Verification* process, the VT\_USER table is created and all *Govern's User Validation* (VT\_USR\_XXX) tables are copied to it. This sub process can be run as often as required; for example, every time user validation (VT\_USR) tables are added to the Govern database or when converting from *Govern for Windows* to *Govern* tables.

To run this and other processes in the *Govern New Administration (GNA)*:

1. Select: *Utilities (tab) > Database Utilities > Database Verification*.
2. In the Check database Utility form, click the **Rebuild the VT\_USER table from the VT\_USR tables** checkbox (A), this will enable the process.



3. Click **Start**.
4. When the process is complete click **Press this button to close the Windows (A)**.





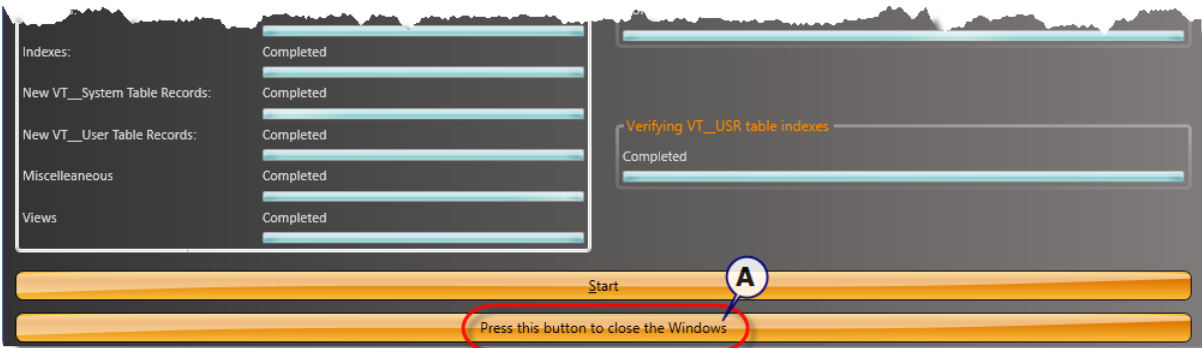
## Verifying VT\_USR Table Indexes (SQL Server Only)

This process is part of the **Database Verification** process. Table indexes can be deleted when performing a database upgrade using the *Govern Updata* application. During the process of transferring all VT\_USR\_XXX tables to the .NET VT\_USER table, table indexes that may have been deleted would need to be re-created. The **Verifying VT\_USR Table Indexes Existence (SQL Server Only)** process will verify the existence of any indexes and create the ones that are absent.

To access this process:

To run this and other processes in the *Govern New Administration (GNA)*:

1. Select: *Utilities (tab) > Database Utilities > Database Verification*
2. When the process is complete click **Press this button to close the Windows (A)**.



**Note:** This process applies for Microsoft SQL Server databases only; it does not apply to Oracle databases.

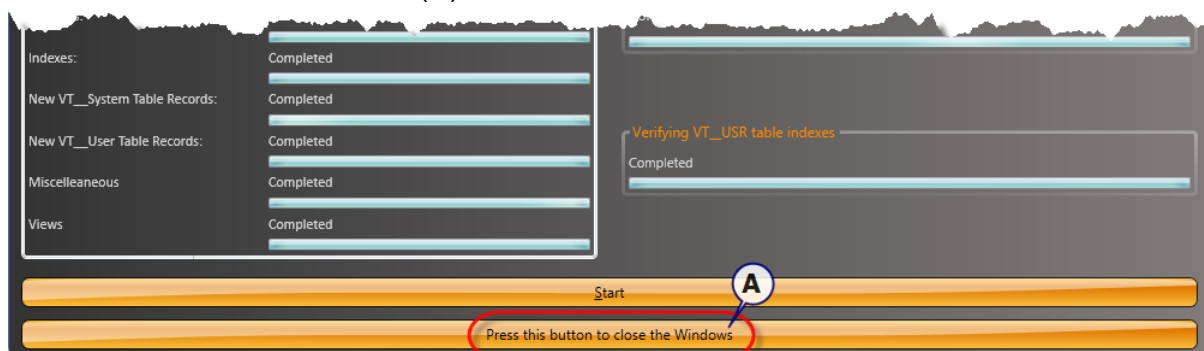
## Recompile Database Objects (Oracle Only)

This process is part of the **Database Verification** process. When database operations such as upgrades, or application of patches are performed, they can invalidate schema objects. When complex dependencies are present, it is recommended that invalid objects are recompiled in advance of user calls. This process will recompile Oracle database objects.

To access this process:

To run this and other processes in the *Govern New Administration (GNA)*:

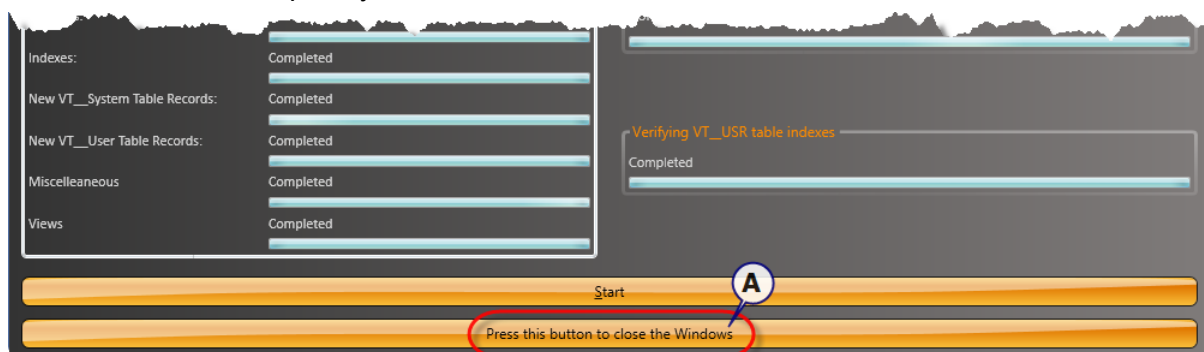
1. Select: *Utilities (tab) > Database Utilities > Database Verification*
2. When the process is complete click **Press this button to close the Windows (A)**..



**Note:** This process applies for Oracle databases only; it does not apply to SQL databases.

## Completing the Process

When all of the above processes are complete, the progress bars are completely filled.

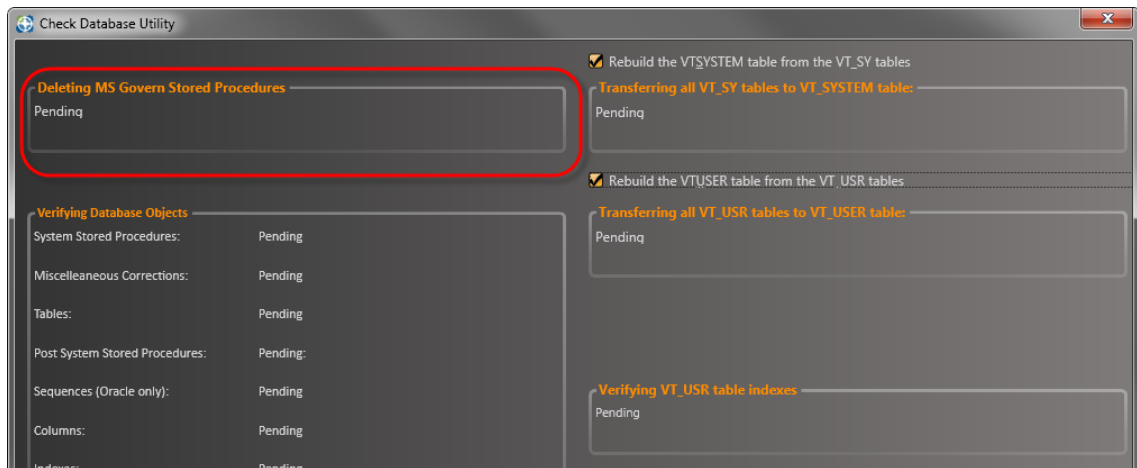


Click **Press this button to close the Windows (A)** to finalize the process and close the form.

# Deleting All MS Govern Stored Procedures

## Overview

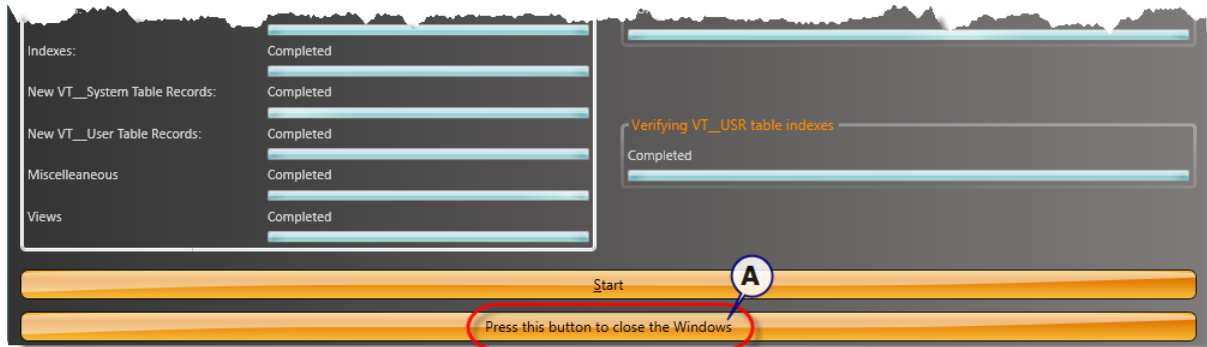
This process is part of the **Database Verification** process. It will delete **all** Govern stored procedures including the basic stored procedures created during the “Create MS Govern System Stored Procedures” process. See *Deleting All MS Govern Stored Procedures on page 307*.



To run this and other processes in the *Govern New Administration (GNA)*:

1. Select: *Utilities > Database Utilities > Delete All MS Govern Stored Procedures*.
2. Click **Start** to begin the process. *For a description of these objects, see Verify Database Objects on page 300*

3. When the process is complete click **Press this button to close the Windows (A)**..



# Verifying Database Objects



## Overview

This process is part of the **Database Verification** process. The database objects that make up a relational database are used to store or reference data. When the reference database has been updated, *Verifying Database Objects* processes are run to ensure that the latest database objects are updated from the reference database.

When this process is run for the first time, it creates the following required database objects:

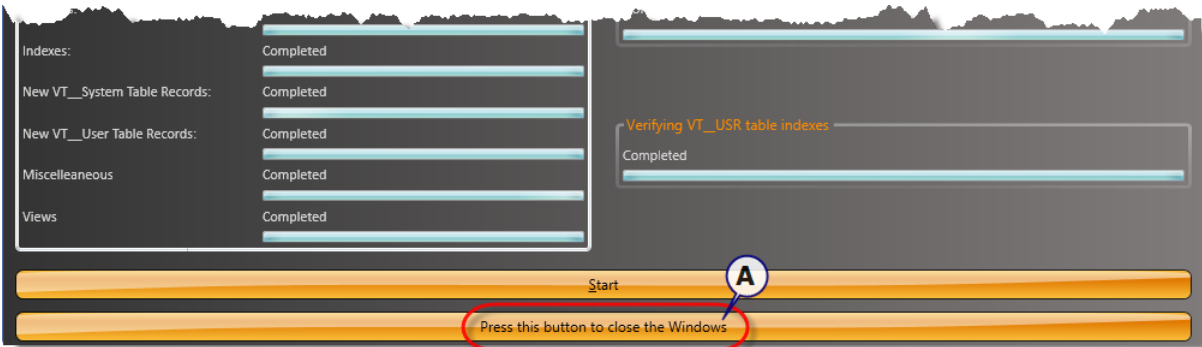
- *Stored Procedure* **Sy\_Gov\_Sel\_Sys**
- Tables
- Sequences (**Oracle Only**)
- *System Stored Procedures*
- Columns
- Indexes

When the process is repeated, it verifies that the same database objects are present, plus any new objects in the reference database.

To run this and other processes in the *Govern New Administration (GNA)*:

1. Select: *Utilities (tab) > Database Utilities > Delete All MS Govern Stored Procedures*.
2. Click **Start** to begin the process. *For a description of these objects, see Verify Database Objects on page 300*

3. When the process is complete click **Press this button to close the Windows (A)**..



---

# Initialize Mobile Database



## Overview

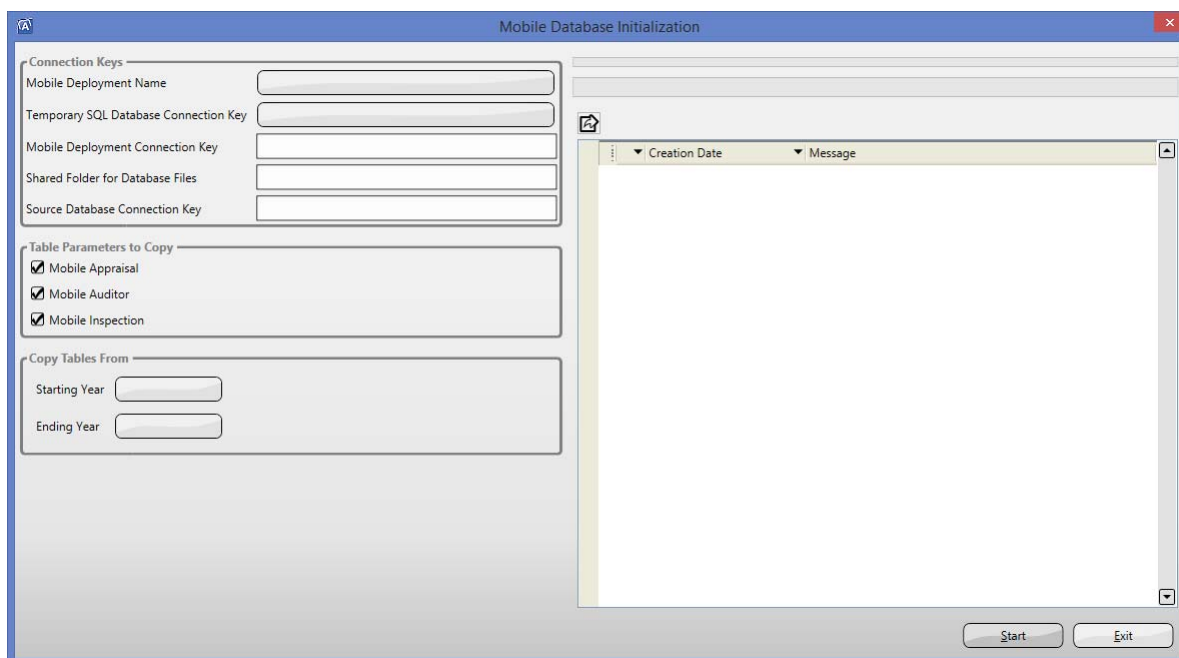
Part of the creation of a mobile database is creating an empty database that will be used for a mobile deployment, it is necessary to copy the structure of the master database to the mobile database. After transferring the structure of a master database to an empty mobile database, it is necessary to initialize the database by copying the parameters of the *Govern* master database to the mobile database. For example in the case of a mobile database that is intended for use by appraisers, the parameters that will be required to fill the forms on the mobile system should then be transferred.

**Note:** This process should only be run once, after the **Copy Database Tables Structure** process on an empty database. Running this process on a database that is being used will result in the destination database being overwritten by the source.

*For details about Mobile database installations, refer to the Govern Mobile Guide.*

To access this process:

1. In *GNA* select *Utilities (tab)* > *Import / Export Tools* > **Initialize Mobile Database**



## Mobile Database Initialization Tool Command Buttons

**Start:** Click Start to begin the transfer process

**Cancel:** To end the transfer process, click **Cancel**.

## Mobile Database Initialization Tool Parameters

**Mobile Deployment Name:** Select the name of your mobile deployment.

**Temporary SQL Database Connection Key:** Select the temporary SQL database connection key.

**Mobile Deployment Connection Key:** This menu will contain the list of available Mobile Deployment connection keys.



**Shared Folder to Copy DB to:** When the mobile database has been prepared, this is the shared network location that the database will be copied into.

**Source Database Connection Key:** Select the connection key that is used to access the database that contains the data to be copied.

### Tables parameters to group

Before starting the process, you may select/deselect any, or all of the following tables.

- Mobile Appraisal (MA\_PARM)
- Mobile Auditor
- Mobile Inspections

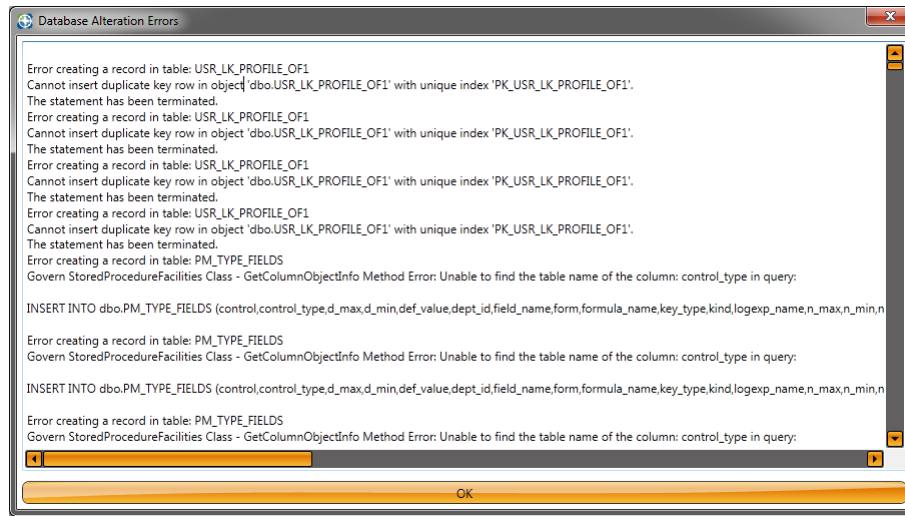
**Note:** The size of some of the tables being processed can be a factor in the processing time.

### Copy Tables From group

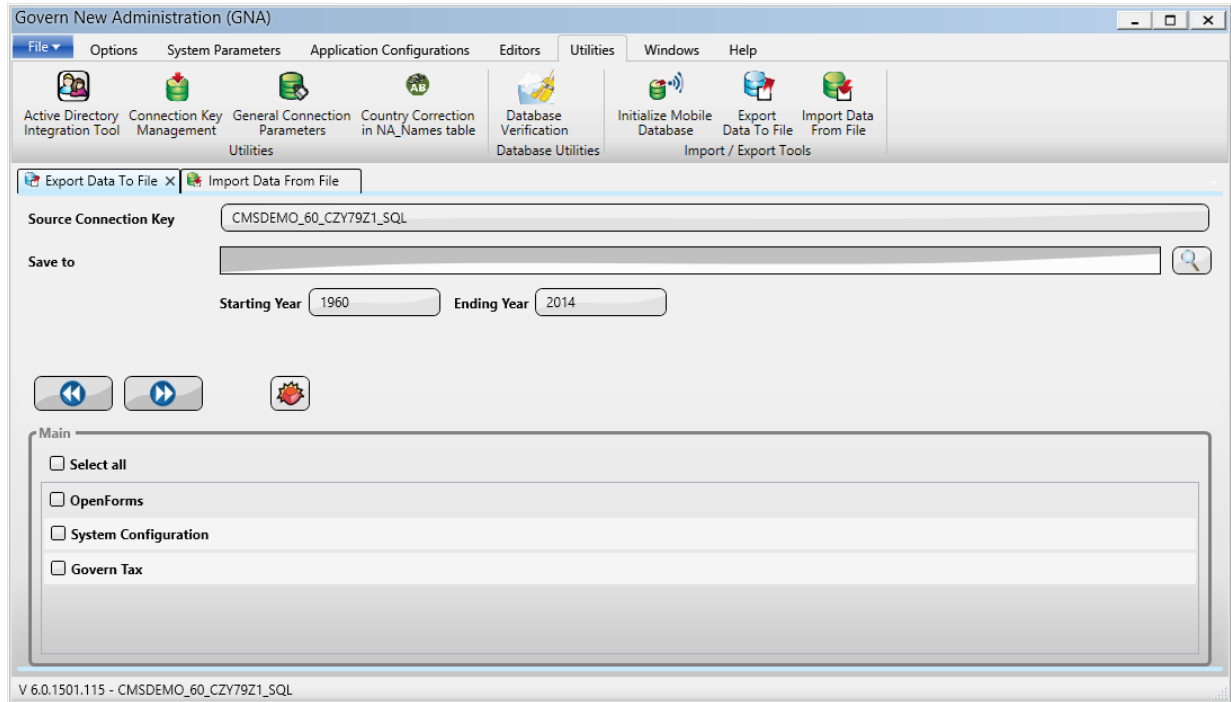
**Starting Year / Ending Year:** When a specific year range is to be processed for the mobile database, select the available starting years and ending year.

**Note:** If no *Starting Year* or *Ending Year* is specified, all years will be processed. If only a *Starting Year*, or only an *Ending Year* is selected, all years starting with, or up to the selected ending year will be processed.

The *Processing* group will only appear when the process has been initiated. Progress can be monitored on the displayed progress bars. When the process is complete this group will disappear.



# Export Data to File



The Export Data form is used to export data structures from a specified database to an .XML file. The form allows you to export data settings through a step by step drill down process. The process is able to export everything from an entire database structure consisting of *Modules*, *Module Elements (ME)*, and *Module Element Components (MEC)*. The export process requires the user to select what elements of their database are to be exported. The export steps follow the *Govern* hierarchy. The hierarchy is as follows:

Modules	Module Elements (ME)	Module Element (ME) Components
<b>Open Form</b>	<i>Profile</i>	AR, Business Assessment, LM, Name & Address, Project Folio, PC, SRT
	<i>Open Form (OF) Model</i>	e.g. AR, Animal Lic's, Bldg Permits, etc.
	<i>Business Model (BM)</i>	List of all BM's, e.g. CAMA Audit, CAMA Land, etc.
	<i>Business Entity (BE)</i>	All BE's that are listed in the database
	<i>Security</i>	List of Security for Existing Roles, e.g. Insert/ Update, Update Only, View Only, etc.

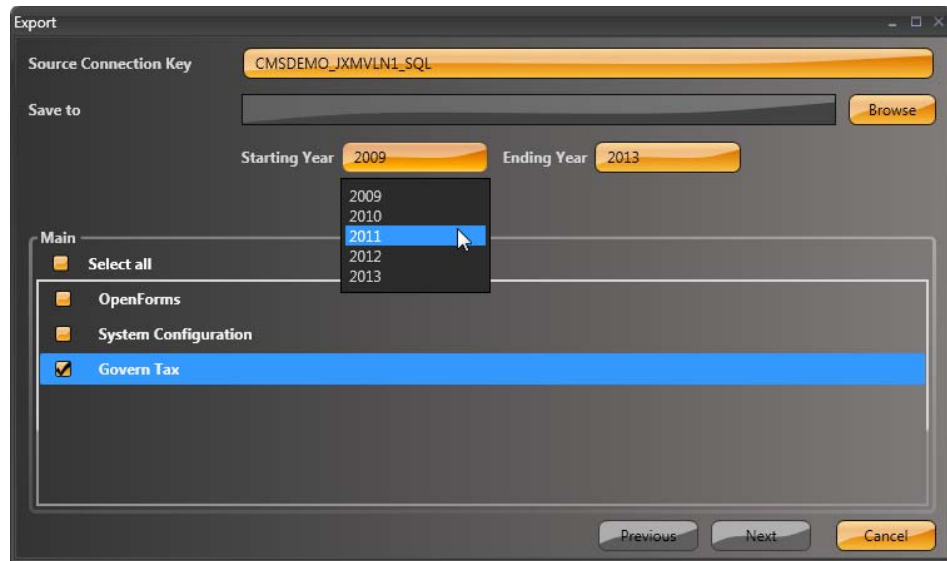
Modules	Module Elements (ME)	Module Element (ME) Components
System Configuration	<i>Dynamic Search Group</i>	List of All Dynamic Searches
	<i>Dynamic Search Style</i>	All Dynamic Search Styles
	<i>Constant</i>	List of all Constants
	<i>Formula</i>	All Formulas
	<i>Logical Expression</i>	List of All Logical Expressions
	<i>SQL Queries</i>	All SQL Queries
NEW! Govern Tax	<i>Cap Levy Group</i>	List of all Cap Levy groups
	<i>Levy Group</i>	All Levy groups
	<i>Levy Code</i>	List of Levy codes
	<i>Exemption Group</i>	All Exemption groups
	<i>Exemption Code</i>	List of all Exemption codes
	<i>SWIS Code</i>	All <i>State Wide Information System</i> (SWIS) codes
	<i>Averaging Assessment Values</i>	List of the Average Assessment Values

**Note:** Individual user *Module Elements* and *ME Components* will vary from the above depending on which Govern modules have been purchased and licensed.

During the export process, user selections will determine what options are presented in the next step. When exporting entities, all required dependencies, i.e. tables, are also exported. The resulting exported file can then be imported to another database using the **Import Data** utility, see *Import Data from File* on page 329 for details about this process.

## Exporting a Module Element

As an example, an administrator can design a new *Profile* and then wishes to export it. During the export process it will be necessary for them to make decisions as to what is to be exported. In their selection a single profile may be selected, or all profiles within the database.



To demonstrate the steps involved in the export process, a single *Profile* will be exported. During the export, any associated security settings related to roles can be selected.

## Security and Module Elements

By default when a profile is selected for export, any securities associated with the profile are also exported. However this security is not functional until it is associated with user roles. This means that a profile will not be accessible until securities relating to roles have been established. A reason to export a module or module elements without security might be when new security settings are to be established, or have been established in the database that the file will be imported into.

### Exporting Module Elements without Security...

When new securities for roles are to be defined, then it is not necessary to select the Security option for export.

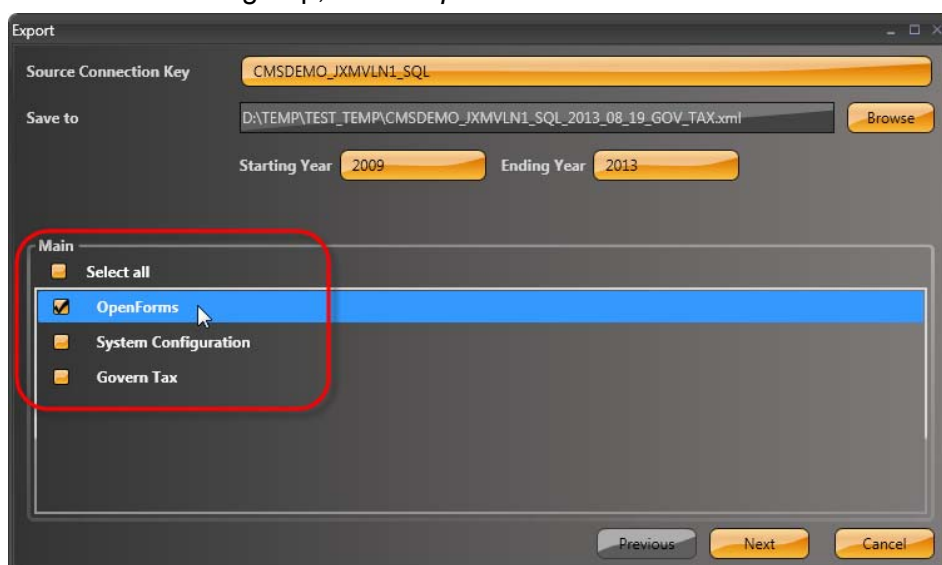
To export *Module Elements* without security...

1. Open *GNA* and select *Utilities > Import / Export Tools > Export Data to File*.

2. In the *Export* form, **Source Connection Key**: field, select a *Connection Key* of the database that you will be extracting data from.
3. Look for the **Save to**: field, click **Browse** to choose a location and enter a file name.

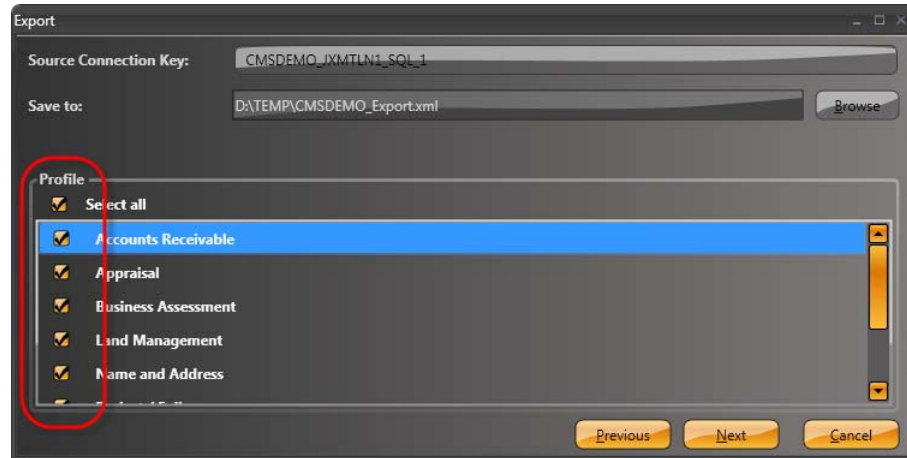
**Note:** Unless an export filename is specified, the Export button will not become active, regardless of what selections are made.

4. Click **Save**, if the file name exists, you will be asked to confirm overwriting it. In the **Main** group, select *OpenForm*. Click **Next**.



5. In the next screen, you will note that the **Main** group has now changed to the **OpenForm** group. The group label is an indication of the level of the export process.
6. Click to select **Profile**. The *Next* button will become active; click **Next**

7. In the next form, you are presented with the list of *Profiles*; select one, or click the first check box at the top of the list to select all profiles.



8. Note that the *Next* button has been changed to an **Export** button. Click **Export** to generate the file.

The presence of the **Export** button is an indication of the end of the selection process. At any point during this process, you can select **Previous** to return to the last step and modify your selection.

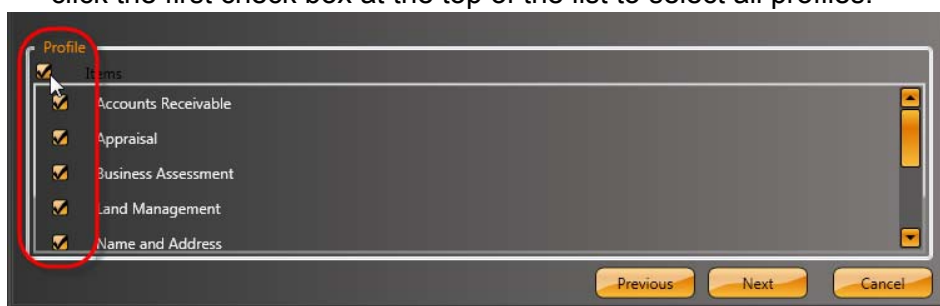


### Exporting Module Elements with Security...

The **Security** option should be selected when securities have already been established for a database. Typically a development database and a live database are virtually identical, in such instances security settings are also identical. When an exported data structure is imported with the same security settings, the update to the new database will have securities already set.

To export a data structure with securities...

1. Follow the above steps from 1 to 4. See *Exporting Module Elements without Security...* on page 317.
2. Click to select **Profile**, scroll down the list and select **Security**. The *Next* button will become active; click **Next**
3. In the next form, you are presented with the list of *Profiles*; select one, or click the first check box at the top of the list to select all profiles.



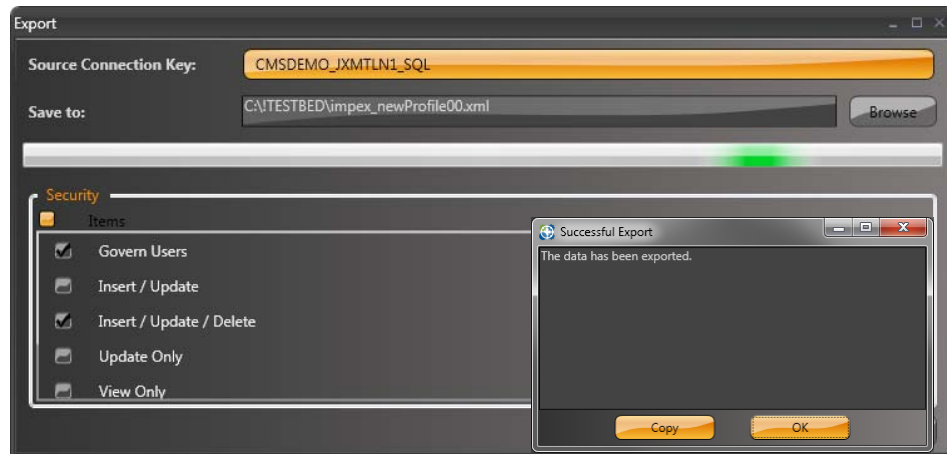
4. Note that the *Next* button remains because other options were also selected, i.e. *Security*. Click **Next**.
5. The next form displays a **Security** group that contains the roles that ; select the security roles that you would also like to export.



6. Click **Export** to export the data.

The length of the export process is dependent upon the size and complexity of the database. Upon completion of the process, a dialog box is displayed.





7. Click **OK** to return to the Export form, if there is another export to be performed, click **Restart** to return to the beginning of the process.

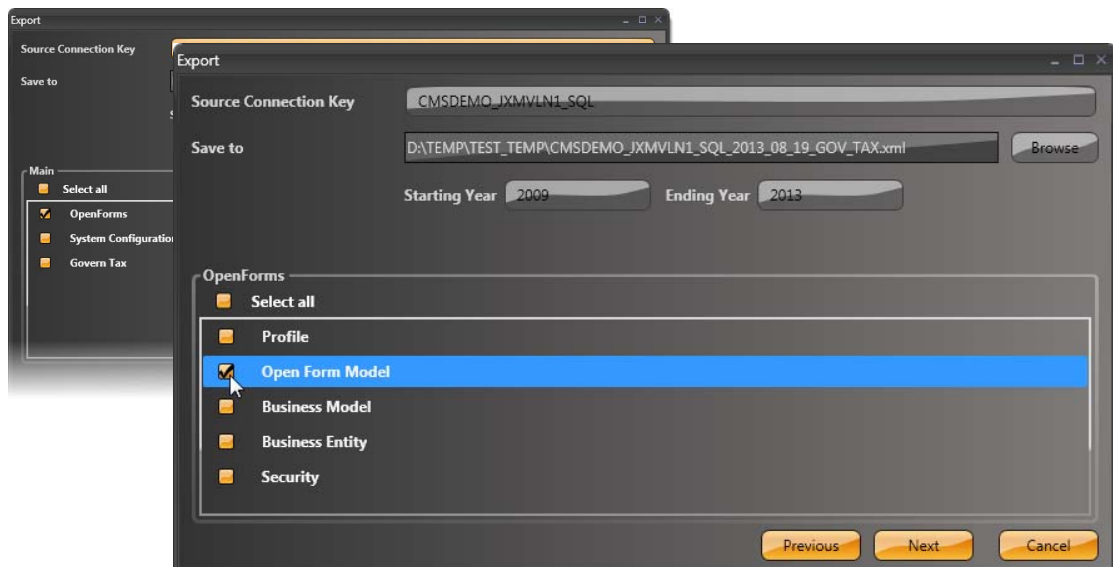
**OR**

8. Click **Exit** to close the form.

Locate the newly created file that is to be imported from the **Save to:** directory.

## Exporting an Open Form Model

Follow these steps to export an Open Form Model:



When the *Open Form Model* to be exported does not require security, or securities are to be added at a later time, do not select the Open Form Model with the **Security** option.

1. Open GNA and select *Utilities > Import / Export Tools > Export Data to File*.
2. In the Export form, in the **Source Connection Key:** field, select a *Connection Key* of the database that you will be extracting data from.
3. Look for the **Save to:** field, click **Browse** to choose a location and enter a file name.

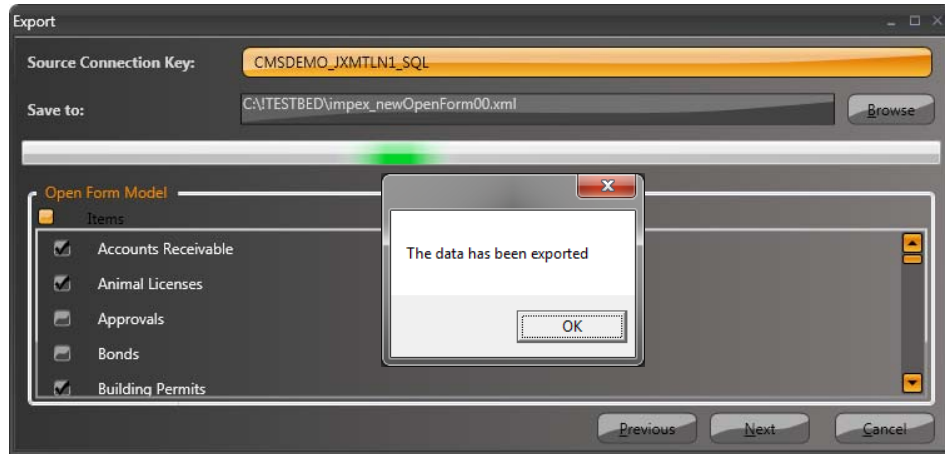
**Note:** Unless an export filename is specified, the Export button will not become active, regardless of what selections are made.

4. Click **Save**, if the file name exists, you will be asked to confirm overwriting it. In the **Main** group, select *OpenForm*. Click **Next**.
5. In the next screen, you will note that the **Main** group has now changed to the **OpenForm** group. The group label is an indication of the level of the export process.
6. Click to select **Open Form Model**. The *Next* button will become active; click **Next**.
7. In the next form, you are presented with the list of *Open Form Models* within the database; select one or more models, or click the first check box at the top of the list to select all models.



8. Note that the *Next* button has been changed to an **Export** button. Click **Export** to generate the file.

The presence of the **Export** button is an indication of the end of the selection process. At any point during this process, you can select **Previous** to return to the last step and modify your selection. The length of the process is dependent upon the size and complexity of the database. When the process is complete, a dialog box is displayed.



9. Click **OK** to return to the *Export* form.

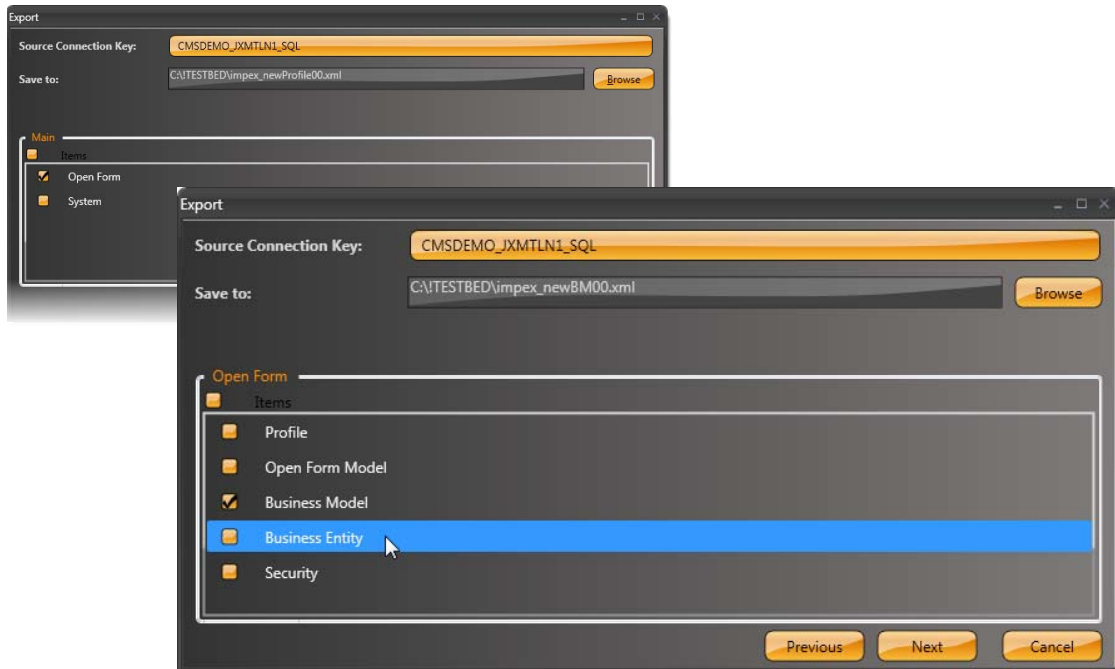
When there is another export to be performed, click **Restart** to return to the beginning of the process; alternatively, click **Exit** to close the form.



Locate the newly created file that is to be imported from the **Save to:** folder.

## Exporting a Business Model or Business Entity

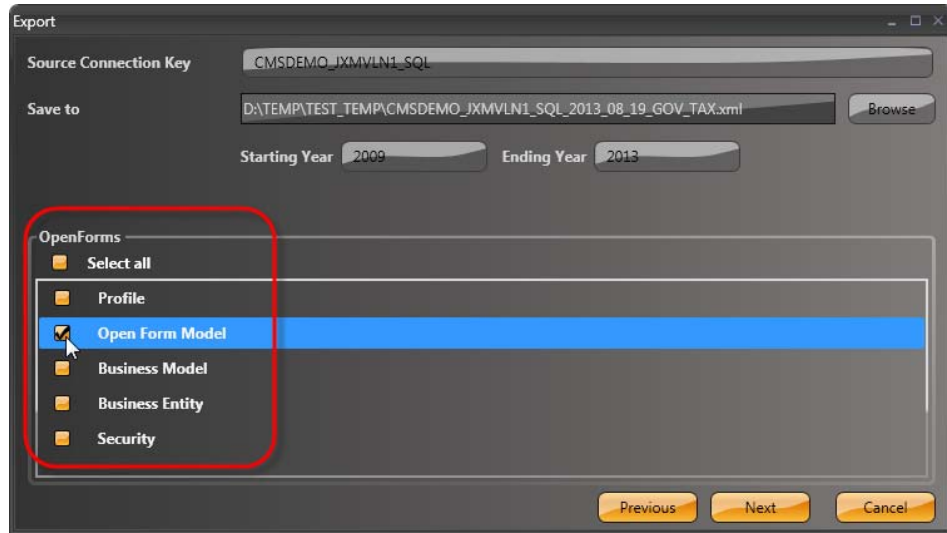
When exporting a Business Model or Business Entity follow the above steps, i.e. steps for *Exporting an Open Form Model on page 321*



## Exporting Multiple Modules or Module Elements

Thus far, with the exception of *Exporting Module Elements with Security...* on page 319, we have only exported single *Module Elements (ME)*. Realistically we may need to export more than one module element at a time. For example if multiple module elements are selected, e.g. the following ME's:

- *Profile*
- *Open Form (OF) Model*
- *Business Model (BM)*

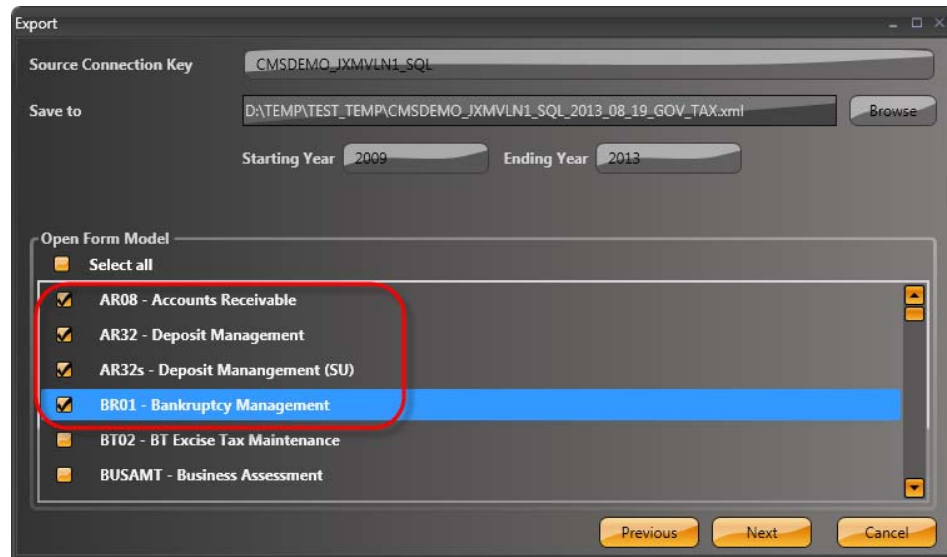


For this type of export, there would be multiple stages of user interaction before the export option is presented. We would need to make selections for *Profiles*, *Open Form Models*, and *Business Models*.

To make an export of multiple *Module Elements (ME's)*...

1. Open GNA and select *Utilities > Import / Export Tools > Export Data to File*.
2. In the Export form, in the **Source Connection Key:** field, select a *Connection Key* of the database that you will be extracting data from.
3. Look for the **Save to:** field, click **Browse** to choose a location and enter a file name.
4. Click **Save**, if the file name exists, you will be asked to confirm overwriting it. In the **Main** group, select *OpenForm*. Click **Next**.
5. In the next screen, you will note that the **Main** group has now changed to the **OpenForm** group. The group label is an indication of the level of the export process.
6. Click to select **Profile**, **Open Form Model**, and **Business Model**. The *Next* button will become active; click **Next**.
7. The next step would be to select one or more *Profiles*; select *Accounts Receivable* and *Land Management*
8. Click **Next**.

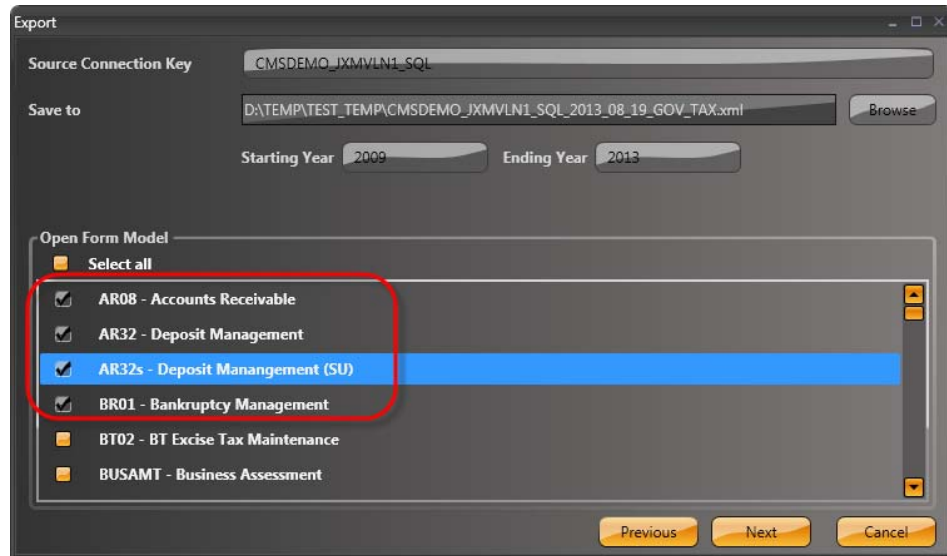
9. In the *Open Form Model* group, you will notice that some *Models* are already selected, this is an indication that they were already part of the profile selected in the previous step; note that you now have the opportunity to deselect them if required.



10. Click **Next**.

11. The final prompt will be for selecting *Business Models (BM)*; select a BM.

**Note:** If you click Previous, you will be returned to the previous screen, but you will no longer be able to deselect any selections.



12. Note that the *Next* button has been changed to an **Export** button. Click **Export** to generate the file.

**Note:** Unless an export filename is specified, the **Export** button will not become active, regardless of what selections are made.

The methodology that is used for exporting multiple Modules or Module Elements applies to both OpenForms as well as System data structures. If a user were to export multiple System module elements, e.g. *Dynamic Search*

groups, and *Dynamic Search Styles*, some *Dynamic Search* group items may be preselected, because they are part of the *Dynamic Search Style*.



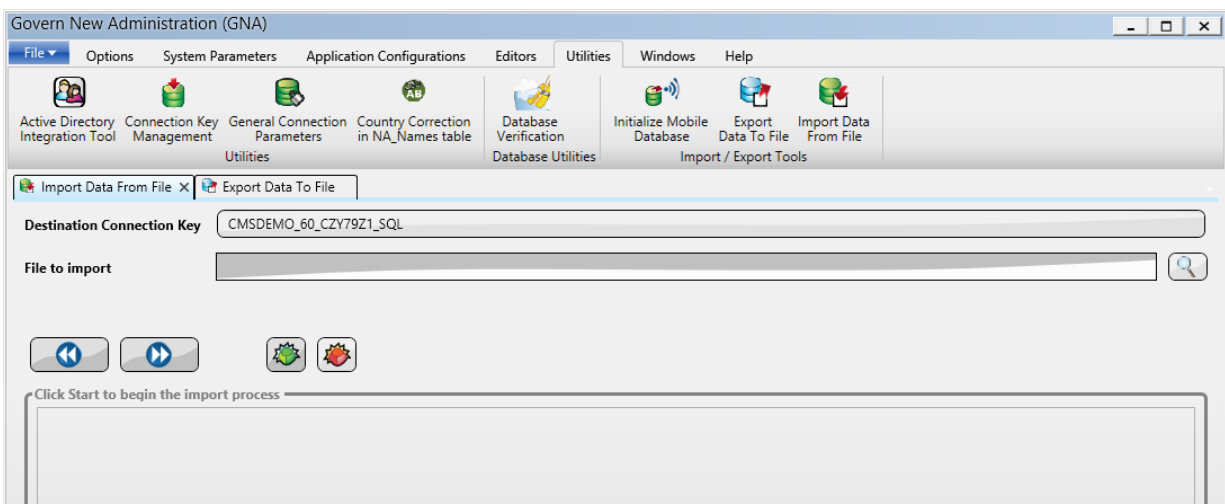


# Import Data from File

The Import Data form is used to import content into a database from an .XML file. As with the export process, see *Export Data to File on page 315* for details, there are a series of interactive steps to allow the user to control how data is imported. The import process consist of three (3) stages, *Reading the File*, *Comparison of the imported data*, *Data contention (display of the **Data Import Status**, and resolution of data conflicts)*.

## Data Import Status and Data Conflicts

When a file is selected for import, the .XML data file is parsed; any possible conflicts with the existing destination database are displayed in the *Collisions* group in the lower portion of the form. The *Data Import Status* is displayed in a drop down menu..



**Note:** This process is not unlike the Initialize an OpenForms Environment utility, the difference is that this process is very granular with the information that is exported. In addition, during the import process, the user is given the option to over write their existing data. Refer to *Verifying Database Objects on page 309* for details.

To import a data file...

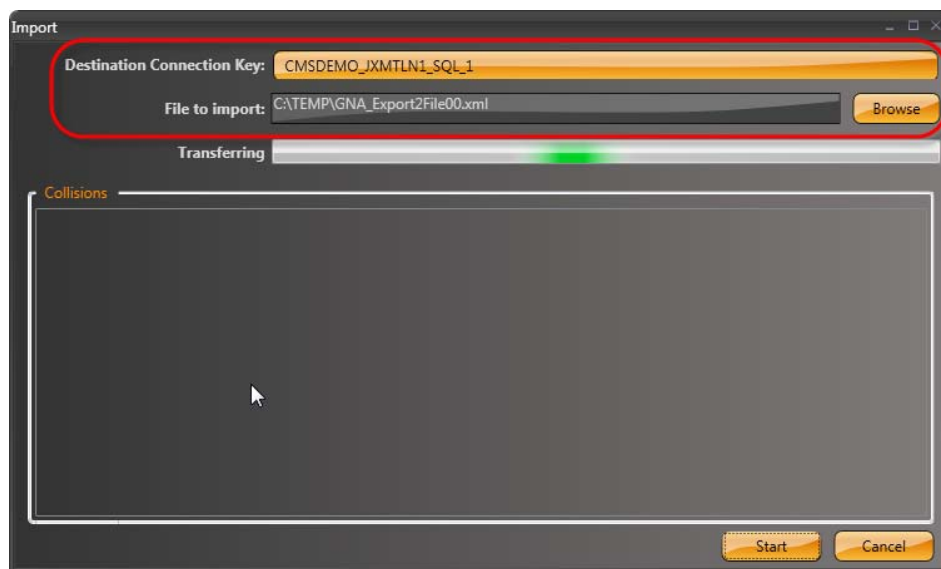
1. Open GNA and select *Utilities (tab) > Import / Export Tools > Import Data from File*.

2. In the Import form, in the **Destination Connection Key:** field, select a *Connection Key* of the database that you will be importing data into.
3. Look for the **File to import:** field, click **Browse** to locate the data file; double-click on the .XML file to import it.

**Note:** There may be a slight delay between the selection of the file and the return to the *Import* screen. The length of the pause is dependent upon the complexity of the file being read.

**Note:** If the file to be imported was created with an older version of the *Govern New Administration (GNA)*, it may not be compatible. An error message is displayed. In such instances, it may be necessary to re-export the file using the most recent version of the *GNA*.

4. Click **Start**, to begin the process.



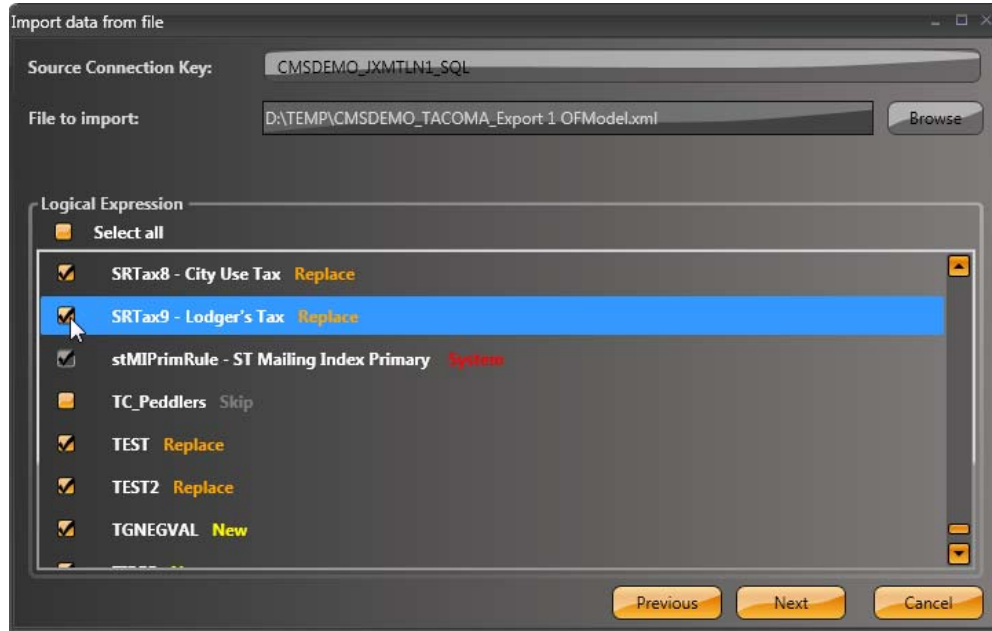
The process will begin by reading the XML file.

**Note:** Depending upon the size and complexity of the file there may be a period of perceived inactivity;

## Data Import Status options

Options can be selected at various levels of the data import process. When selecting one of the options at the start of the process, all subsequent levels below will also be set to the chosen option.

Any conflicts are displayed in the lower portion of the form; the status of the data to be imported is presented in one of the status codes indicated below.



Import data from file

Source Connection Key: CMSDEMO\_JXMTLN1\_SQL

File to import: D:\TEMP\CMSDEMO\_TACOMA\_Export 1 OFModel.xml Browse

Logical Expression

☐ Select all

<input checked="" type="checkbox"/>	SRTax8 - City Use Tax	Replace
<input checked="" type="checkbox"/>	SRTax9 - Lodger's Tax	Replace
<input checked="" type="checkbox"/>	stMIPrimRule - ST Mailing Index Primary	System
<input type="checkbox"/>	TC_Peddlers	Skip
<input checked="" type="checkbox"/>	TEST	Replace
<input checked="" type="checkbox"/>	TEST2	Replace
<input checked="" type="checkbox"/>	TGNEGVAL	New

Previous Next Cancel

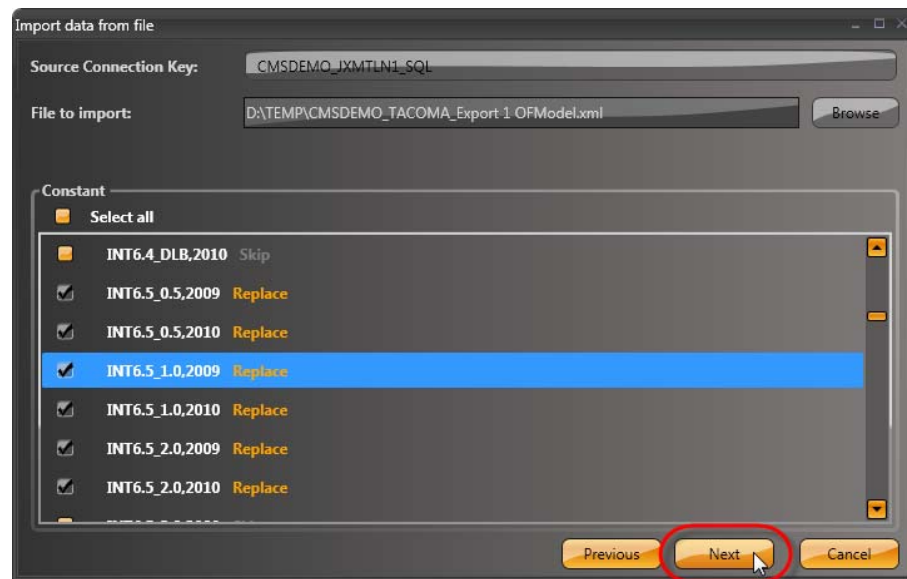
## Data Import Status Color Codes

Color	Code	Details
<b>Red</b>	System	<p>This is an indication that this is a system file. This data is reserved for the <b>System</b> and will not be overwritten.</p> <p><b>NOTE-</b> <i>Data that has been designated as reserved for the system, will not be overwritten. Selecting the <b>Skip</b> option is non-destructive; the Import process can be run again and the option to <b>Replace</b> can then be selected.</i></p>
<b>Orange</b>	Replace	<p>Data with this tag will be replaced, i.e. overwritten with newly imported data.</p> <p><b>WARNING -</b> <i>When selecting the check box, be absolutely certain that you want to overwrite your existing data with the one that is being imported; this process is not reversible.</i></p>
<b>New</b> (Yellow)	New	<p>This is data that is new to the database, when selected it will be imported.</p>
<b>Skip</b> (Gray)	Skip	<p>The <b>Skip</b> indicator is an indication that a conflict exists, but the data in the target database will not be replaced with the incoming information. When the check box is selected, the indicator will display <b>Replace</b> ; the color will be Orange.</p> <p><b>NOTE-</b> <i>Choosing to leave the <b>Skip</b> option is non-destructive; the Import process can be run again and the option to <b>Replace</b> can then be selected.</i></p>

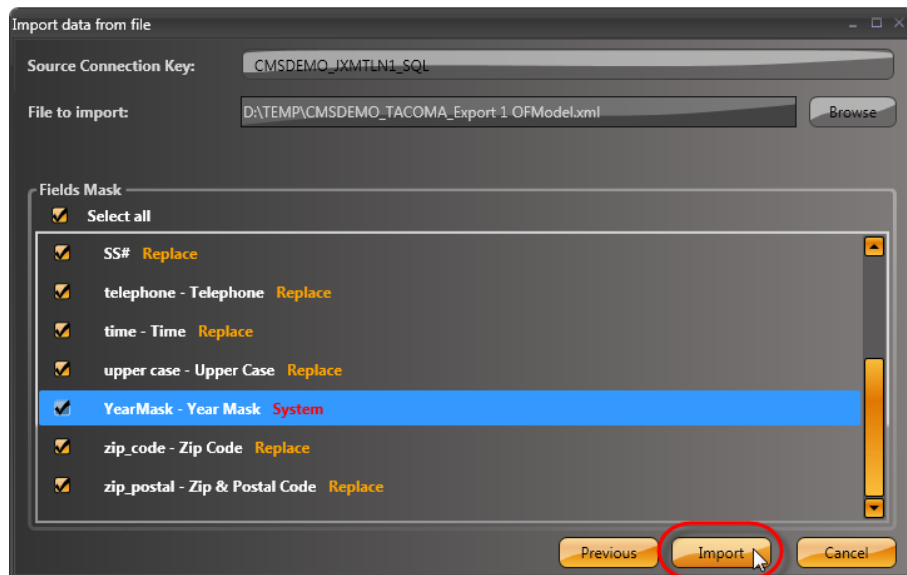
The **Import** process can be run multiple times. Each time the process is run users can selectively choose options that were not imported during the previous pass.

## Completing the import process...

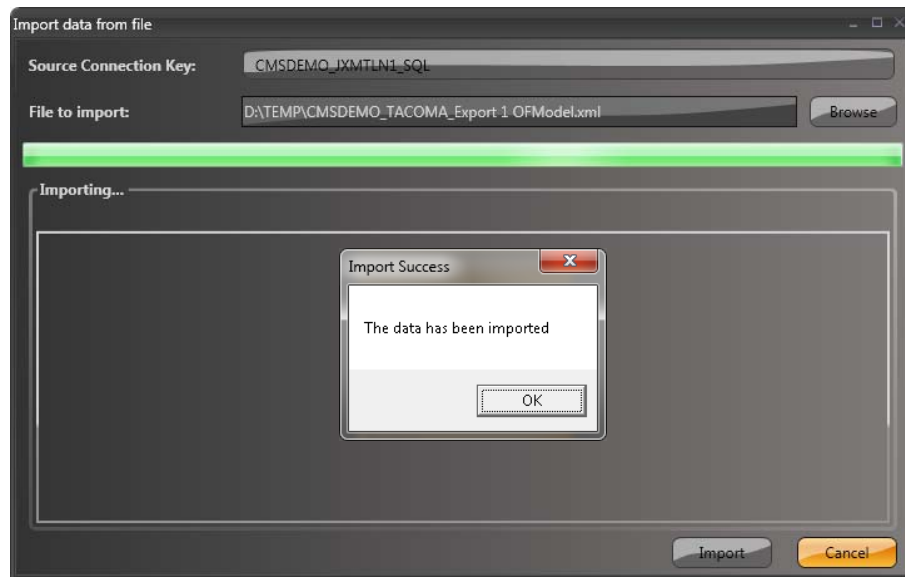
- After resolving the conflicts by selecting or leaving the checkboxes, click **Next**.



- When you have gone through all levels for the import, click **Import** when it appears.



- When the process is complete, an *Import Success* dialog box is displayed. Click **OK** to return to the Import form.



When there is another import to be performed, click **Restart** to return to the beginning of the process; alternatively, click **Cancel** to close the form.

# Importing Active Directory Users into Govern

*Active Directory (AD)* is an implementation of the *Lightweight Directory Access Protocol (LDAP)* directory services by *Microsoft*. LDAP provides central authentication and authorization services for *Windows* based computers. *AD* is available in *Windows Server 2000 / 2003 / 2003 R2 / 2015*.

The *Active Directory MSGovern Integration Tool* will allow you to import users from *Active Directory* into Govern's user database. This administrative process is unidirectional in that users are copied from *Windows™ Active Directory* to Govern's user table (Table: *USR\_USERFILE*); in addition their group designations within *Active Directory* will be carried over and used to determine which one of the four *Govern* access groups they will be assigned to. Once imported into *Govern*, you can then manage which forms and functions users will have access to through *Govern's Administration* program.

This process can be run periodically for synchronization purposes, e.g. in instances when there have been changes in roles or personnel within the organization.

## Managing Import of Multi-role Active Directory users

In instances where a user being imported is in multiple roles in *Active Directory*, for example this could be a user in an *Administrator* group, as well as a *Regular* group. After this user is imported into *Govern*, in the *Govern* *USR\_USERFILE* table, they will only appear once as an *Administrator*. This is the role with the highest permission level that they are a member of.

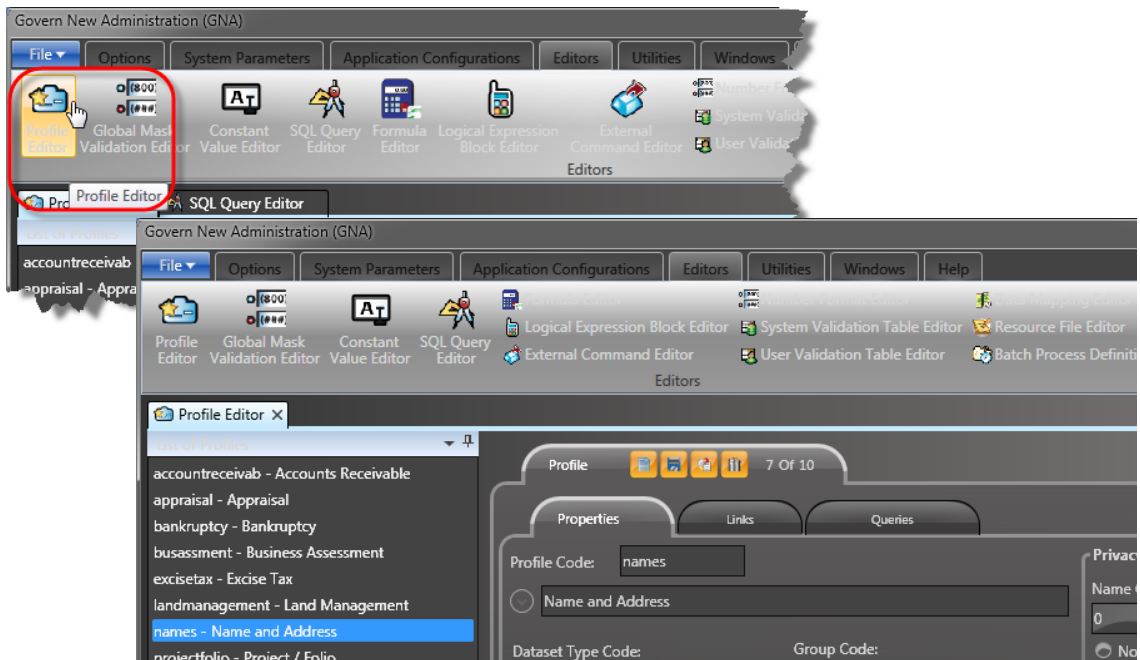
The Permission hierarchy in *Govern*, highest to lowest is as follows:

- Super User
- Administrator
- Regular
- Read Only

To display the *Active Directory* and *MS Govern Integration Tools*:

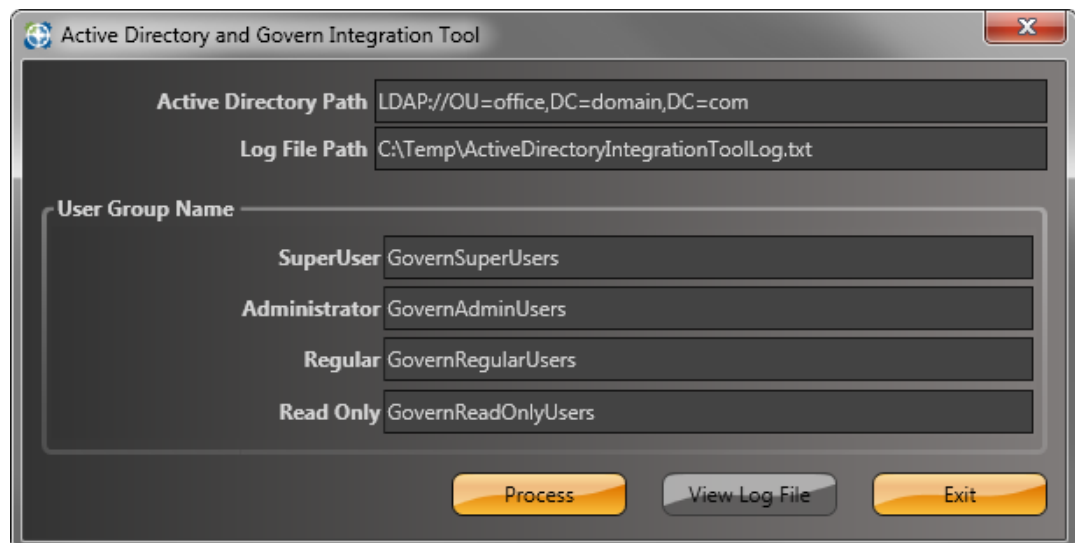
1. In *GNA* click to select the *Editors* tab.

2. On the ribbon, click the **Profile Editor** icon.



To display the *Active Directory and MS Govern Integration Tool*:

1. Select *Utilities* > **Active Directory Integration Tool...**





## **Active Directory and MS Govern Integration Tool Command Buttons**

**Process:** Click **Process** to begin importing *Active Directory* users into *Govern*.

**View Log File:** Click **View Log File** to display the contents of the log file.

**Exit:** Click **Exit** to close this window.

## **Active Directory and MS Govern Integration Tool Parameters**

**Active Directory Path:** This is the *Active Directory* path.

**Log File Path:** This is the path to the *Active Directory Integration Tool* log file.

**Import Active Directory Users into MS Govern Database:** Select this option to import *Active Directory* users into *Govern's* database.

## **User Group Name group**

These are the four (4) user access levels available in *Govern* in their order of priority; highest to lowest.

**SuperUser:** The *SuperUser* type has access to all functions, forms and features including the system tables. The name that is inserted in this field is the one that the administrator has assigned to users with *SuperUser* level access in *Active Directory*.

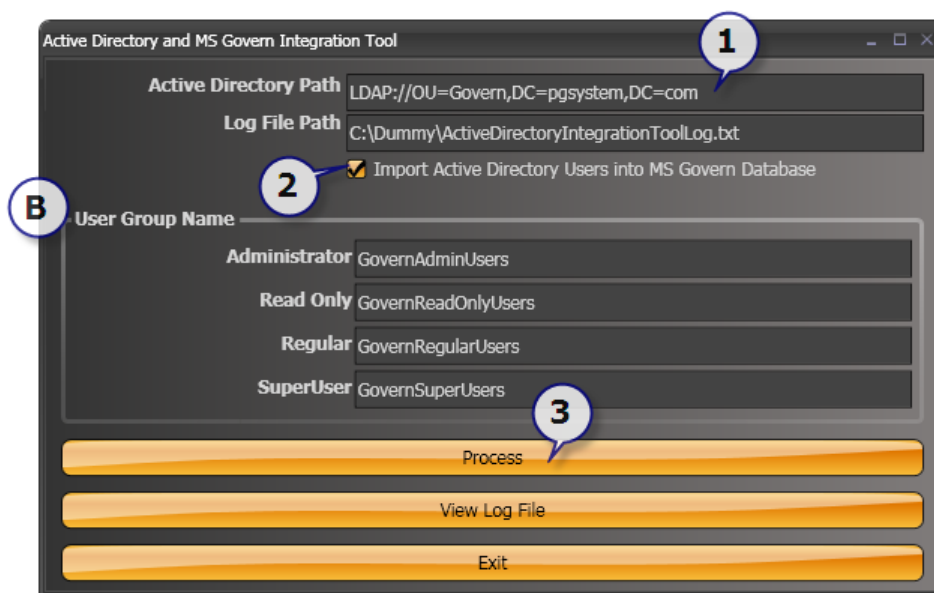
**Administrator:** This type of user will have access to all menu options with the exception of the system tables. The name that is inserted in this field is the one that the administrator has assigned to users with *Administrator* level access in *Active Directory*.

**Regular:** This type of user has access to the functions and forms assigned by an *Administrator* or *SuperUser*. The name that is inserted in this field is the one that the administrator has assigned to users with *Regular* access in *Active Directory*.

**Read Only** : Also known as *Inquiry Only*, this user is limited to only viewing functions and forms as defined by an *Administrator* or *SuperUser*. The name that is inserted in this field is the one that the administrator has assigned to users with *Read Only* access in *Active Directory*.

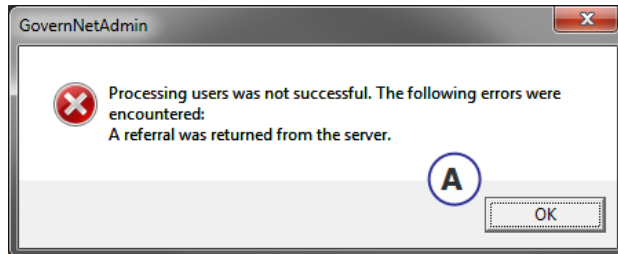
To import *Active Directory Users*:

1. Select *Utilities* > **Active Directory Integration Tool...**

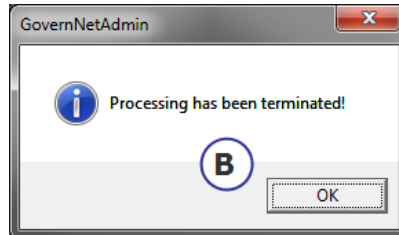


2. Enter the *Active Directory* path (1).
3. Click to select the **Import Active Directory Users into MS Govern Database** option (2).
4. In the **User Group Name** group (B), enter the names that have been assigned to the different access levels in the *Active Directory* panel, e.g. *GovernAdminUsers* for *Administrator* level access
5. Click **Process** (3) to begin the process or **Exit** to close the window.

Should there be an error with the process, an error message will be displayed. Click **OK (A)** to terminate the process.



At the second prompt, again click **OK (B)** and review your steps.



## GNA and Connection Keys (CK)

In environments where there are multiple databases, the GNA can access by creating secondary and tertiary connection keys.

### Creating a Supplementary Connection Key

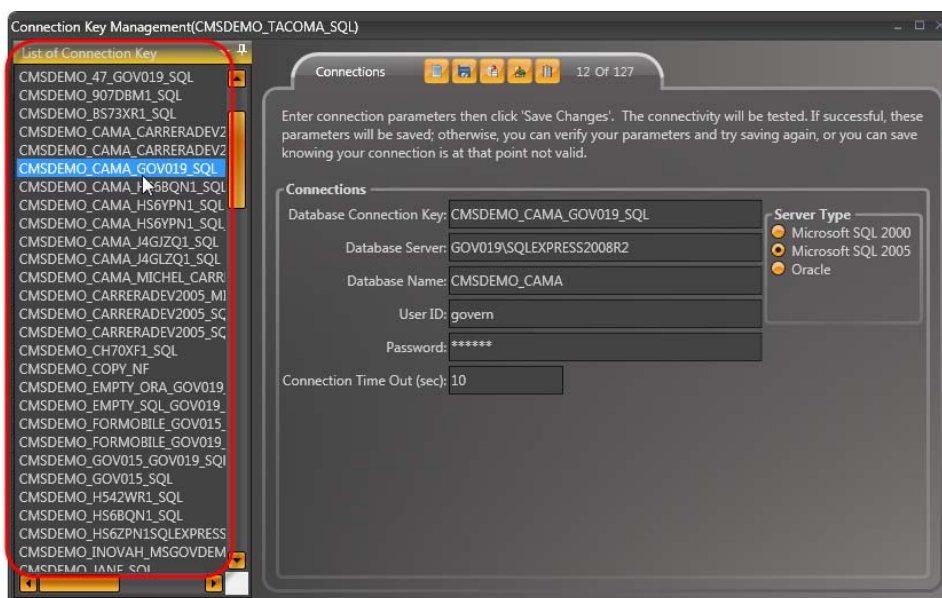
To create a secondary or tertiary connection key in the GNA...

1. Select *Utilities* > **Connection Key Management...**; this will open the *Connection Key Management* form.

### The Connection Key Management form

The *Connection Key Management* form is used to create or modify the parameters for a Connection Key. In this form you are able to specify the name of the *Database Server* that you will be connecting to, the *Database Name*, your access credentials, and any additional parameters required to optimize your connection. In addition you are able to test, and or delete your connection.

Specified parameters are used to build a *Connection String*. The generated *Connection String* is then used by the system to connect to and access the database. Saved connection keys are listed in the left hand pane.



Connection Key Management(CMSDEMO\_TACOMA\_SQL)

List of Connection Key

- CMSDEMO\_47\_GOV019\_SQL
- CMSDEMO\_907DBM1\_SQL
- CMSDEMO\_BS73XR1\_SQL
- CMSDEMO\_CAMA\_CARRERADEV2
- CMSDEMO\_CAMA\_CARRERADEV2
- CMSDEMO\_CAMA\_GOV019\_SQL**
- CMSDEMO\_CAMA\_HS6BQN1\_SQL
- CMSDEMO\_CAMA\_HS6YPN1\_SQL
- CMSDEMO\_CAMA\_HS6YPN1\_SQL
- CMSDEMO\_CAMA\_J4GJZQ1\_SQL
- CMSDEMO\_CAMA\_J4GLZQ1\_SQL
- CMSDEMO\_CAMA\_MICHEL\_CARR
- CMSDEMO\_CARRERADEV2005\_MI
- CMSDEMO\_CARRERADEV2005\_SC
- CMSDEMO\_CARRERADEV2005\_SC
- CMSDEMO\_CH70XF1\_SQL
- CMSDEMO\_COPY\_NF
- CMSDEMO\_EMPTY\_ORA\_GOV019
- CMSDEMO\_EMPTY\_SQL\_GOV019
- CMSDEMO\_FORMOBILE\_GOV015
- CMSDEMO\_FORMOBILE\_GOV019
- CMSDEMO\_GOV015\_GOV019\_SQL
- CMSDEMO\_GOV015\_SQL
- CMSDEMO\_H542WR1\_SQL
- CMSDEMO\_H56BQN1\_SQL
- CMSDEMO\_H56ZPN1SQLXPRESS
- CMSDEMO\_INOVAH\_MSGOVDEM
- CMSDEMO\_IANE\_SQL

Connections 12 Of 127

Enter connection parameters then click 'Save Changes'. The connectivity will be tested. If successful, these parameters will be saved; otherwise, you can verify your parameters and try saving again, or you can save knowing your connection is at that point not valid.

**Connections**

Database Connection Key: CMSDEMO\_CAMA\_GOV019\_SQL

Database Server: GOV019SQLXPRESS2008R2

Database Name: CMSDEMO\_CAMA

User ID: govern

Password: \*\*\*\*\*

Connection Time Out (sec): 10

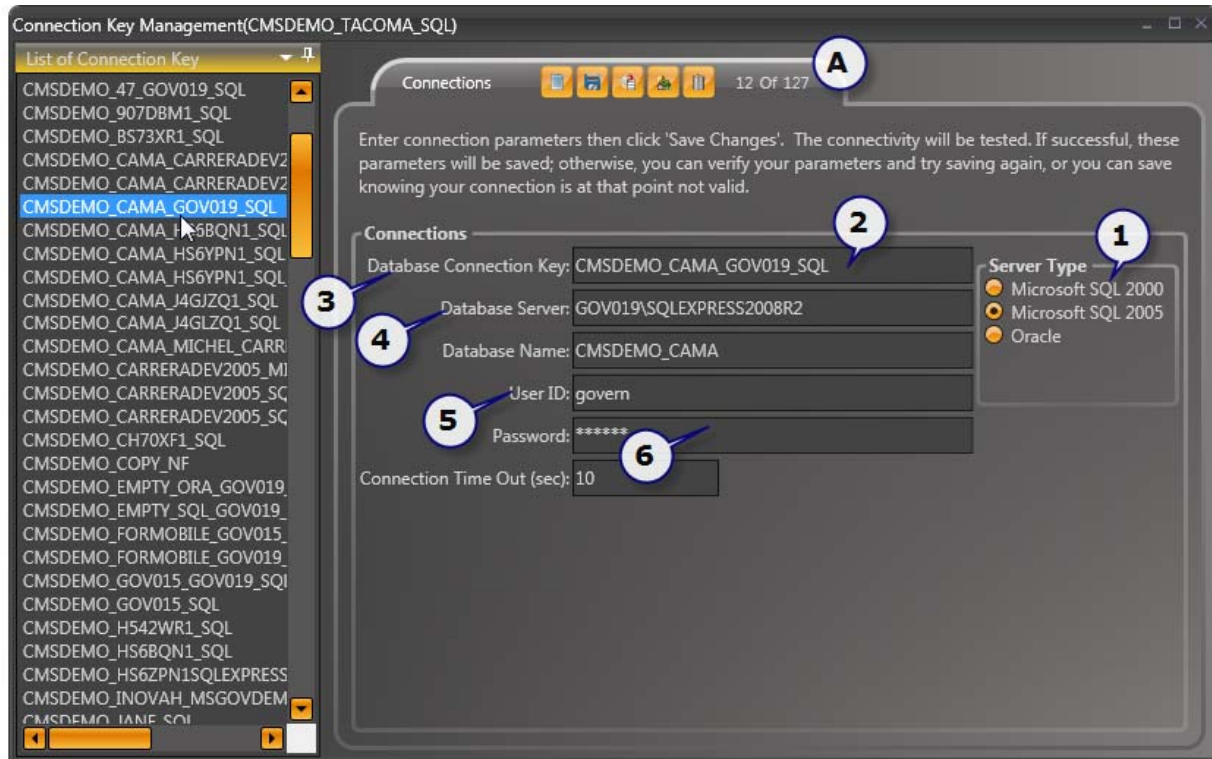
**Server Type**

- Microsoft SQL 2000
- Microsoft SQL 2005
- Oracle

## Connecting to a SQL Database Server

The following steps are for users of Microsoft SQL 2000 or 2005. *Oracle users see the requirements for Connecting to an Oracle Database Server on page 350.*

## Creating a Connection Key



Connection Key Management(CMSDEMO\_TACOMA\_SQL)

List of Connection Key

- CMSDEMO\_47\_GOV019\_SQL
- CMSDEMO\_907DBM1\_SQL
- CMSDEMO\_BS73XR1\_SQL
- CMSDEMO\_CAMA\_CARRERADEV2
- CMSDEMO\_CAMA\_CARRERADEV2
- CMSDEMO\_CAMA\_GOV019\_SQL
- CMSDEMO\_CAMA\_HS6BQN1\_SQL
- CMSDEMO\_CAMA\_HS6YPN1\_SQL
- CMSDEMO\_CAMA\_J4GJZQ1\_SQL
- CMSDEMO\_CAMA\_J4GLZQ1\_SQL
- CMSDEMO\_CAMA\_MICHEL\_CARR
- CMSDEMO\_CARRERADEV2005\_MI
- CMSDEMO\_CARRERADEV2005\_SC
- CMSDEMO\_CARRERADEV2005\_SC
- CMSDEMO\_CH70XF1\_SQL
- CMSDEMO\_COPY\_NF
- CMSDEMO\_EMPTY\_ORA\_GOV019
- CMSDEMO\_EMPTY\_SQL\_GOV019
- CMSDEMO\_FORMOBILE\_GOV015
- CMSDEMO\_FORMOBILE\_GOV019
- CMSDEMO\_GOV015\_GOV019\_SQL
- CMSDEMO\_GOV015\_SQL
- CMSDEMO\_H542WR1\_SQL
- CMSDEMO\_HS6BQN1\_SQL
- CMSDEMO\_HS6ZPN1SQLEXPRESS
- CMSDEMO\_INOVAH\_MSGOVDEM
- CMSDEMO\_IANE\_SQL

Connections 12 Of 127

Enter connection parameters then click 'Save Changes'. The connectivity will be tested. If successful, these parameters will be saved; otherwise, you can verify your parameters and try saving again, or you can save knowing your connection is at that point not valid.

Connections

Database Connection Key: CMSDEMO\_CAMA\_GOV019\_SQL

Database Server: GOV019\SQLEXPRESS2008R2

Database Name: CMSDEMO\_CAMA

User ID: govern


Password: \*\*\*\*\*

Connection Time Out (sec): 10

Server Type

- Microsoft SQL 2000
- Microsoft SQL 2005
- Oracle

To create a new connection key...

1. Click **New**  on the *Connections* tab.

In the *Connection Key Management* form (A), enter the parameters as follows:

**Note:** Ensure that all text entries made in the *Connection Keys Management* form are capitalized, i.e. in uppercase. The exception would be the UserID and Password; both of these can be


2. In the *Server Type* group (1), select the version of Microsoft SQL Database that you will be accessing, e.g. *Microsoft SQL 2005*
3. In the *Connections* group (2), enter a database connection key name following the format below:

**EXAMPLE:**

<b>Database Server Name</b>	GOV027
<b>Database Name</b>	SCHUYLKILL95
<b>Database Type</b>	SQL
<b>Database Connection Key Name</b>	<b>SCHUYLKILL95_GOV027_SQL</b>

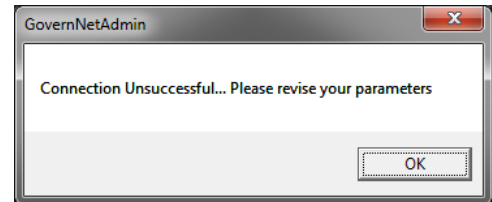
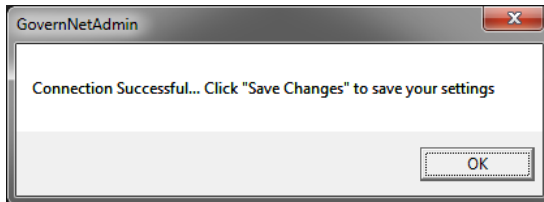
**Note:** An underscore( \_ ) is used to separate each of the three (3) parts of the Connection Key Name:  
 <DatabaseName>, <DatabaseServerName>, and <DatabaseType>.  
**All entries must be capitalized.**


**Note:** It is essential that you enter a *Connection Key* name in the **Database Connection Key** field, otherwise a key will not be properly generated.

4. In the **Database Server** parameter (3), enter your database server name in capital letters.
5. Enter the name of your database into the **Database Name** parameter (4), again use capital letters.
6. Type your user ID into the **User ID** parameter (5).
7. Enter the **Password** (6) that you will use to access the database.
8. Click **Save**  to save the new connection key.

Prior to successfully saving the connection key, internally a connection string is generated and used to connect with the database. If this preliminary **Connectivity** test is successful, to ensure that a valid connection to the

database can be established. A confirmation message appears to indicate that the connection is successful:



9. On the confirmation message click **OK**.
10. Click **Save the current item**  to save the connection string information.

**Note:** If you receive a message indicating that your connection was not successful, click **OK**, review and verify your settings.

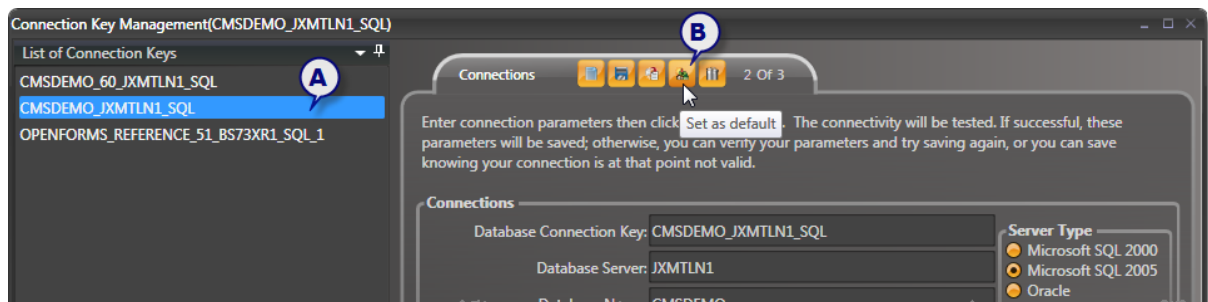
**Note:** After repeated unsuccessful attempts testing the connection, it is recommended that an administrator be contacted. They will verify the type of authentication that your login is configured for in SQL, e.g. *Windows Authentication* and/or *SQL Authentication*.

## Setting a Connection Key (CK) as a Default

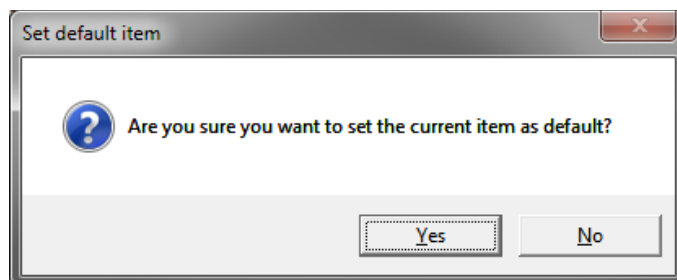
A default *Connection Key (CK)* is one that the application will always start with until a new one is defined. Any connection key that appears under the **List of Connection Keys** may be used as a default.

To set a *Default Connection Key*:

1. In the *Connection Key Management* screen under the *List of Connection Keys* column, click to select the key that you would like to set as the default.
2. Under the **Connections** tab, click **Set as Default**.



3. A verification message will be displayed; click Yes to accept the selected *Connection Key* as your new default.



This connection will remain as the default until a new one has been selected.

## Deleting a Connection Key

To delete a *Connection Key*:

1. In the *Connection Key Management* screen on the left hand side under the *List of Connection Key* column, click to select the key that you would like to delete (A).

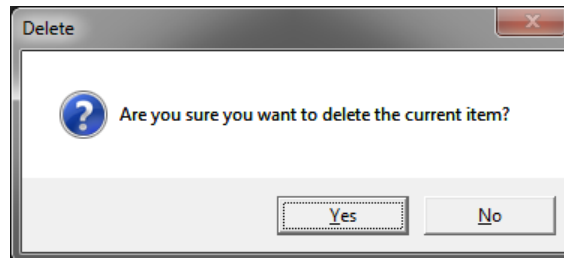


2. On the Connections tab click **Delete the current item.**





A confirmation window will appear; click **Yes** to delete the key.



## Connection Key General Parameters Management

A *Connection Pool* is a collection of database connection objects. In order for a *Govern* application to communicate with a database, a connection must be established with a connection object from the *Connection Pool*.

### Connection States

Connections can have two (2) states, *Active*, or *Inactive*. In the system, connections can exist in two (2) ways *Physical* and *Logical*. When created in the pool by a system request, the connection is *Physically* and *Logically* active. When a request for the connection to be closed is made by the system, the connection becomes *Logically inactive*, but *Physically* it is still active in the *Connection Pool*. Creation of a new connection is time intensive, therefore a happy medium must be maintained when configuring the parameters for the *Connection Pool*.

### Connection Pool Polling Intervals

The *Connection Pool* is periodically checked, or *Polled* for inactive connections. This process is based upon a user defined interval or a built in system rule; inactive physical connections are removed from the connection pool during this set time interval or based upon this system rule.

### Oracle Systems

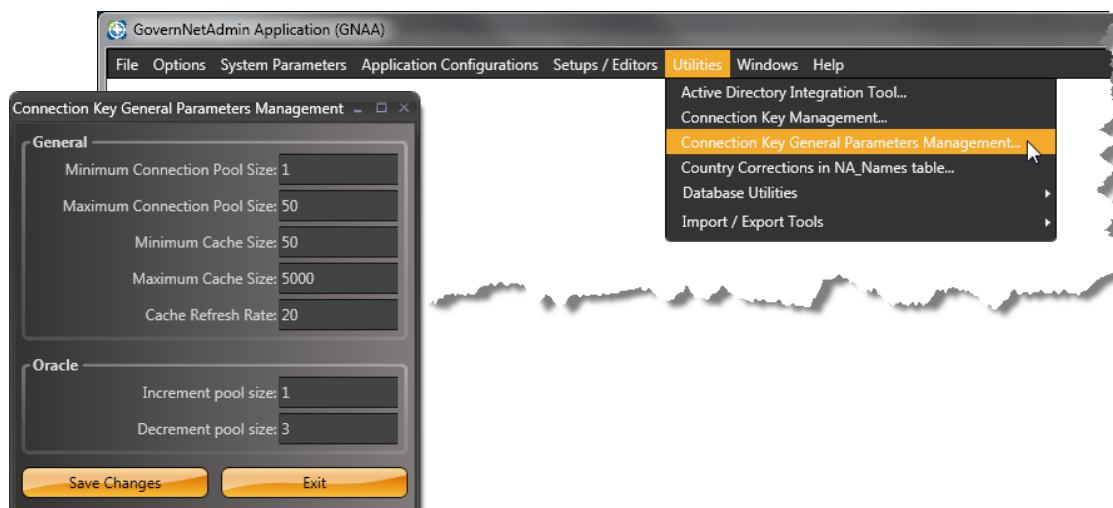
Oracle systems have a polling interval of approximately 3 minutes. Every 3 minutes, the system will review the number of inactive connections in the pool. Based upon the *Decrement Pool Size* setting, the system will reduce the

number of connection by the value, up to the minimum number that is specified in the *Minimum Connection Pool Size* parameter.

## SQL Systems

The polling intervals for connections to SQL databases, is not user configurable. Maintenance of the number of Open connections are handled internally by the system, there are no user configurable parameters.

The parameters that are located in the Connection Key General Parameters Management form are set by default. Unless instructed by *MS Govern Technical Support*, do not modify these settings as they can impact the overall performance of the application.



To access the *Connection Key General Parameters Management* form...

1. In the *Govern New Administration (GNA)* select *Utilities* > **Connection Key General Parameters Management...**

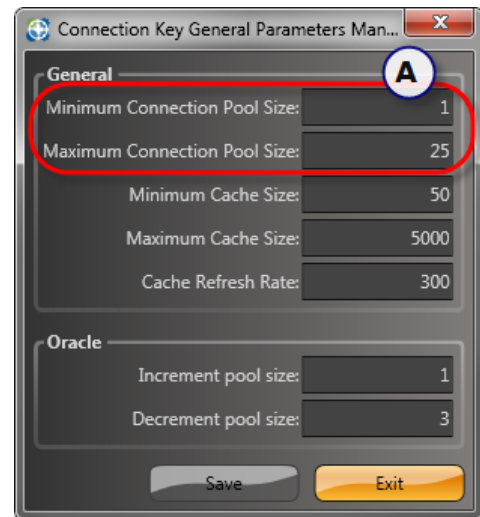
**WARNING:** The parameters in this form should only be modified by **Administrators**, and with the understanding that **changes made will be system wide and will affect all users.**

## Connection Key General Management - General group

### Connection Pool (Minimum Size / Maximum Size)

From the Web, the .NET components access the database through a *Connection Pool*. Users are able to define the minimum and maximum number of connections for the pool (A).

- **Minimum Connection Pool Size** - Enter the minimum number of data connection objects to be established in the pool. (Default = 1)
- **Maximum Connection Pool Size** - Enter the maximum number of data connection objects that can be allocated in the pool in the *Maximum Connection Pool Size* field. (Default = 50)



**Note:** Users refer to the *About Connection Pool Settings* on page 348 for additional details about *Connection Pool Size* settings.

## Database Cache

The database cache uses system memory to store information that is read from the hard disk. The next time the same information is requested, it is read directly from memory. Increasing cache size can increase system performance, but always ensure that you have sufficient system memory to accommodate your settings. Cache sizes are specified in megabytes (MB)

### Cache Size (Minimum Size / Maximum Size / Refresh Rate)

**Minimum Cache Size:** This is the minimum memory size that the system will allocate to the cache.

**Maximum Cache Size:** As the cache size is dynamic, this is the maximum memory space that the system will allow the cache to grow to.

**Cache Refresh Rate:** This is the frequency that the cache is refreshed. The unit is in seconds, therefore to set the rate to 5 minutes, you would enter a value of 300:

300 sec. / 60 sec. = 5 min.

**Note:** The above parameters are automatically set by the system and do not require user modification.

## Connection Key General Management - Oracle group

The parameters that are found in the Oracle group of the *Connection Key General Parameters Management* form are used to set the *Pool Size increment* and *Pool Size decrement* values. See *Oracle Systems* on page 345 for details.

**Pool Size Increment:** The *Pool Size Increment* value determines the number of connections that will be automatically created when a request is made to access the database. For example, if a value of three (3) is entered in this parameter, even if a single connection is requested, three connections will be created in the pool.

**Pool Size Decrement:** The *Pool Size Increment* value will determine the number of connections that will be closed when a request is made. For example, a value of 5 is entered in this parameter. In a pool of 6 idle connections, when a request to close a single connection is sent, 5 of the 6 idle connections will be closed.

## About Connection Pool Settings

The **Minimum Connection Pool Size:** and **Maximum Connection Pool Size:** fields are used to determine the number of connections that will be established with the server.

As an example, a user has a minimum setting of five (5) connections, and a maximum setting of ten (10) connections. In the instance of a single query request, all 5 requested connections will be created even if only one connection is required. When the query transaction has been completed, the created connections will be removed during the *Connection Pool polling interval*. Likewise, if 11 connections are required for a process, since the maximum specified was 10, the system will hold the last process and continuously check until a free connection is available in its assigned pool.

## Performance Issues and Connection Pool Settings

In a multiuser environment, performance issues may be observed as a result of connection pool settings. For example, in a 10 user environment, each user has a minimum setting of 5 connections and a maximum setting of 100 connections. Should each user run a single query, there would potentially be 50 connections running simultaneously, i.e. (5 queries x 10 users = 50 connection). Should each user reach the maximum number of connections, 1000 connections would be created.

## Connection Pool Settings for Web Sites

Determining the number of potential simultaneous connections is a part of the planning procedure for a Web site. Once the anticipated load on the site has been determined, the minimum size can be set accordingly. Administrators should keep in mind that each site will use one *Data Access Block (DAB)*; therefore the parameter setting should be in reference to the number of connections. In addition the session **Timeout** settings for the Web server could also be adjusted to ensure that connections are periodically refreshed.

*As individual Web site requirements will vary There is no minimum recommended setting for the Minimum Connection Pool Size: parameter for a Web site.*

### Recommended Single User Settings

The following are the recommended settings for the Oracle group for a single user access to the database:

- Minimum Connection Pool Size: 1
- Maximum Connection Pool Size: 25
- Minimum Cache Size: 50
- Maximum Cache Size: 5000
- Cache Refresh Rate: 300
- Pool Size Increment: 1
- Pool Size Decrement: 3

## Connecting to an Oracle Database Server

The steps to connect to an *Oracle* database server are similar to those of the *Microsoft SQL Database Server*. Required steps are as follows.

### Setting Up User Access for Oracle Connections

**CRITICAL:** When creating a *Connection Key*, there are three (3) user roles that the *Oracle User* must be a member of:

- **Connect**
- **Resource**
- **Govern\_User** (or the name that has been given to the Govern User.)

If the Oracle user is not a member of all three of the above roles, access will not be granted.

**Note:** *Oracle* users need to complete the following procedure, in the *Oracle Enterprise Manager*.

In *Oracle Enterprise Manager*, grant *Select* access, for the following tables to the user defined with the **User ID** and **Password**. These details will be used to access the database. This is the same information that is entered in the *Connections* group of the *Connection Key Management* window. See *Connecting to a SQL Database Server* on page 341.

- COL\$
- ICOL\$
- IND\$
- OBJ\$
- USER\$

**Note:** All tables are *Oracle System Tables*.

### Tables with Identical Names in Oracle Instances

**Note:** Oracle databases allow the use of identical table names in two or more *Instances*. The *Govern System* does not allow the use of identical table names, therefore ensure that identical table names are not used in any 2 Oracle instances

---

## Oracle Connections

1. Refer to step 2 of *Creating a Connection Key on page 341* to create your **Database Connection Key**. If one has already been created, select it from the *Database Connection* drop-down menu list.
2. Enter the name of the database in the **Database Server** field.
3. Enter the user identification and password for the server, in the **User ID** and **Password** fields.

**Note:** Ensure that this user is given access to the *Oracle database system tables*, specified under *Setting Up User Access for Oracle Connections on page 350*.

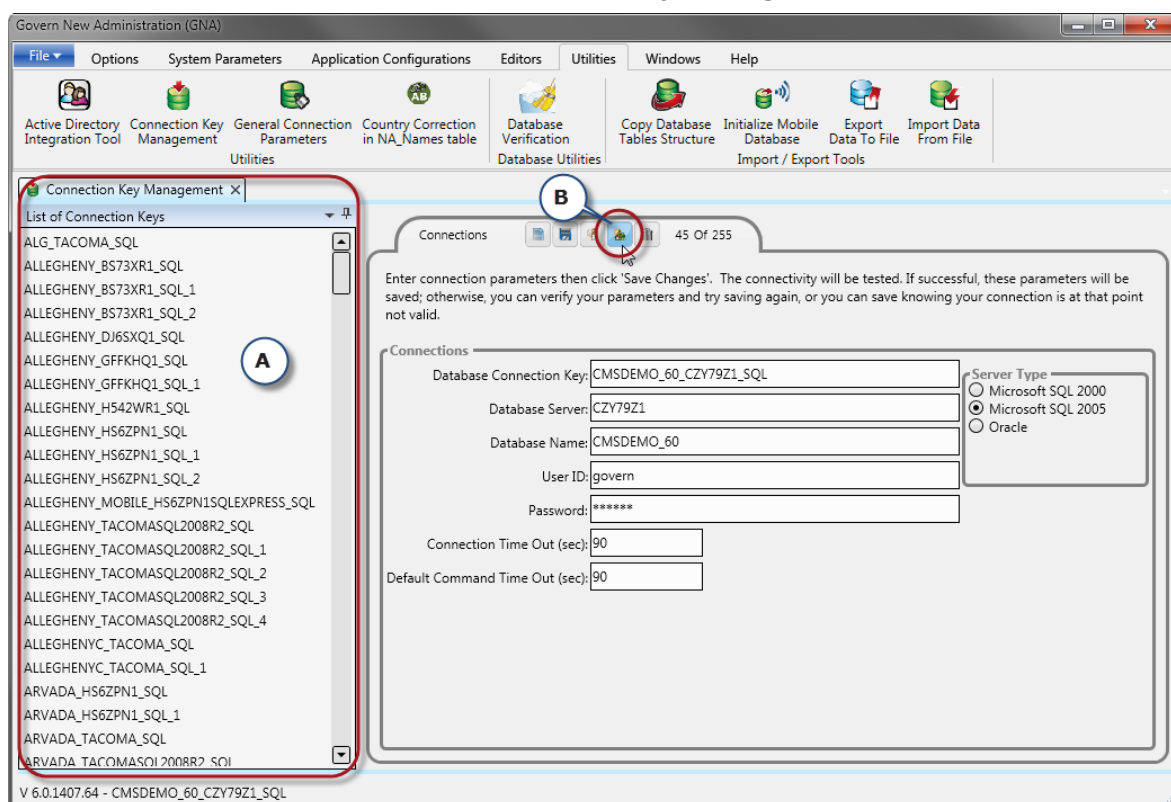
For other *Oracle* related topics, look at *Synonyms in Oracle on page 353*. Continue with the following steps to complete the procedure.

## Managing Multiple Database Connections

In instances when you have multiple database connection keys, the Govern New Administration (GNA) allows you to manage the connections to these databases. In order to access your databases, you will need to change to the corresponding *Connection Key*.

To change Connection Keys:

1. Select *Utilities* > **Connection Key Management...**



2. In the *Connection Key Management* form, click to select an existing key from the *List of Connection Keys* on the left hand side (A).
3. Click **Set as default (B)** to select the key.



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# Synonyms in Oracle

## Using Synonyms in Oracle (Best Practices)

An *Oracle* synonym basically allows you to create a pointer to an object. This object can exist in the same database, or in another database. *Oracle* synonyms are used because, by default, when you are logged into Oracle, it will look for all objects being queried within your schema, i.e. accounts.

A synonym allows a database administrator to define alternate names for existing database objects from other schemas.

## Configurable Searches and External queries

With Govern Open Forms, you can build customized queries, open forms, *Dynamic Searches*, etc. based on data in different schemas and/or external databases.

### Data in a different Schema but same Database Instance

When using a synonym to access data in a different schema but within the same database, it is recommended that you add the synonyms directly in the govern schema. For example, in a schema called MANTA, if you need to work with the tables, it is recommended that you create synonyms with a Govern prefix, in the Govern schema for the required tables.

Govern Schema	MANTA Schema
Govern.PC_PARCEL	Manta.External_table1
Govern.MA_MASTER	Manta.External_table2
Govern.PC_ADDRESS	Manta.External_table3
Manta.External_table4 ( <b>*Synonym</b> )	Manta.External_table4
Manta.External_table5 ( <b>*Synonym</b> )	Manta.External_table5
Manta.External_table6 ( <b>*Synonym</b> )	Manta.External_table6

**Note:** When creating synonyms, one limitation is that it is essential that the name used by the synonym is the same as that of the original.

### Data in a different Database or Server

When using a synonym to access data in a different database or on a different server, there are two (2) methods that can be used.

#### Method 1

When the data is located in a different database, a connection key will need to be generated to access this database. To ensure success, you will need to be able to create stored procedures that will be used by Govern, within the database and schema. Note that this may not be the preferred methodology for System Administrators as this mixes different information within the same schema.

An alternative is to create a Govern schema within the other database, and use the synonyms to point to the desired tables. When this method is used, stored procedures will be created in the Govern Schema along with the synonyms. This is a recommended practice.

#### Method 2

This second method allows you to connect to an external database or server. Once a connection has been established, the synonym can be used in your current Govern database and schema.

#### Example of a database link

The following is an example of the commands that can be used to establish a database link.

```
CREATE DATABASE LINK manta.manta_server_name

CONNECT TO the manta database, IDENTIFIED BY
manta_password

USING 'manta_service_name';
```

The above connects to the 'manta' database using the net service name '**manta\_service\_name**', and is connected with a username of '**manta**' and a password of '**manta\_password**'.

With this, you can do a

```
SELECT * FROM upload_address@manta.manta_server_name
```

This will allow you to retrieve the rows from the **upload\_address** table on the manta database residing on the **manta\_server\_name** Oracle server.

### Creating the Synonym

You can also create a synonym in the following manner:

```
CREATE SYNONYM upload_address for  
upload_address@manta.manta_server_name
```

So that now you can do a `SELECT * FROM upload_address`.

### Syntax

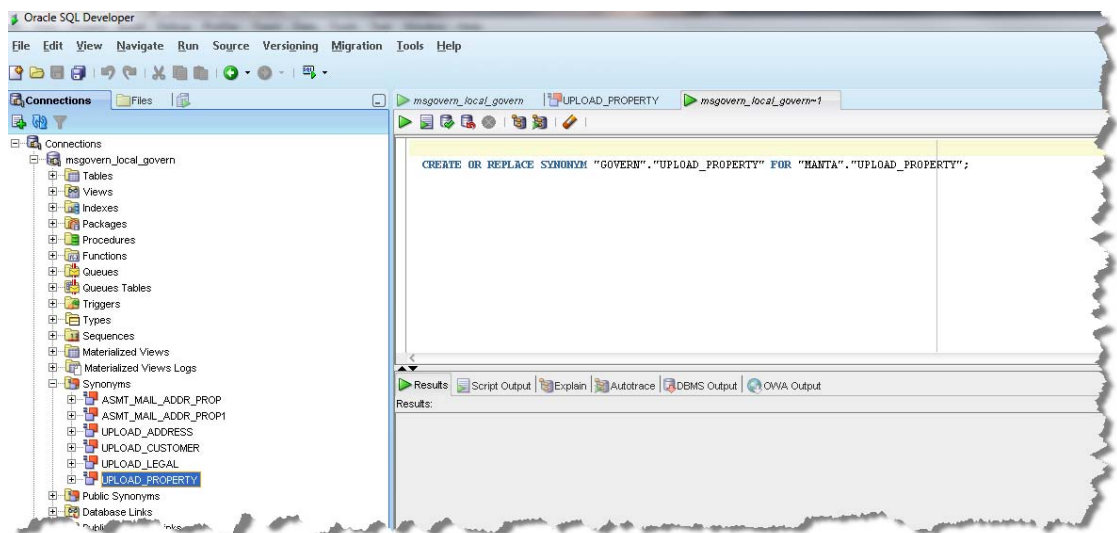
```
Create synonym [SYNONYM_NAME] for [SCHEMA].[TABLE_NAME]
```

Example: `CREATE synonym [UPDATE]`

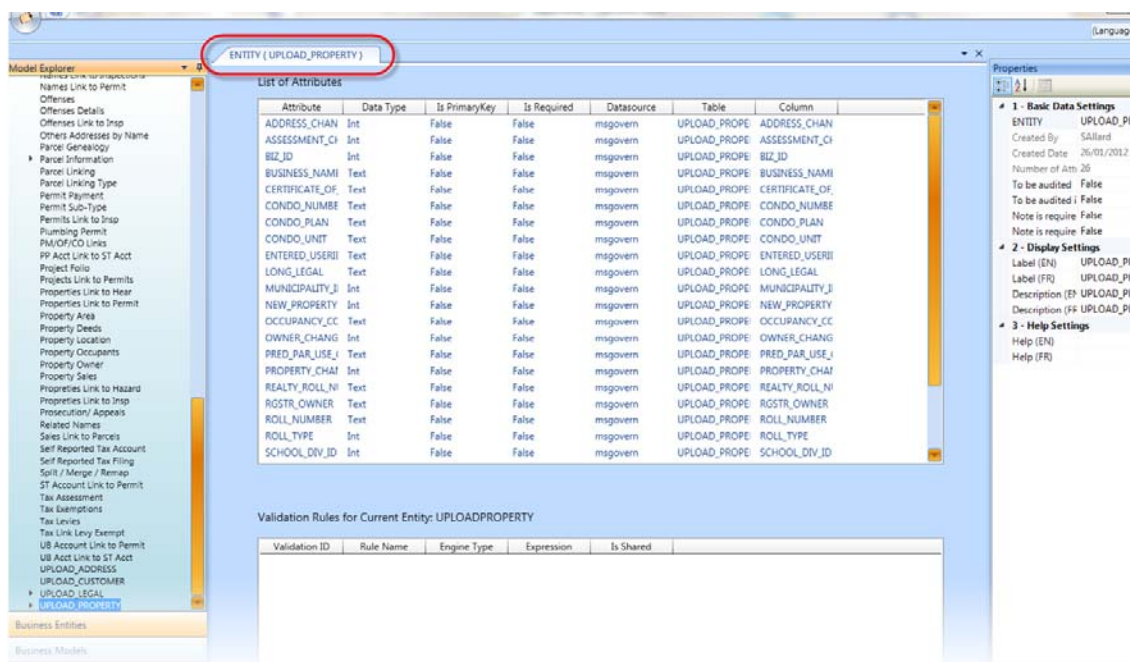
## Using Synonym for table residing on same Server but different Schema

The following steps are for using a Synonym for a table that is on the same *Server*, but in a different *Schema*.

1. Create a synonym for the MANTA.UPLOAD\_PROPERTY table and name it GOVERN.UPLOAD\_PROPERTY.



2. Start the *Business Entity Designer (BED)*
3. Create the **UPLOAD\_PROPERTY** *Business Entity (BE)*; create all required attributes and ensure that each attribute matches the **MANTA.UPLOAD\_PROPERTY** table.



The screenshot shows the Business Entity Designer (BED) interface. The title bar indicates the current entity is 'ENTITY ( UPLOAD\_PROPERTY )'. The left pane shows a tree view of the 'Business Entities' folder, with 'UPLOAD\_PROPERTY' selected. The main pane displays the 'List of Attributes' table, which lists attributes and their properties. The right pane shows the 'Properties' window for the selected entity, with tabs for 'Basic Data Settings', 'Display Settings', and 'Help Settings'.

Attribute	Data Type	Is PrimaryKey	Is Required	Datasource	Table	Column
ADDRESS_CHAN	Int	False	False	msgovern	UPLOAD_PROPE	ADDRESS_CHAN
ASSESSMENT_CH	Int	False	False	msgovern	UPLOAD_PROPE	ASSESSMENT_CH
BIZ_ID	Int	False	False	msgovern	UPLOAD_PROPE	BIZ_ID
BUSINESS_NAMI	Text	False	False	msgovern	UPLOAD_PROPE	BUSINESS_NAMI
CERTIFICATE_OF	Text	False	False	msgovern	UPLOAD_PROPE	CERTIFICATE_OF
CONDO_NUMBE	Text	False	False	msgovern	UPLOAD_PROPE	CONDO_NUMBE
CONDO_PLAN	Text	False	False	msgovern	UPLOAD_PROPE	CONDO_PLAN
CONDO_UNIT	Text	False	False	msgovern	UPLOAD_PROPE	CONDO_UNIT
ENTERED_USERID	Text	False	False	msgovern	UPLOAD_PROPE	ENTERED_USERID
LONG_LEGAL	Text	False	False	msgovern	UPLOAD_PROPE	LONG_LEGAL
MUNICIPALITY_I	Int	False	False	msgovern	UPLOAD_PROPE	MUNICIPALITY_I
NEW_PROPERTY	Int	False	False	msgovern	UPLOAD_PROPE	NEW_PROPERTY
OCCUPANCY_CC	Text	False	False	msgovern	UPLOAD_PROPE	OCCUPANCY_CC
OWNER_CHANG	Int	False	False	msgovern	UPLOAD_PROPE	OWNER_CHANG
PRED_PAR_USE_I	Text	False	False	msgovern	UPLOAD_PROPE	PRED_PAR_USE_I
PROPERTY_CHAI	Int	False	False	msgovern	UPLOAD_PROPE	PROPERTY_CHAI
REALTY_ROLL_NI	Text	False	False	msgovern	UPLOAD_PROPE	REALTY_ROLL_NI
ROSTR_OWNER	Text	False	False	msgovern	UPLOAD_PROPE	ROSTR_OWNER
ROLL_NUMBER	Text	False	False	msgovern	UPLOAD_PROPE	ROLL_NUMBER
ROLL_TYPE	Int	False	False	msgovern	UPLOAD_PROPE	ROLL_TYPE
SCHOOL_DIV_ID	Int	False	False	msgovern	UPLOAD_PROPE	SCHOOL_DIV_ID

Validation Rules for Current Entity: UPLOADPROPERTY

Validation ID	Rule Name	Engine Type	Expression	Is Shared

Properties window (Basic Data Settings):

- ENTITY: UPLOAD\_PR
- Created By: Sallard
- Created Date: 26/01/2012 1
- Number of Atts: 26
- To be audited: False
- Note is required: False

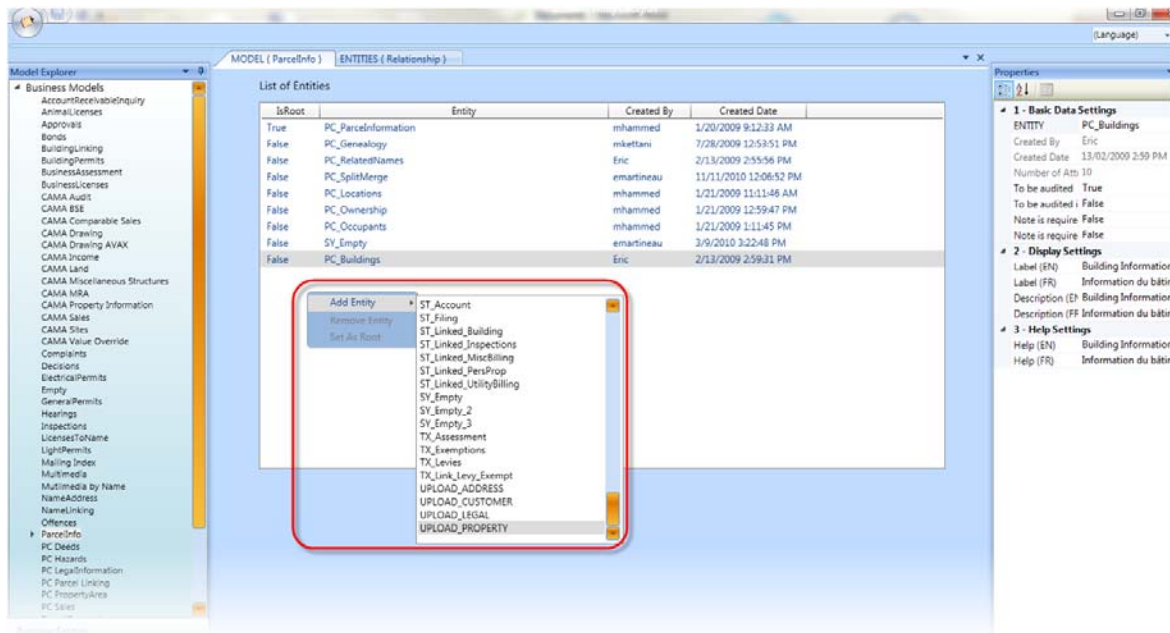
Properties window (Display Settings):

- Label (EN): UPLOAD\_PR
- Label (FR): UPLOAD\_PR
- Description (EN): UPLOAD\_PR
- Description (FR): UPLOAD\_PR

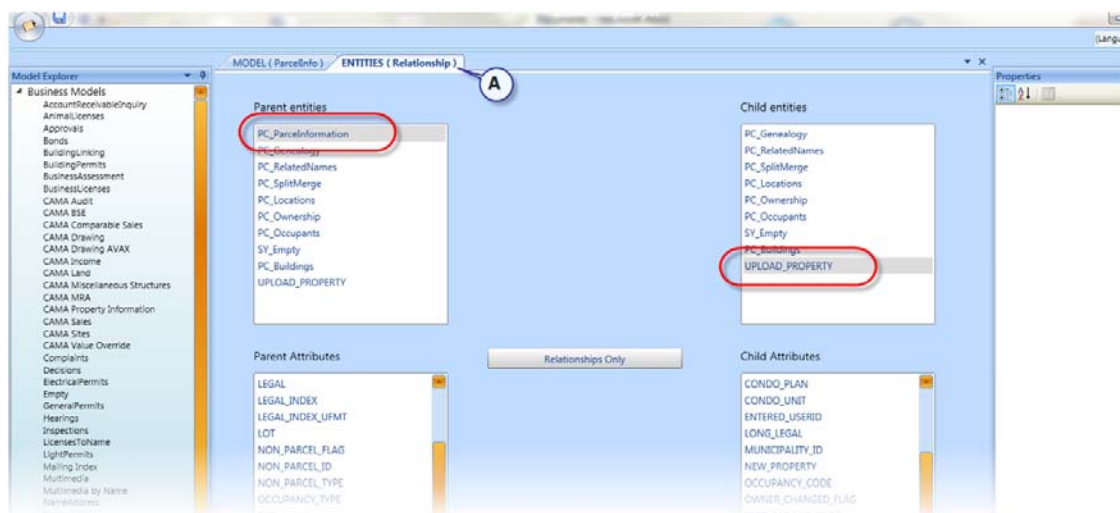
Properties window (Help Settings):

- Help (EN):
- Help (FR):

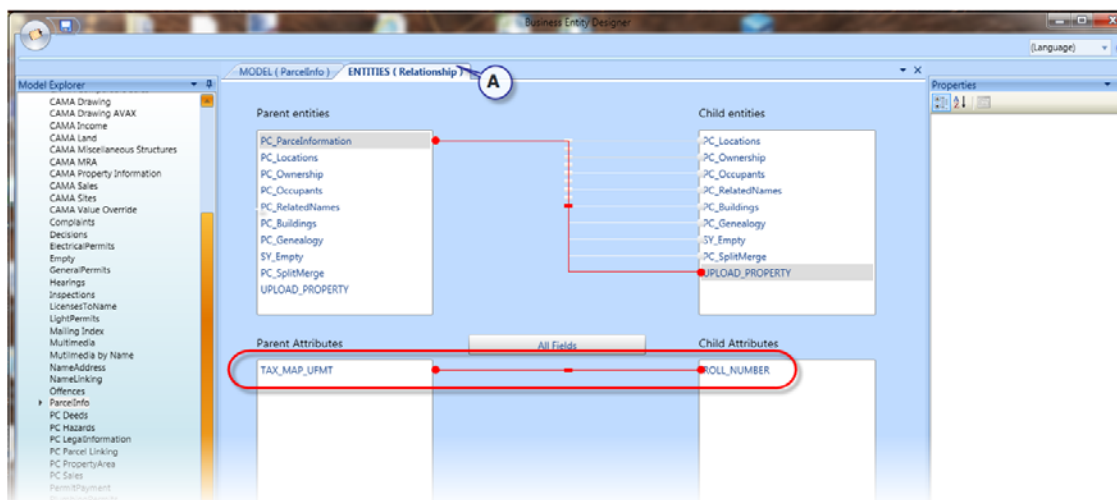
4. Select the **ParcelInfo Business Model (BM)** and add the **UPLOAD\_PROPERTY** business entity to it.



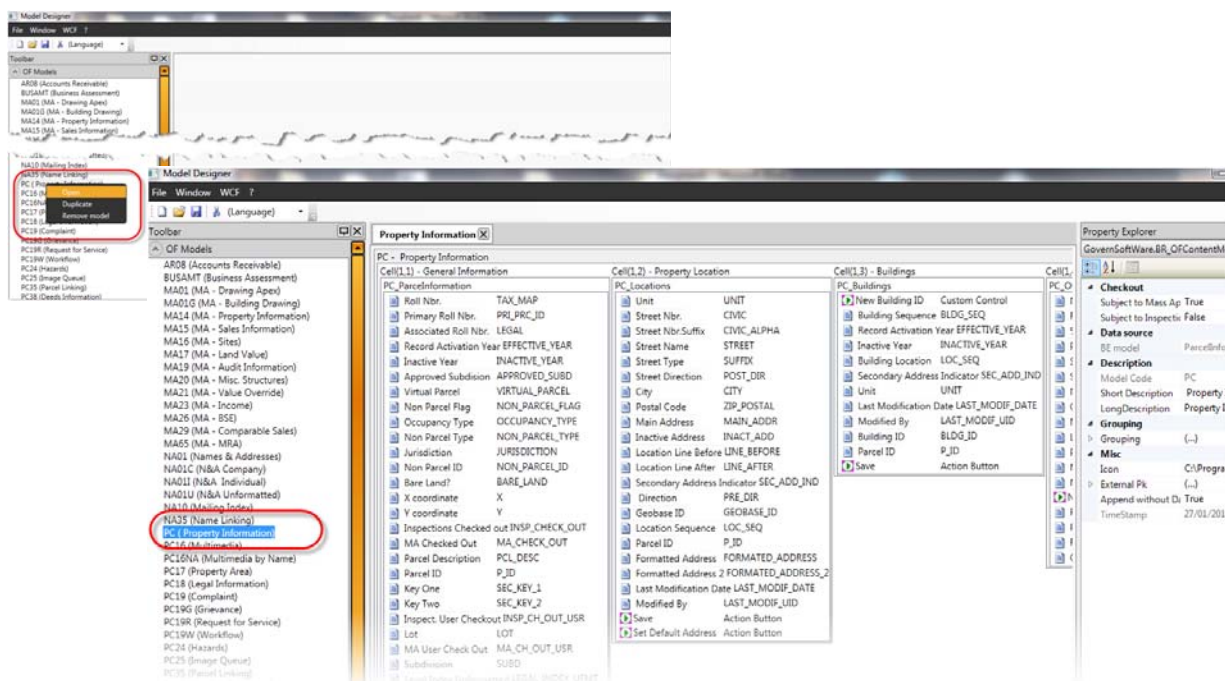
5. Click on the **ENTITIES (relationship)** tab (A) and select **PC\_ParcelInformation** as the parent entity and **UPLOAD\_PROPERTY** as the child entity



- Under the same tab (A), define the relationship between the **TAX\_MAP\_UFMT** and **ROLL\_NUMBER** attributes

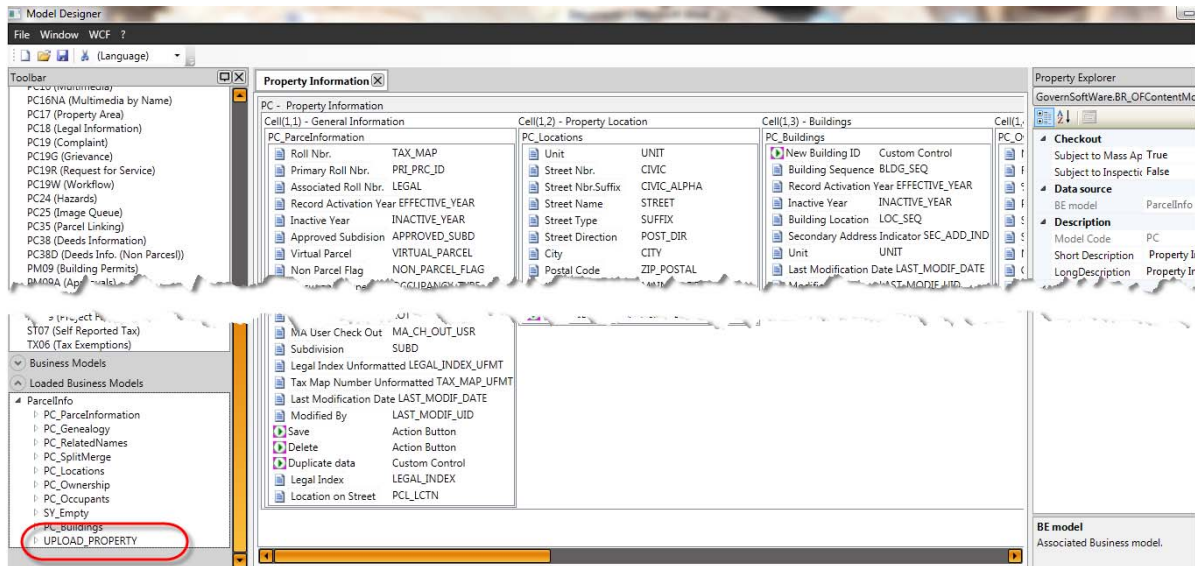


- Start the *Model Object Designer (MoD)* and open the PC (Property Information) model.

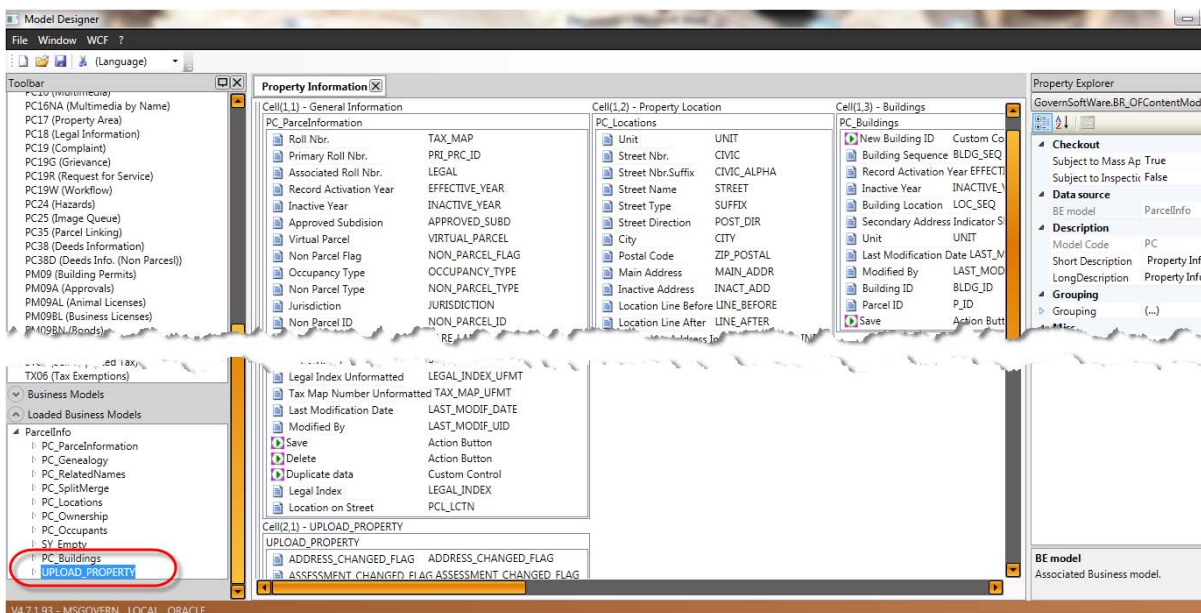




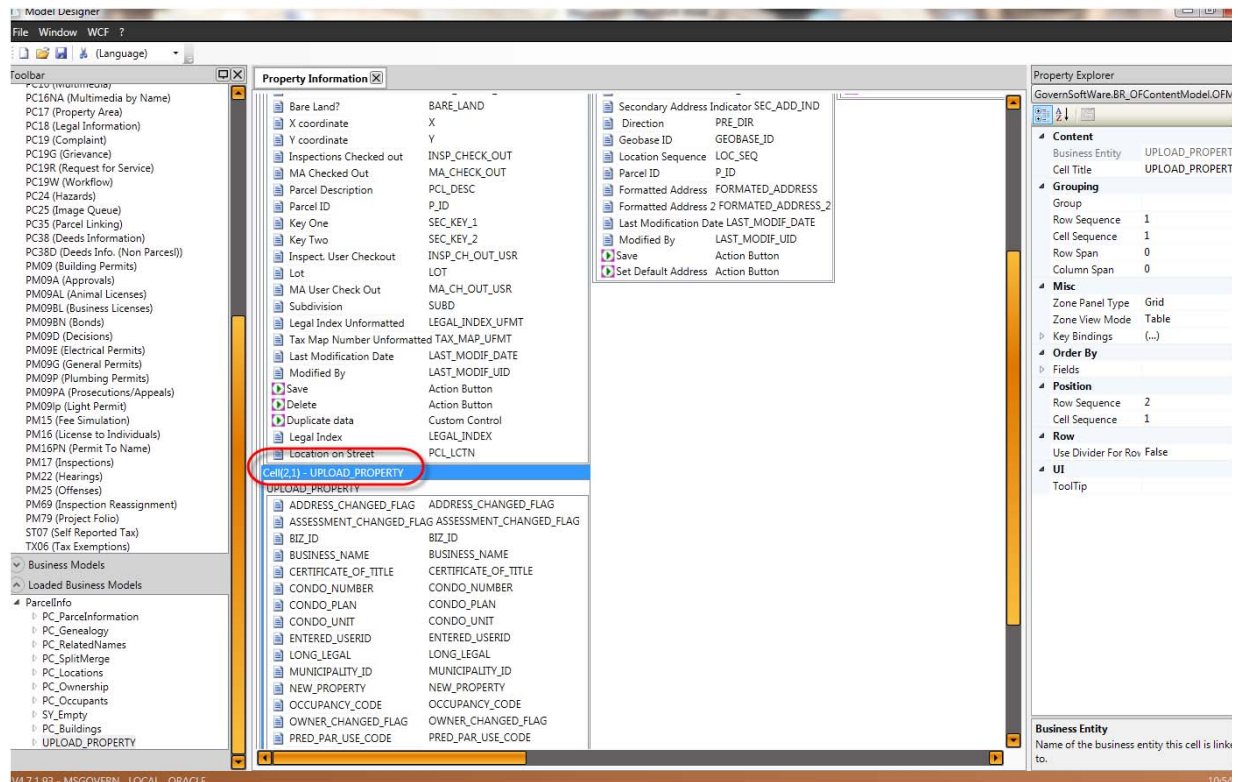
- Expand the *ParcelInfo* item in the loaded Business Model section. You will now see the **UPLOAD\_PROPERTY** Business Entity at the end of the list.



- Drag the **UPLOAD\_PROPERTY** business entity to the property information model.



## 10. Select the **UPLOAD\_PROPERTY** cell to change it's position.

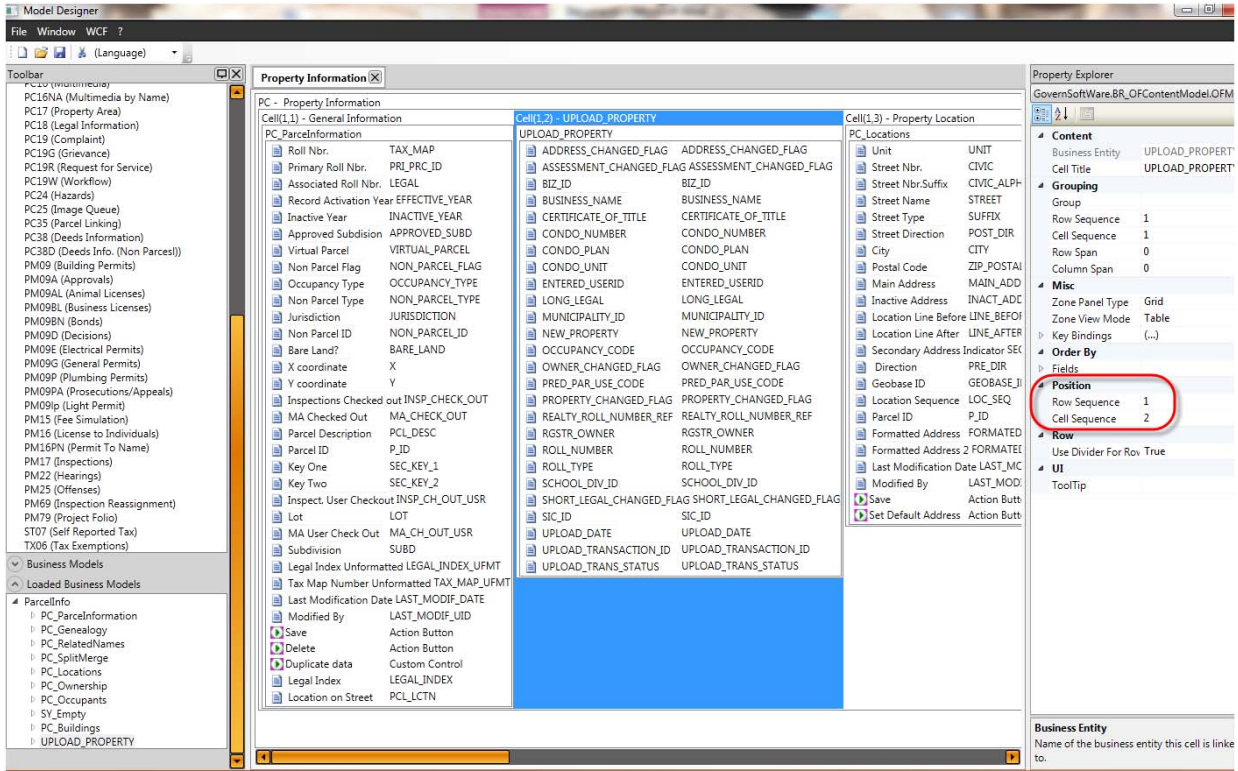


The screenshot shows the Model Designer application with the following components:

- Left Pane (Tree View):** Lists various models and business models. Under "Loaded Business Models", the "ParcelInfo" model is expanded, showing a list of properties including "UPLOAD\_PROPERTY", which is highlighted with a red circle.
- Property Information Pane:** Displays details for the selected "UPLOAD\_PROPERTY" cell. It includes a table of properties and their values, such as "Bare Land?", "X coordinate", "Y coordinate", "Inspections Checked out", "MA Checked Out", "Parcel Description", "Parcel ID", "Key One", "Key Two", "Inspect. User Checkout", "Lot", "MA User Check Out", "Subdivision", "Legal Index Unformatted", "Tax Map Number Unformatted", "Last Modification Date", "Modified By", "Save", "Delete", "Duplicate data", "Legal Index", "Location on Street", "Secondary Address Indicator", "Direction", "Geobase ID", "Location Sequence", "Parcel ID", "Formatted Address", "Formatted Address 2", "Last Modification Date", "Modified By", "Save", and "Set Default Address".
- Property Explorer Pane:** Shows the "Content" and "Grouping" sections. The "Content" section lists "Business Entity" and "Cell Title". The "Grouping" section lists "Group", "Row Sequence", "Cell Sequence", "Row Span", and "Column Span". The "Misc" section lists "Zone Panel Type", "Zone View Mode", "Key Bindings", "Order By", "Fields", "Position", "Row Sequence", "Cell Sequence", "Row", "Use Divider For Row", and "UI".



## 11. Change the Row sequence to 1 and cell sequence to 2.

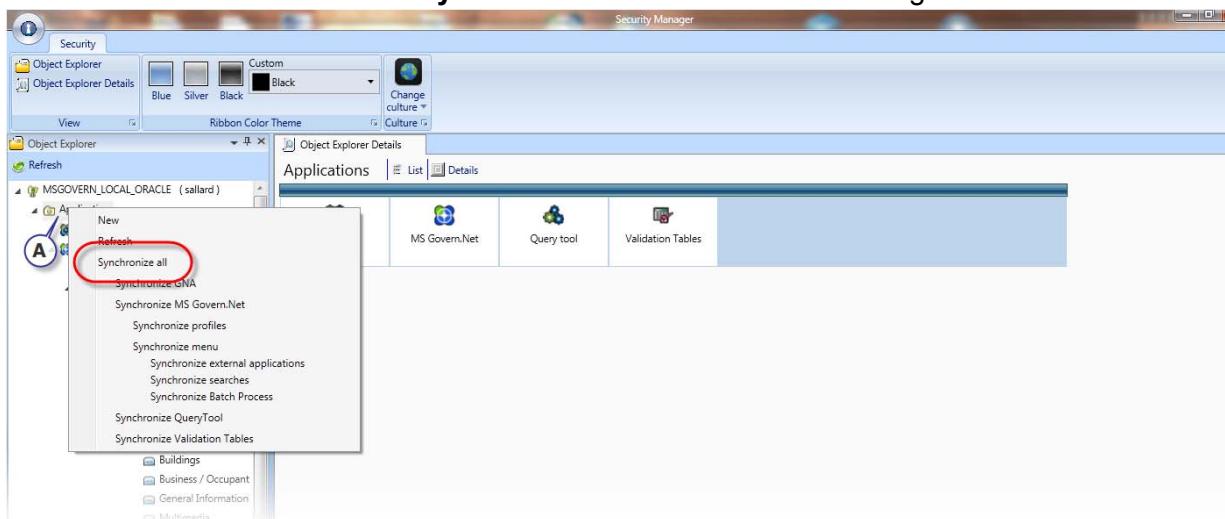


The screenshot shows the Oracle Model Designer interface. The 'Property Information' window is open, displaying a list of properties for the 'UPLOAD\_PROPERTY' model. The 'Cell[1,2] - UPLOAD\_PROPERTY' tab is selected, showing a list of properties including 'ADDRESS\_CHANGED\_FLAG', 'ASSESSMENT\_CHANGED\_FLAG', 'BIZ\_ID', 'BUSINESS\_NAME', 'CERTIFICATE\_OF\_TITLE', 'CONDO\_NUMBER', 'CONDO\_PLAN', 'CONDO\_UNIT', 'ENTERED\_USERID', 'LONG\_LEGAL', 'MUNICIPALITY\_ID', 'NEW\_PROPERTY', 'OCCUPANCY\_CODE', 'OWNER\_CHANGED\_FLAG', 'PRED\_PAR\_USE\_CODE', 'PROPERTY\_CHANGED\_FLAG', 'REALTY\_ROLL\_NUMBER\_REF', 'RGSTR\_OWNER', 'ROLL\_NUMBER', 'ROLL\_TYPE', 'SCHOOL\_DIV\_ID', 'SHORT\_LEGAL\_CHANGED\_FLAG', 'SIC\_ID', 'UPLOAD\_DATE', 'UPLOAD\_TRANSACTION\_ID', and 'UPLOAD\_TRANS\_STATUS'. The 'Cell[1,3] - Property Location' tab is also visible, showing a list of properties including 'Unit', 'Street Nbr.', 'Street Nbr.Suffix', 'Street Name', 'Street Type', 'Street Direction', 'City', 'Postal Code', 'Main Address', 'Inactive Address', 'Location Line Before', 'Location Line After', 'Secondary Address Indicator', 'Direction', 'Geobase ID', 'Location Sequence', 'Parcel ID', 'Formatted Address', 'Formatted Address 2', 'Last Modification Date', 'Modified By', 'Save', and 'Set Default Address'. The 'Property Explorer' on the right shows the 'Business Entity' 'UPLOAD\_PROPERTY' with a 'Position' table. The 'Position' table has two rows: 'Row Sequence 1' and 'Cell Sequence 2'. The 'Row Sequence' column is highlighted in red.

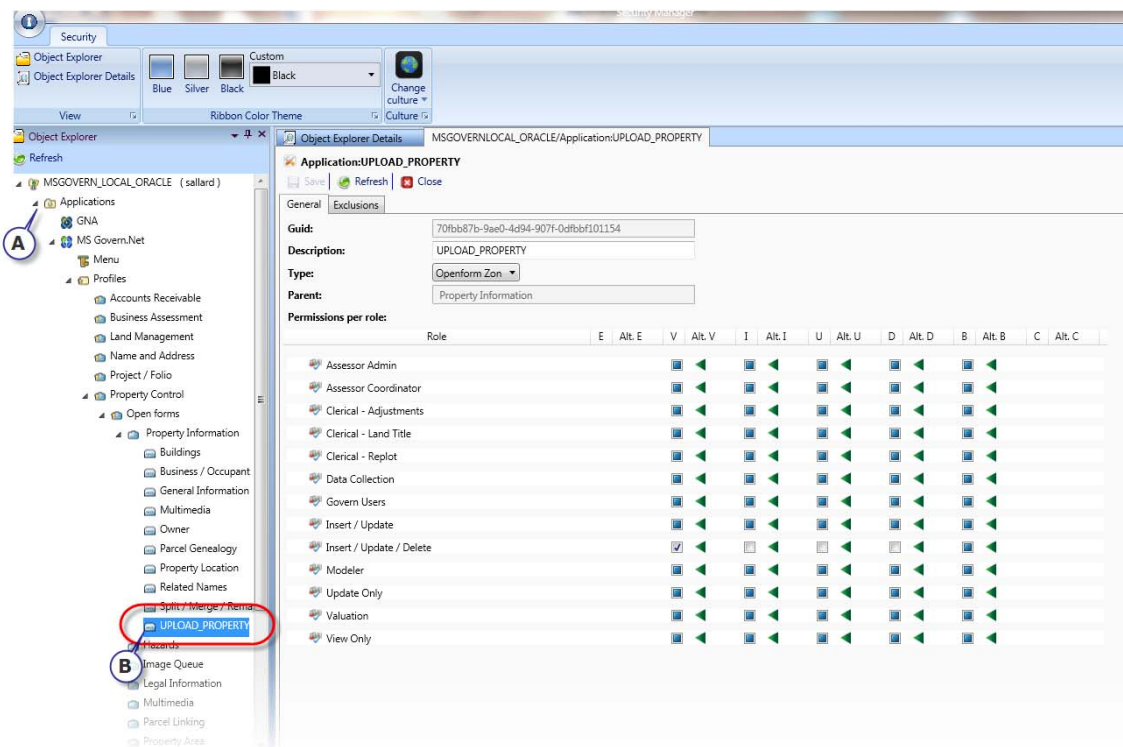
**Note:** You may also add action buttons to the **UPLOAD\_PROPERTY** model to save/delete/etc...

## 12. Click **Save** to save the model.

13. Start the *Govern Security Manager (GSM)*. Right click on *Applications (A)* and select **Synchronize Profiles** from the floating menu.



14. Expand the applications node (A) and confirm that **UPLOAD\_PROPERTY** is now present in the Property Control profile (B).



**Note:** For details about the synchronization process, refer to the *Govern Security Manager (GSM)* release 5.0 for details.

## Verification in Govern

After the synchronization process, the presence of the new tab can be verified in *Govern*.

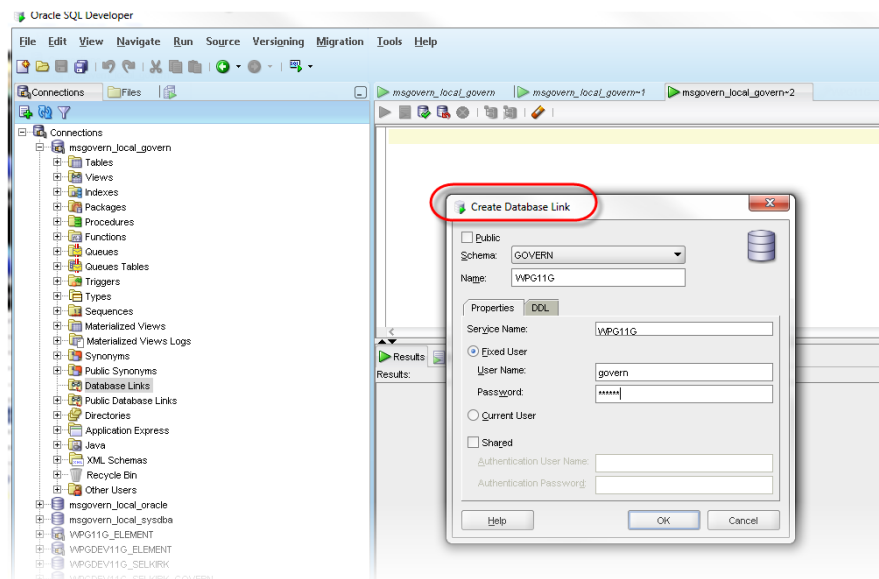
1. Start *Govern* and go to the *Property Control* profile.
2. Open the *Property Information openform*.
3. Search for and edit the *Property Information* for tax map number 13092095000. You will now have a tabbed document for the UPLOAD\_PROPERTY business entity.
4. Click on the UPLOAD\_PROPERTY tab and the related data from the UPLOAD\_PROPERTY business model will be displayed.

All editable fields can be edited and saved.

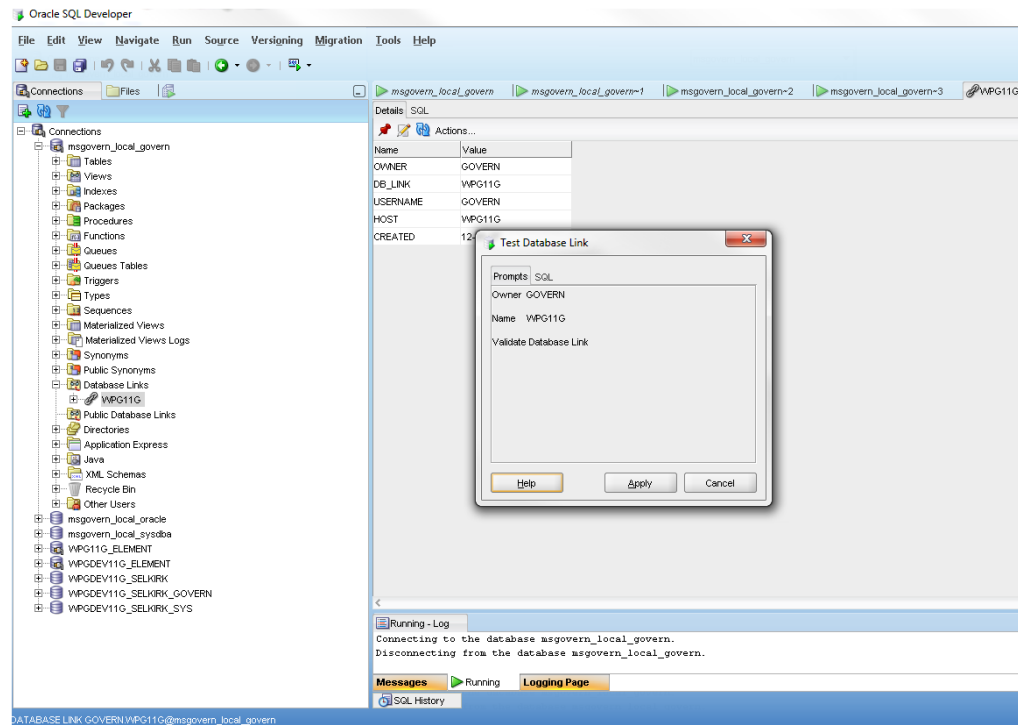
## Using a Synonym for a Table residing on another Server and Schema

The following steps are for using a Synonym for a table that is on another Server with a different Schema.

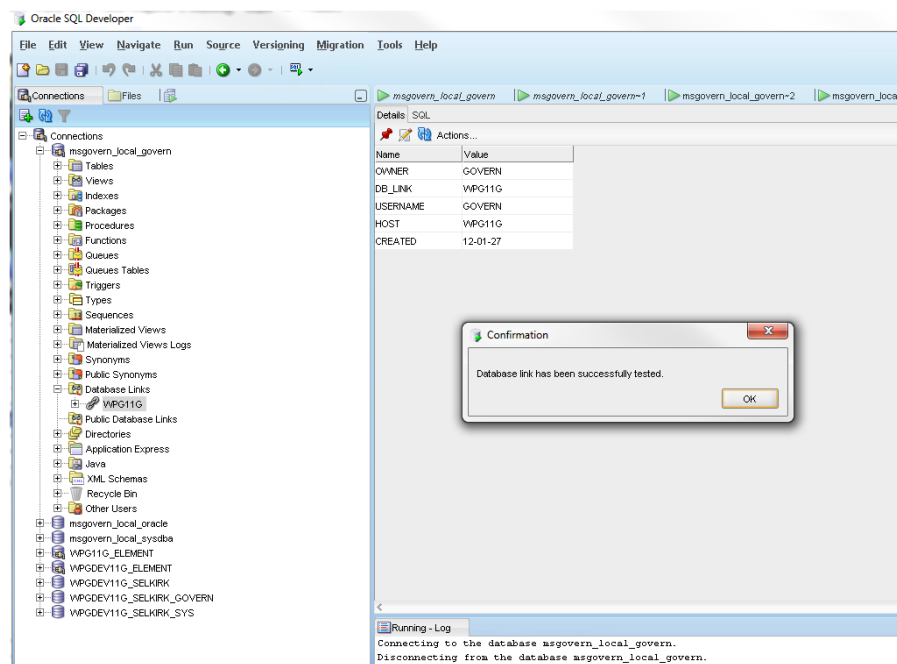
1. Create a database link to where the remote tables reside.



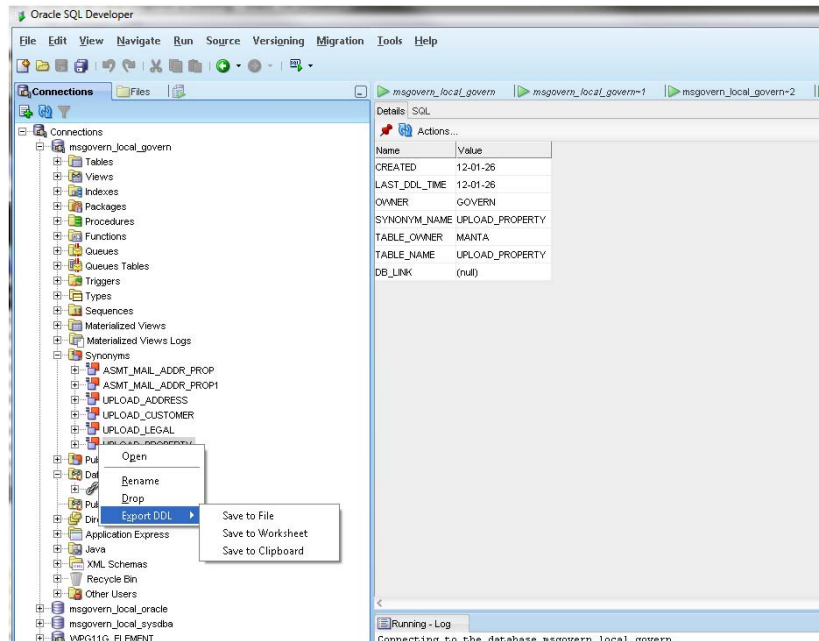
## 2. Test and validate the new database link



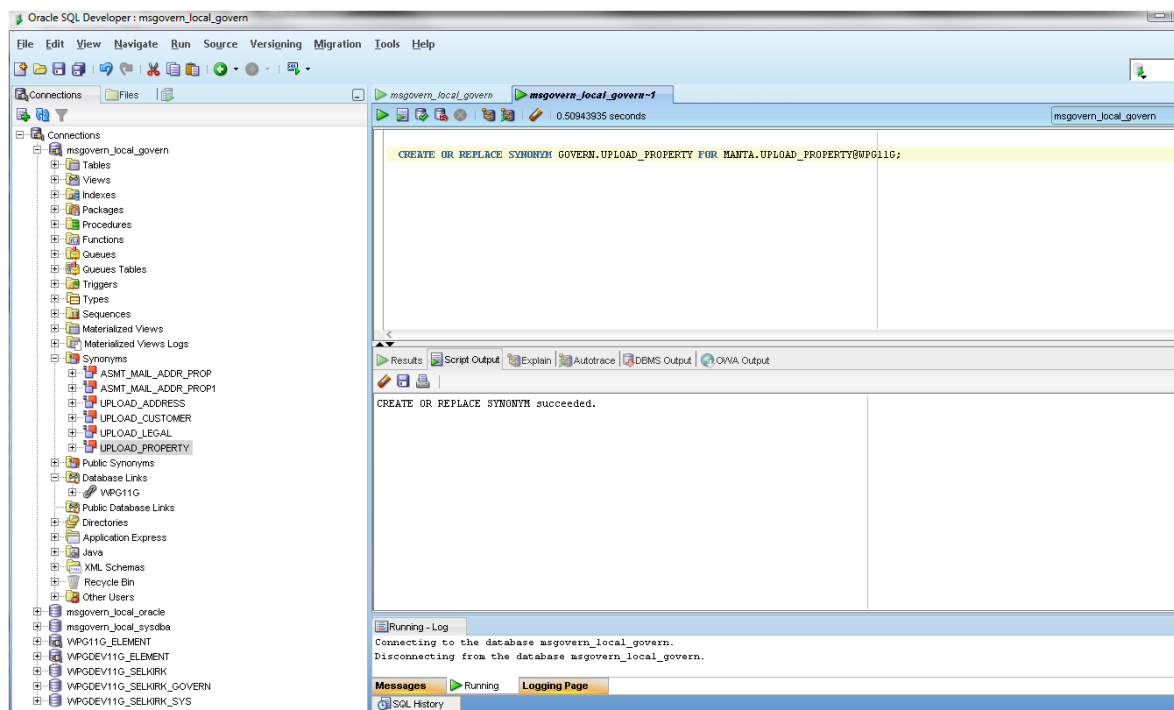
**Note:** The test must be successful.



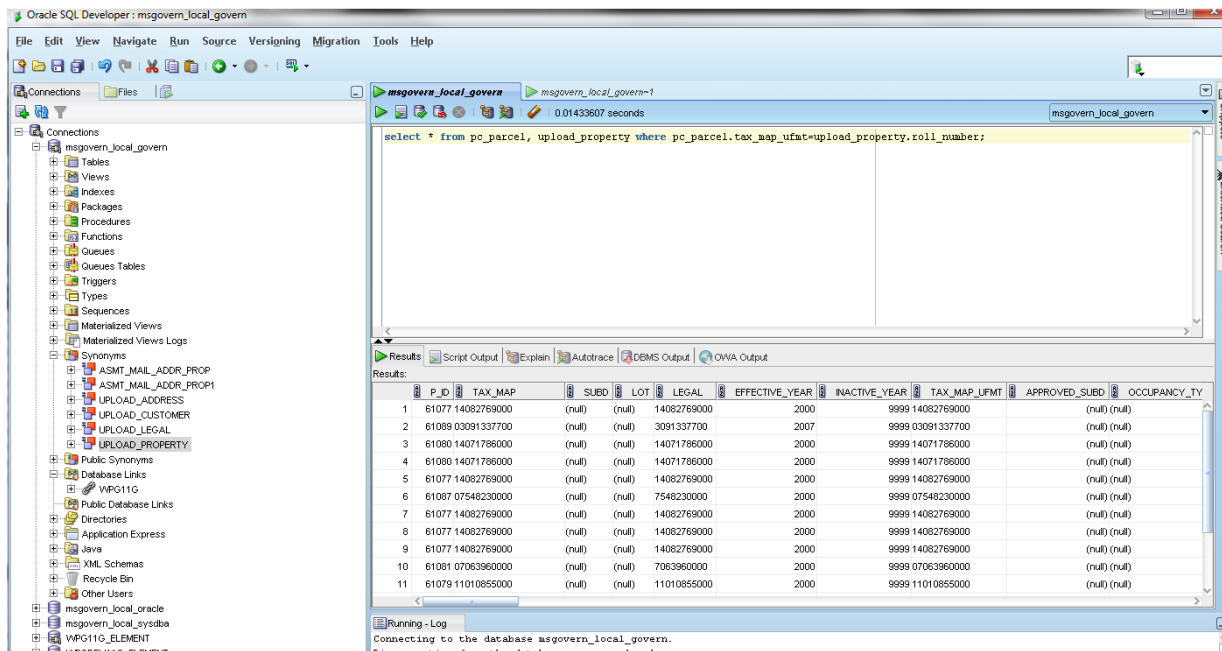
- Export the DDL (save to worksheet) of the synonym `UPLOAD_PROPERTY` that we created earlier.



- Edit the DDL to add a reference to the database link to the server that we are linking to by specifying '@WPG11G' as a suffix to the table name.



## 5. Run a test query to verify that the link is working.



The screenshot shows the Oracle SQL Developer interface. The left pane displays the database schema for 'msgovern\_local\_govern'. The main editor contains the following SQL query:

```
select * from pc_parcel, upload_property where pc_parcel.tax_map_uflat=upload_property.roll_number;
```

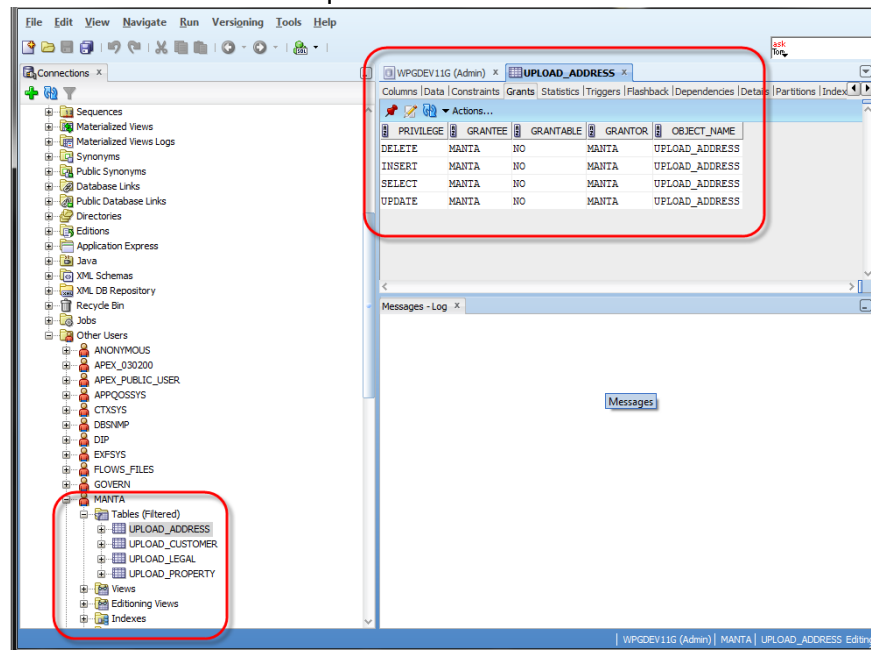
The query has been executed, and the results are displayed in the 'Results' pane. The results show 11 rows of data, including columns for P\_ID, TAX\_MAP, SUBD, LOT, LEGAL, EFFECTIVE\_YEAR, INACTIVE\_YEAR, TAX\_MAP\_UFMT, APPROVED\_SUBD, and OCCUPANCY\_TY.

P_ID	TAX_MAP	SUBD	LOT	LEGAL	EFFECTIVE_YEAR	INACTIVE_YEAR	TAX_MAP_UFMT	APPROVED_SUBD	OCCUPANCY_TY
1	61077 14082769000	(null)	(null)	14082769000	2000	9999 14082769000		(null)	(null)
2	61089 03091337700	(null)	(null)	3091337700	2007	9999 03091337700		(null)	(null)
3	61080 14071786000	(null)	(null)	14071786000	2000	9999 14071786000		(null)	(null)
4	61080 14071786000	(null)	(null)	14071786000	2000	9999 14071786000		(null)	(null)
5	61077 14082769000	(null)	(null)	14082769000	2000	9999 14082769000		(null)	(null)
6	61087 07548230000	(null)	(null)	7548230000	2000	9999 07548230000		(null)	(null)
7	61077 14082769000	(null)	(null)	14082769000	2000	9999 14082769000		(null)	(null)
8	61077 14082769000	(null)	(null)	14082769000	2000	9999 14082769000		(null)	(null)
9	61077 14082769000	(null)	(null)	14082769000	2000	9999 14082769000		(null)	(null)
10	61081 07063960000	(null)	(null)	7063960000	2000	9999 07063960000		(null)	(null)
11	61079 11010855000	(null)	(null)	11010855000	2000	9999 11010855000		(null)	(null)

We are now querying (and joining), transparently, tables that reside on separate *Oracle* servers. If you run the *MS Govern* application, at this point, you will obtain identical results.

## A Note about Security for Synonyms

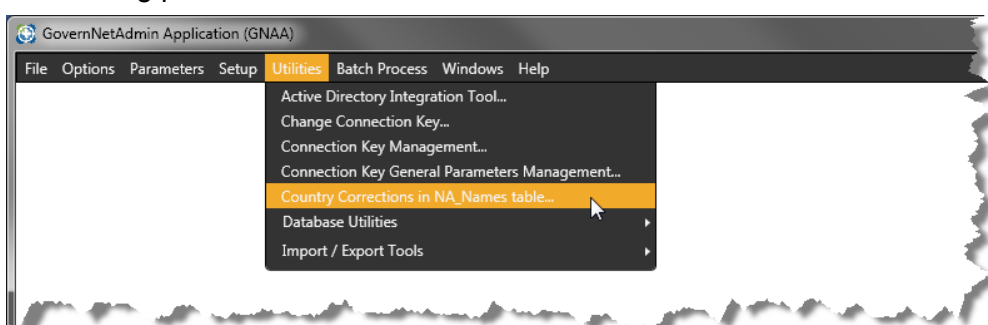
In order for a synonym to function correctly, it is essential that the security be set to have access to the external tables that are pointed to by the synonym. For example to, to access a MANTA schema, you must have security access to the MANTA tables in question..



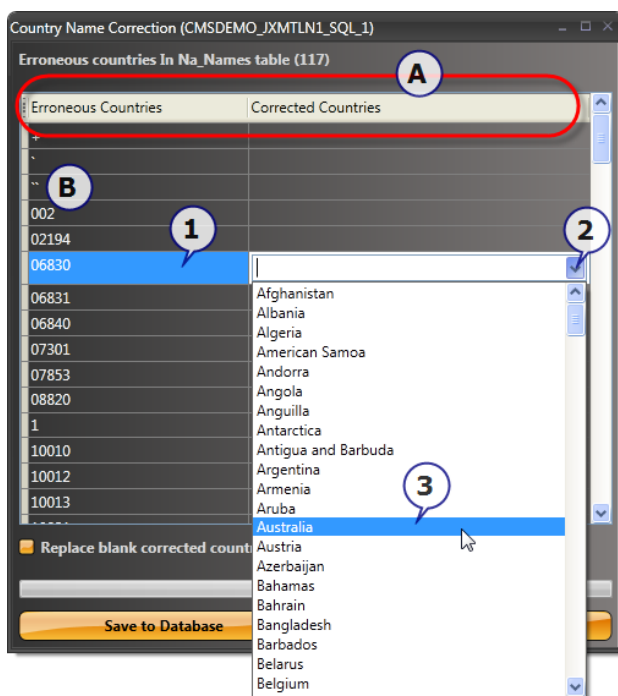


## Country Corrections in NA\_NAMES table

This process is required for cleaning up the text field used in early versions of *Govern for Windows*. This field was created for users to specify countries in the NA\_NAMES table. Since the field for country names is a text field with no validation, errors may have been made during entries, i.e. no standard format or codes were maintained. When this table is to be used on the Web, validation will occur; users must make a selection from a drop-down menu containing pre-defined countries.



This utility is used to “clean up” old codes that exist by allowing you to associate them with existing countries. The data found in this column are usually Postal codes or Zip codes, or non-standard abbreviations.

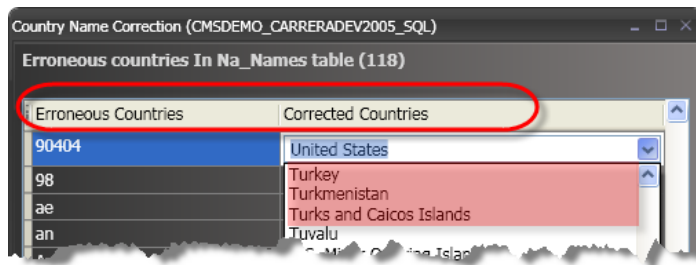




For example, under the *Erroneous Country* column (**A**), we may have an entry of a zip code, we could correct this by associating or “mapping” that entry to the *United States*.

To correct erroneous country codes...

1. In *GNA*, select *Utilities* > **Country Corrections in NA\_NAMES table...**
2. The *Country Name Correction* form appears; under the column marked *Erroneous Countries*, locate an erroneous code (**1**).
3. Click the line that the code appears under the **Corrected Countries** column (**2**).



4. Select the country code that it should be mapped to from the drop-down menu (**3**).

5. Click **Save to Database** to save your correction (4).



Erroneous Countries	Corrected Countries
5430	
653-4431	
8	
80200	
85	
90404	United States
98	
ae	
an	
Antilles	
Apo Ae	
ar	
at	
au	
B v i	
be	
hm	

☒ Replace blank corrected countries with null values

**Save to Database** **Exit**

6. If no mapping is required, or no match can be found for the erroneous country codes, click to select the **Replace blank corrected countries with null values** option (3)



☒ Replace blank corrected countries with null values

**Note:** Blank corrected countries are replaced with **null** characters in the database.

7. Click **Save to Database** to save your changes.
8. To close the form, click **Exit**.

The next time you access this tool only the country codes that have not been matched with a correct country code will be displayed.

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## APPENDIX A: Glossary

Term	Definition
.NET	A platform for developing and running applications that use .NET technologies. .NET technologies are designed to run on intranets and the Internet and to provide centralized data storage, user information, services and products that can be delivered and updated on any number of integrated servers, client PCs and other devices, all at the same time.
.NET Framework	The foundation of the .NET platform, providing an environment for building and running .NET applications and a library for accessing services.
Automatic Clearing House (ACH)	A system that provides electronic funds transfer (EFT) between banks, included with Govern's ePayment solution, for processing bill payments and permit fees.
Connection Key	A string containing all the information needed to automatically connect to a site. The connection key is created from the information entered by the administrator in Govern's .NET Configuration Toolkit.
Connection Pooling	A supply of database connections that are kept open and available. They are used only when requests for data are made. On the Web, this is more efficient than maintaining a separate connection for each user.
Data Source	A device or area on a computer in which the data are originally created and stored.
eComplaint	Govern's eComplaint provides citizens online access to submit complaints.
eComponents	An electronic component. Govern's eComponent package includes the eProfile, ePayment, ePermit and eComplaints solutions.
eGovernment	Government information and services made available over the Internet.
ePayment	An electronic transaction made over the Internet. Govern's ePayments solution includes ACH and credit card electronic payment management.
ePermit	An electronic permit initiated over the Internet. Govern's ePermits solution provides online access for submitting both simple and complex permit applications that can include multiple permit types, multiple name types and multiple additional documents.

<b>Term</b>	<b>Definition</b>
Extensible Markup Language (XML)	A standard used to describe the content of data or text. XML is used to facilitate searches, and to transfer data between applications. It can be used, by any application, on any platform or operating system.
Global Password	A single password used to authenticate all users. Normally, users log in using their own unique password and the global password is used as a secondary authentication. Users are not aware of the global password.
Index	An object that lists the key fields and the locations of records in a database table. It is used to facilitate and speed up access to a table.
Lightweight Directory Access Protocol (LDAP)	A protocol used to locate resources within a directory. An LDAP directory can be spread over several servers.
Mobile Inspector	Designed for the inspector who needs up-to-the-minute information, while working in the field, Govern's Mobile Inspector solution provides online real-time wireless access to the Land Management subsystem.
Object Sequence	An Object Sequence defines the order of the search objects on the browser screen.
Password Hashing	A function that applies an algorithm to a password in order to create a one-way encrypted value of a fixed length, a hash value. Hash values are stored in the database in place of passwords, because they cannot be decrypted. However, since two users can have the same password and therefore the same hash value, and since someone with malicious intent could obtain a password by entering and comparing values, SALT is added to the hash value to increase the security.
Password Prefix	A code that is added to the beginning of a user's password for security reasons.
Password Suffix	A code that is added to the end of a user's password for security reasons.
PL/SQL	A programming language that extends the capabilities of SQL. With PL/SQL, you can add procedures to SQL queries. For example, in order to obtain certain results, you may normally be required to run a series of SQL queries, executing the first on the server, retrieving and processing the results on a client; then, executing the next query based on those results. Using PL/SQL you can combine these queries into a single procedure and run it once on the server.
Relational Database	A method for organizing data in which each data item is stored in only one location and is linked, only as required.

Term	Definition
SALT	A random string added to increase the security of hashing. Salt creates a unique hash value for every user even when multiple users have the same password. It prevents hackers from discovering passwords; for example, by matching common passwords with hash values.
Search Group	A combination of two or more <i>Search Styles</i> that are launched, as a unit, in the order specified in the search sequence.
Search Object	An item appearing on a <i>Search</i> page, such as a search criterion or label. To display search objects on a <i>Search</i> page, you need to link them to a <i>Search Style</i> .
Search Style	A Search Style launches an SQL query and displays the <i>Objects</i> that appear on the Search page, including the search criteria and labels.
Secure Sockets Layer (SSL)	The leading security protocol on the Internet. SSL uses public and private key encryption to establish secure, encrypted communication between Web servers and browsers.
Sequence	A procedure used to generate numbers for an autonumber field in an Oracle database. Within the <i>Sequence</i> , you can define the starting, minimum, maximum and increment values of the automatically-generated numbers.
Stored Procedure	<p>Stored procedures are chunks of code that are stored on the database server where they are accessible to all clients and where they can be retrieved and rerun without the need for recompiling each time.</p> <p>The .NET Database Toolkit provides a number of System Stored Procedures. In addition, Stored Procedures are automatically created, in Govern, when the user performs a search or modifies a table by updating, inserting or deleting a record, from a .NET application.</p>
Structured Query Language (SQL)	A standardized language used to request information from a relational database and to modify records within that database, by inserting, updating and deleting data.
System Stored Procedure	Essential stored procedures, required by the Data Access Block
Table	A database object that contains data of a related type. For example, PC_PARCEL, a central table in Govern, contains the parcel ID (P_ID), tax map number and other administrative information for all the property records referenced in Govern.
Toolkit	A set of software routines and utilities. Govern's .NET toolkits are used to configure and maintain the database for the .NET applications.

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Term	Definition
Trigger	A procedure written in PL/SQL that is automatically launched or <i>fired</i> , when a specific action is performed on a database; for example, when a record is inserted, updated or deleted. Triggers can be used to ensure that data are updated and verified in a consistent manner to enforce complex business rules, derive column values automatically, prevent invalid transactions, log events transparently, audit transactions, or gather statistics.

## APPENDIX B: Logical Expressions

The following table is a list of the default logical expressions found in the *Business Entity Designer (BED)*. They can be edited through the *Logical Expressions Editor* in the *Govern New Administration (GNA)*. These expressions are compatible with those created in the *Govern Admin* application of *Govern for Windows*. Exceptions are the **ATTRIB\_#** and the **PARAM\_#** keywords. These keywords are used exclusively in **Govern**.

- ATTRIB\_#\*
- PARAM\_#\*

\*The '#' symbol represents numbers, e.g. ATTRIB\_1, or PARAM\_1. A total of up to 10 parameters and attributes can be used, i.e. ATTRIB\_0 to ATTRIB\_9, likewise PARAM\_0 to PARAM\_9.

**TABLE:**

Name	Expression
<b>IS_BETWEEN</b>	IF (ATTRIB_1 >= PARAM_1) AND (ATTRIB_1 <= PARAM_2) THEN RETURN True; ELSE RETURN False; ENDIF
<b>IS_SMALLER</b>	IF (ATTRIB_1 < PARAM_1) THEN RETURN True; ELSE RETURN False; ENDIF
<b>IS_SMALLER_OR_EQUAL</b>	IF (ATTRIB_1 <= PARAM_1) THEN RETURN True; ELSE RETURN False; ENDIF
<b>IS_GREATER</b>	IF (ATTRIB_1 > PARAM_1) THEN RETURN True; ELSE RETURN False; ENDIF

Name	Expression
<b>IS_GREATER_OR_EQUAL</b>	IS_GREATER_OR_EQUAL: IF (ATTRIB_1 >= PARAM_1) THEN RETURN True; ELSE RETURN False; ENDIF
<b>RETURN_MIN_1</b>	RETURN_MIN_1: IF (ATTRIB_1 <= PARAM_1) THEN RETURN ATTRIB_1; ELSE RETURN PARAM_1; ENDIF
<b>RETURN_MIN_2</b>	RETURN_MIN_2: IF (ATTRIB_1 <= PARAM_1) AND (ATTRIB_1 <= PARAM_2) THEN RETURN ATTRIB_1; ELSEIF (PARAM_1 <= ATTRIB_1) AND (PARAM_1 <= PARAM_2) THEN RETURN PARAM_1; ELSE RETURN PARAM_2; ENDIF
<b>RETURN_MIN_3</b>	IF (ATTRIB_1 <= PARAM_1) AND (ATTRIB_1 <= PARAM_2) AND (ATTRIB_1 <= PARAM_3) THEN RETURN ATTRIB_1; ELSEIF (PARAM_1 <= ATTRIB_1) AND (PARAM_1 <= PARAM_2) AND (PARAM_1 <= PARAM_3) THEN RETURN PARAM_1; ELSEIF (PARAM_2 <= ATTRIB_1) AND (PARAM_2 <= PARAM_1) AND (PARAM_2 <= PARAM_3) THEN RETURN PARAM_2; ELSE RETURN PARAM_3; ENDIF
<b>RETURN_MAX_1</b>	IF (ATTRIB_1 >= PARAM_1) THEN RETURN ATTRIB_1; ELSE RETURN PARAM_1; ENDIF



Name	Expression
<b>RETURN_MAX_2</b>	IF (ATTRIB_1 >= PARAM_1) AND (ATTRIB_1 >= PARAM_2) THEN RETURN ATTRIB_1; ELSEIF (PARAM_1 >= ATTRIB_1) AND (PARAM_1 >= PARAM_2) THEN RETURN PARAM_1; ELSE RETURN PARAM_2; ENDIF
<b>RETURN_MIN_3</b>	IF (ATTRIB_1 >= PARAM_1) AND (ATTRIB_1 >= PARAM_2) AND (ATTRIB_1 >= PARAM_3) THEN RETURN ATTRIB_1; ELSEIF (PARAM_1 >= ATTRIB_1) AND (PARAM_1 >= PARAM_2) AND (PARAM_1 >= PARAM_3) THEN RETURN PARAM_1; ELSEIF (PARAM_2 >= ATTRIB_1) AND (PARAM_2 >= PARAM_1) AND (PARAM_2 >= PARAM_3) THEN RETURN PARAM_2; ELSE RETURN PARAM_3; ENDIF
<b>INBETWEEN</b>	IF (ATTRIB_1 > PARAM_1) AND (ATTRIB_1 < PARAM_2) THEN RETURN True; ELSE RETURN False; ENDIF
<b>MIN</b>	IF (ATTRIB_1 > PARAM_1) AND (ATTRIB_1 = PARAM_1) THEN RETURN True; ELSE RETURN False; ENDIF
<b>MAX</b>	IF (ATTRIB_1 < PARAM_1) AND (ATTRIB_1 = PARAM_1) THEN RETURN True; ELSE RETURN False; ENDIF

# APPENDIX C:SQL Syntax Rules for GNA

## The Govern Data Access Block (DAB)

The Data Access Block or DAB has several functions in the Govern system. One of these functions is to act as the intermediary between the .NET applications and the database. SQL queries that are used by Govern must go through the DAB. While SQL can be flexible with its syntax, due to its many functions, the DAB must be stricter with syntax. In short what may work in SQL, may have to be modified for the DAB. In fact some of the rules that the DAB requires you to follow are good practises for SQL as well.

The following guidelines and examples have been collected to increase your level of success with Govern SQL queries.

## Basic SQL Query Guidelines

### A. Field in Table is Always on the Left Hand Side

When creating your query statement, the field that you are referencing in the table should always be on the left hand side (LHS), and the **Dynamic Search object** should always be on the right hand side (RHS).

For example:

In the following SQL statement ...

**NOT VALID:** `WHERE @pmnumber_1=PM_MASTER.PM_NUMBER`

**Note:** The above statement is valid in SQL, but it will fail in Govern. The Data Access Block (DAB) will not interpret it correctly.

Should be written as...

**VALID:** `WHERE PM_MASTER.PM_NUMBER=@pmnumber_1`

## B. No Spaces Allowed after Logical Operators

OPERATORS	
Symbol	Description
=	Equal To
<>	Not Equal To
>	Greater Than
<	Less Than
>=	Greater Than or Equal To
<=	Less Than or Equal To

For example:

**NOT VALID:** `WHERE PC_PARCEL.PID1 > PC_PARCEL.ID2`

should be written as...

**VALID:** `WHERE PC_PARCEL.PID1>PC_PARCEL.ID2`

## C. Space Before and After LIKE Operator

The **LIKE** pattern matching operator is used to select only rows that are "like" what you specify. When using it ensure that there is a space before and a space after the operator.

For example:

**NOT VALID:** `WHERE PC_PARCEL.PID1LIKEPC_PARCEL.P_ID`

should be written as...

**VALID:** `WHERE PC_PARCEL.PID1 LIKE PC_PARCEL.P_ID`

## D. Always Specify Tables and Fields in Statements

When writing statements, always specify *Tables* then *Fields* (**TABLE.FIELD**). This applies even in cases where you are referring to a single table and there would be no ambiguity.

For example:

The following statement...

```
SELECT NA_ID, INDEX, DESC FROM NA_NAMES WHERE  
NA_ID=@nanameid_0
```

is the same as ....

```
SELECT NA_NAMES.NA_ID, NA_NAMES.INDEX, NA_NAMES.DESC FROM  
NA_NAMES WHERE NA_NAMES.NA_ID=@nanameid_0
```

In the first statement we are only specifying the columns in the **NA\_NAMES** table. This would not pose as a problem if we are only dealing with one table. Realistically, we will often have to interact with multiple tables, and many tables have the same column names; this would create an ambiguity. The system would not know which table is being referred to.

## Advanced SQL Queries

The above section contains general rules that are to be followed when creating SQL queries. The following are specific examples of issues with advanced queries, and how they may be resolved.

### A. Double Brackets Workaround

Database entries in Govern can have three (3) states, TRUE, FALSE, and NULL. The NULL is placed in a field as a placeholder when no data is entered. TRUE is equal to a value of -1, FALSE is equal to zero (0), and the NULL should equate with zero (0).

A NULL value is treated differently from other values due to its special nature. NULL and 0 cannot be compared because they are not equivalent.

The following example demonstrates how the NULL can be handled when it is encountered in the database.

In the following query...

### Query

```
SELECT PC_PARCEL.P_ID, PC_PARCEL.TAX_MAP,
PC_ADDRESS.FORMATED_ADDRESS, PC_PARCEL.EFFECTIVE_YEAR,
PC_PARCEL.INACTIVE_YEAR

FROM PC_PARCEL left outer join PC_ADDRESS on
PC_PARCEL.P_ID=PC_ADDRESS.P_ID AND PC_ADDRESS.LOC_SEQ=0

WHERE (PC_ADDRESS.CIVIC IS NULL OR
(PC_ADDRESS.CIVIC>=@pcfhouse_0 AND
PC_ADDRESS.CIVIC<=@pcthouse_1))

AND (ISNULL(PC_ADDRESS.STREET, '') =
ISNULL(@pcstreetname_2[[PC_ADDRESS.STREET]], ''))
AND (ISNULL(PC_ADDRESS.SUFFIX, '') =
ISNULL(@pcstreettype_0[[PC_ADDRESS.SUFFIX]], ''))
```

In the above query, the SQL **ISNULL()** function is used, so that when searching specified columns in the table, should a NULL character be encountered, the ISNULL() function will equate it with zero (0). In the above example a modification in the form of double square brackets "[[]]", have been added to the query. This modification has been made for the DAB. When the DAB encounters double-brackets it will immediately use the data type of the **TABLE.COLUMN** combination that are within the brackets to declare the leftmost variable that is outside of the brackets, in our case the ISNULL.

```
ISNULL(@pcstreetname_2[[PC_ADDRESS.STREET]], '')
AND (ISNULL(PC_ADDRESS.SUFFIX, '') =
ISNULL(@pcstreettype_0[[PC_ADDRESS.SUFFIX]], ''))
```

## B. NULL Characters Alternate Method

As stated in the previous example, the database entry can have three (3) states, TRUE, FALSE, or NULL. A check box in a user interface can have two (2) states, TRUE (-1), or FALSE (0). We would need to code our query to equate a NULL with a zero (0). The following example demonstrates an alternate method of handling the NULL character.

### Query Fragment

```
AND(PC_PARCEL.NON_PARCEL_FLAG=@pcnonparcel_0 OR (
0=@pcnonparcel_0 AND PC_PARCEL.NON_PARCEL_FLAG IS NULL))
```

The above statement is written to handle the NULL by equating NON\_PARCEL\_FLAG with NULL.

The above example statement can also be recreated with the double brackets method. The statement would be as follows:

```
AND
(PC_PARCEL.NON_PARCEL_FLAG=@pcnonparcel_0[[PC_PARCEL.NON_
PARCEL_FLAG]], '')
```

## C. Linking Interface Selections

We would like to present the user with a search option that will include inactive parcels. Unfortunately in the database there is no field in the database that will tell you that a parcel is inactive. To be able to link something that does not exist in the database to something that does, and get a TRUE or FALSE value that we can then manipulate.

The *PC Inactive Parcel* field does not exist in the database but we want the user to use the check box, it will have to be linked to one that is of the same type. i.e. integer, float, text, small int, etc.

### Create a dummy condition

This is a condition that will always return a value of TRUE, this also declares a variable based upon a column.

```
AND (PC_PARCEL.NON_PARCEL_FLAG=@pcinactiveparce_0 OR 1=1)
```

To declare the **pclInactiveParcel** object, we will link it to a field that is of the same type as that required by the checkbox, i.e PC\_NON\_PARCEL\_FLAG. The **DAB** will now be able declare pclInactiveParcel as valid.

The conditions are now set for the two states of the checkbox option...

---

```
AND (( 0=@pcinactiveparce_0 AND
PC_PARCEL.EFFECTIVE_YEAR<= year id AND
PC_PARCEL.INACTIVE_YEAR > year id )

OR (-1 = @pcinactiveparce_0 ))
```

If the *Include Inactive Parcel* option is not checked, i.e. FALSE (0), or *Include Inactive Parcel* is checked, TRUE(-1).

Following the above steps, we are able to **declare a variable based upon a column**. Based upon the fact that the variable does not exist, the Data Access Block (DAB) is being directed not to look directly at the column, but rather it is being told what to expect.

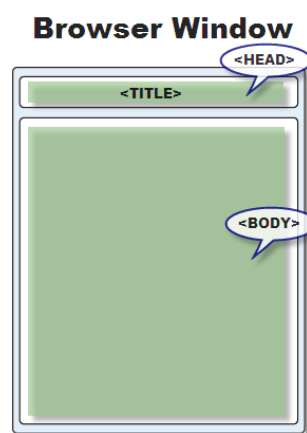
## APPENDIX D: HTML Tags

The following are lists of common HTML tags that can be used in the WebSkin Editor

### HTML Document Structure

A standard HTML document will have the following structure.

```
<HTML>
  <HEAD>
    <TITLE>
      This Title Appears in
      the Browser Title Bar
    </TITLE>
  </HEAD>
  <BODY>
    Information for the body section.
    This information
    is usually seen in the browser window.
  </BODY>
</HTML>
```



### <HEAD> Section

The <HEAD> section is the recommended location for *JavaScript*, and *Cascading Styles Sheets (CSS)*. Elements that are often contained in the <HEAD> section are:

- **Title** - The title that appears in the title bar of the browser is set between the <TITLE></TITLE> tags.
- **Link** - The link element is used to define an external resource such as the external CSS file containing formatting styles. The following is a sample using the *Link* element to link to an external CSS file.  

```
<link rel="stylesheet" type="text/css"
href="CSS_Filename.css" />
```



- **Meta** - The meta element is used to define document author, purpose, keywords, etc.

```
<meta name="keywords" content="HTML, web design" />
```

The “Head” section of the document is where you place the title of the page. The title that appears in the title bar of the web browser is placed between the “<TITLE></TITLE>” tags.

## <BODY> Section

The <BODY> section of your document is used for all content that is to be displayed in the browser. Following are some tags that are used in the <BODY> sections

## Formatting Tags

Tag Name	Tag Used
Heading1	<H1></H1>
Heading2	<H2></H2>
Heading3	<H3></H3>
Heading4	<H4></H4>
Heading5	<H5></H5>
Heading6	<H6></H6>
Bold	<B></B>
Italic	<I></I>
Paragraph	<p></p>
Font	<font face="Arial" color="#FFFFFF" size="5"> - The font name must appear as it does in your fonts folder - Colors are defined using Octal

## Creating Hyperlinks, Anchors, and Links

The HTML Anchor link <a> is used to define links within your document.

```
<a href="URL to file">Text to be linked</a>
```

HREF defines the link address, so for example a line of text that would link to the MS Govern Web site would look like the following:

`<a href="http://www.msgovern.com/">Click here to go to our site...</a>`. When the above hyperlink is defined, Click here to go to our site will appear underlined and will be a link to [www.msgovern.com](http://www.msgovern.com)

### Creating an E-mail Link

The e-mail link is a standard hyperlink using the anchor link with a slightly different syntax. For example:

This is a mail link...

```
<a href="mailto:someone@company.com?subject=Permit%20Request">Contact Us</a>
```

the above e-mail link, will display Contact Us as a hyperlink that when selected, will launch the installed e-mail client with a new message window. The message will be addressed to "someone@company.com", and "Permit request" will appear in the *Subject* field.

**Note:** When you want to enter text in the *Subject* field, spaces between words should be entered as "%20" which is the URL encoding for a space character.

### Relative Links

When creating hyperlinks, depending on the length of the domain name, and the number of subdirectories that the file being referenced is located in, the URL's can become very long. In such situations, users that are familiar with the use of Relative Links will use them as a means of shortening the URL.

For example, a file called *web\_image01.jpg* is being referred to from a page with a URL of :

```
http://www.metrocity.com/webpages/html/services.html
```

The URL for the image is:

```
http://www.metrocity.com/webpages/html/images/web_images01.jpg
```

To shorten the URL, a relative URL can be use to replace the longer path:

`images/web_images01.jpg`

## Using Relative Links with the ePortal Application

The use of relative links, although supported, is not recommended. The Web Portal Application uses Active Server Pages (ASP), information to generate the page may be obtained from varoius locations. These locations can change, and as a result the links can be broken. It is therefore recommended that you use absolute URL's, i.e. the full path for hyperlinks and references.

## Tables in HTML

HTML tables allow you to arrange text, images, links, etc. into rows and columns of cells that are in a table. The principal tags that are used are the following:

### Tags

Tag Name	Tag Used	Explanation
Main Table Structure	<TABLE></TABLE>	Creates table; properties are defined within.
Table Row	<TR></TR>	Defines each row
Table Data	<TD></TD>	Defines each cell of the table.
Table Header	<TH></TH>	Used to specify table headers; can be used for Rows, Columns, or both.

## Elements

Table elements are used to define other elements that specify content, and formatting

Tag Name	Name & Attribute	Explanation
Border	BORDER ex. <TABLE BORDER=2>	Specifies thickness of cell border
Cell spacing	CELLSPACING ex. <TABLE CELLSPACING=4>	Sets space between table cells
Cell padding	CELLPADDING ex. <TABLE CELLPADDING=4>	Defines the space between content of the cell and the cell wall.
Column Span	COLSPAN ex. <TR><TH COLSPAN=2>Test Text</TH>  <b>OR</b> <TR><TD COLSPAN=3>Test Text</TD>	Lets the cell span over multiple columns
Row Span	ROWSPAN ex. <TR><TH ROWSPAN=2>Test Text</TH>  <b>OR</b> <TR><TD COLSPAN=3>Test Text</TD>	Lets the cell span over multiple rows

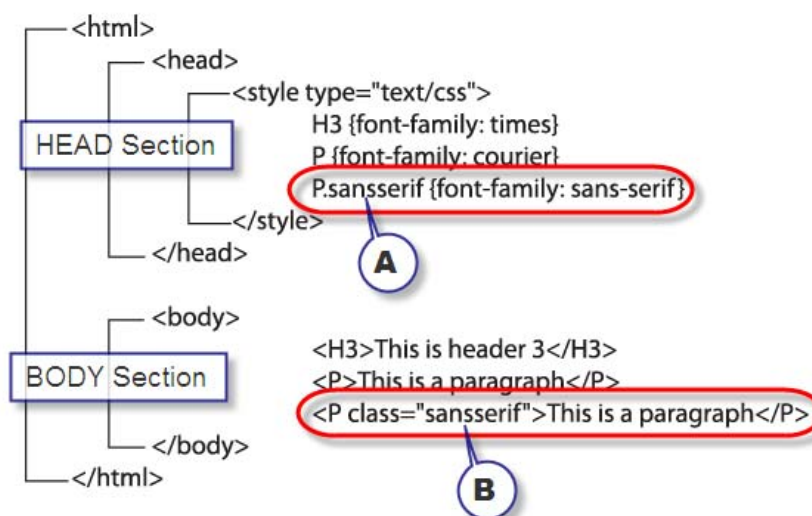
Tag Name	Name & Attribute	Explanation
Background Color	BGCOLOR  ex. <TABLE BGCOLOR="Pink"></TABLE>  ex. <TR BGCOLOR="Yellow"></TABLE>  ex. <TD BGCOLOR=#AAFFAA></TABLE>	Sets the background color of a single cell, row, or table.  <b>NOTE:</b> Colors can be specified by name within quotes, e.g. "Red", or in hexadecimal format, e.g. #FF0000. When using hexadecimal format, no quotation marks are required.

## Cascading Style Sheets (CSS)

The topic of Cascading Style Sheets (CSS) is one that is complex and its full exploration is beyond the scope of this document. What is presented here is an overview containing examples that can be used as a starting point.

Style sheets are used to define how HTML elements are displayed in a browser. Using a *Cascading Style Sheet (CSS)* allows you to create a single file that will contain the formatting information for your pages. When changes need to be made to the appearance, they are made in the CSS document; any documents that reference the CSS document are automatically updated.

A CSS can be defined in a single external document or on a page by page basis when embedded in the <HEAD> section of the document.

**EXAMPLE:**

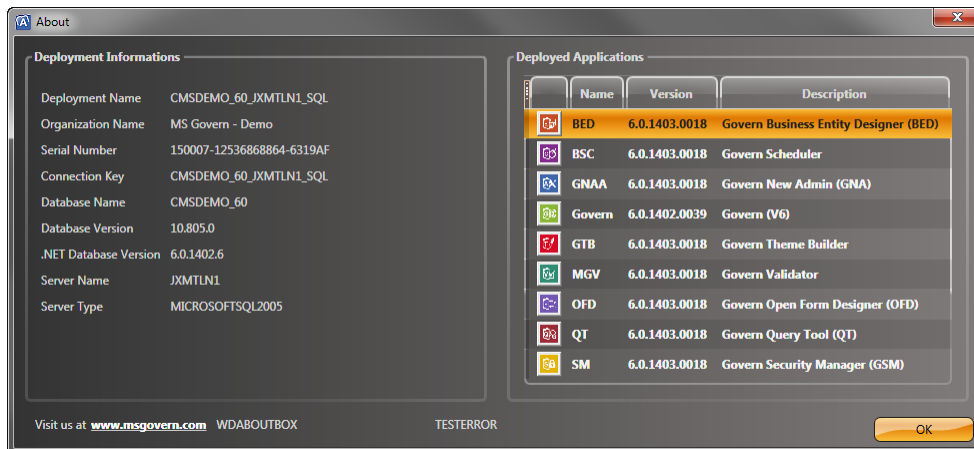
The above style sheet is placed in the `<HEAD>` section of the document. The `<STYLE>` tag is used to define the CSS. Styles have been specified for the `<H3>`, and `<P>` tags. The default `<P>` tag can be overridden when you specify a CSS CLASS.

The CSS class can be used as in the above example, when you want all text with the `<P>` tag to appear as courier, but sometimes you would like them to appear as sans-serif. This is done by adding an “extension” to the standard CSS code, “**P.sansserif**”, and specify the extension as a class in HTML in the `<BODY>` section of the document, “`<P class="sansserif">` `</P>`”. When you want the default paragraph with courier, you use `<P> Text Example </P>` and when you want the sans-serif font, use `<P class="sansserif"> Text Example </P>`.

**Note:** CSS Code in classes will override default CSS code, e.g. **P.sansserif** will override **P**

**Note:** Key to success with CSS is paying close attention to spelling. In addition, like HTML, CSS are not case sensitive, but font families, URLs to images, and other direct references may be.

A source of information is the *World Wide Web Consortium* home page at <http://www.w3.org/>. This is an excellent resource for topics related to *HTML*, *CSS*, and *JavaScript*.



## APPENDIX E: Electronic Fund Transfer (EFT)

The following table contains a list of the Electronic Fund Transfer (EFT) providers / interfaces that are supported by Govern.

Provider / Interface	Method of Payment	Method of Transfer <sup>1</sup>	Available from Version...
Pay Connexion	Credit Card	Real-time Transfer	4.0
Moneris Canada**	Credit Card	Real-time Transfer	3.3
Nelnet (QuikPAY) **	Credit Card	Real-time Transfer	4.1
Nelnet (QuikPAY) **	Electronic Check	Real-time Transfer	4.1
Pay Pal **	Credit Card	Real-time Transfer	3.3
Paymentus	Credit Card	Real-time Transfer	4.5
Paymentus	Electronic Check	Real-time Transfer	4.5
Point & Pay	Credit Card	Real-time Transfer	4.1
Point & Pay	Debit Card	Real-time Transfer	4.1
Point & Pay	Electronic Check	Real-time Transfer	4.1
HPG (Harris Payment Gateway)	Credit Card	Real-time Transfer	4.7
HPG (Harris Payment Gateway)	Electronic Check	Real-time Transfer	4.7
iCart	Credit Card	Real-time Transfer	4.7
UniPay	Credit Card	Real-time Transfer	5.0
UniPay	Electronic Check	Real-time Transfer	5.0
Moneris (US) **	Credit Card	Real-time Transfer	4.1
YourPay	Credit Card	Real-time Transfer	4.0
Automated Clearing House (ACH)	Online entry of banking details	Batch Process	3.3

<sup>1</sup>With the exception of the ACH interface provider, all transactions are done in Real-Time mode.



**\*\***The option of configuring ACH as a secondary interface is available for these providers. For ACH, the transaction is expedited through a *Govern* batch process.

**Note:** When ACH is opted for as a secondary provider, it must be configured. See *ACH tab in the MS Govern - eGovern Public Self Service Portal Release 5.1 user guide* for details on configuring ACH.

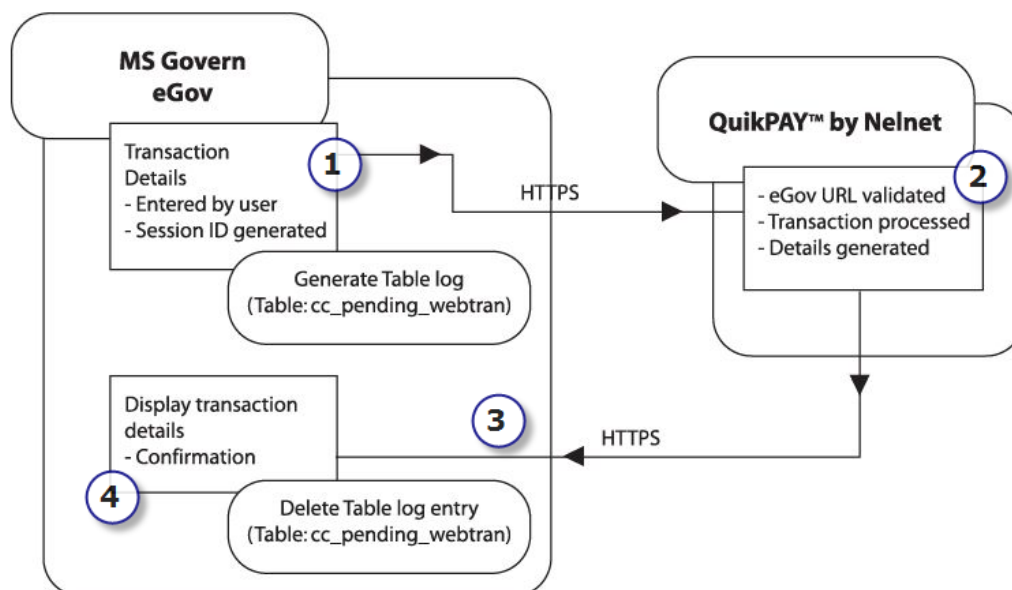
## Configuration of EFT Providers and Interfaces

Provided below is non-exhaustive configuration information for some of the *Electronic Fund Transfer (EFT)* providers and interfaces. The configuration parameters that are required in *GNA* for the *eGovern Public Self Service Portal* are supplied by the *EFT* interface provider. The configuration information that is required for completion on the providers side, should be obtained from said provider. This information can be in the form of documentation, which at times may be referenced below.

### QuikPAY™ from Nelnet

After successful configuration, the process flow of *MS Governs'* eGov solution and Nelnet's QuikPAY begins with the user being directed to a screen that will collect the information required for the transaction. Prior to connecting with the Nelnet QuikPAY system, a table log is generated and stored on the *Govern* system (**Table: cc\_pending\_webtran**). An HTTPS connection is established with the Nelnet QuikPAY system (1). The *Govern URL* is validated by the *Nelnet QuikPAY* system, the transaction is processed along with the details (2). The generated transaction, confirmation details, and the session ID, are sent back to the *MS Govern eGov* system(3). On the *Govern* system, if the transaction is successful, the Table log is deleted and the confirmation information is

displayed to the user. If the transaction failed the log file remains with the associated error codes.



## Configuring Nelnet's QuikPAY

**Note:** In order to perform configuration for QuikPAY, it will be necessary to obtain Administrator role user rights on the system.

For this process to proceed, there are two (2) critical configuration points, one is on the side of the *Nelnet QuikPAY* system web interface, in the *Manage Allowed Redirect URL's* screen of the *QuikPAY* configuration web interface. The URL that is required here is that of the web page that the user will be entering their transaction details. Prior to configuration, ensure that you have noted the URL of the eGov page that will be used to connect with the QuikPAY system. Typically this will be an HTTPS URL with a session ID.

**Ex.:** [https://www.any\\_city.com/GovernEComponents/WebUserInterface/\\$RANDOM\\_STRING/AR/Web\\_AR\\_Payment.aspx](https://www.any_city.com/GovernEComponents/WebUserInterface/$RANDOM_STRING/AR/Web_AR_Payment.aspx)


The domain and path highlighted in blue is critical to the configuration, as it is used for authentication. In addition, the portion of the path in green must keep the same format.

**WebUserInterface/\$RANDOM\_STRING/AR/Web\_AR\_Payment.aspx**

## Manage Allowed Redirect URLs

Add Redirect Uri	
<input type="text"/>	<input type="button" value="Add"/>

Allowed Redirect Uris	
Actions	Uri
 	<a href="https://www.any_city.com/GovernEComponents/WebUserInterface/\$RANDOM_STRING/ARWeb_AR_Payment.aspx">https://www.any_city.com/GovernEComponents/WebUserInterface/\$RANDOM_STRING/ARWeb_AR_Payment.aspx</a>

**Note:** The above *URL* information is critical for the authentication process, so ensure that it is accurate.

When the *URL* information is incorrectly configured, the following error screen is displayed. To resolve, verify that the information is entered correctly.



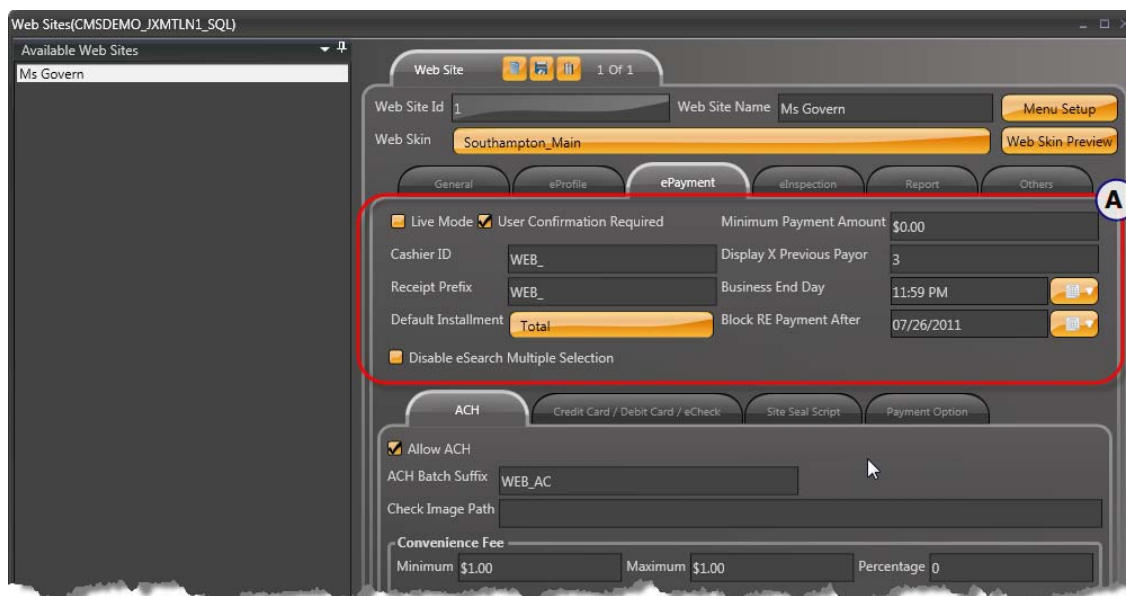
Refer to the **QuikPAY (R) Q4 2010 Release Notes** for full configuration details.

## Configuring eGov with the GNA for Nelnet's QuikPAY

The second configuration point is configuring eGov for Nelnet's QuikPAY through the *Govern New Administration (GNA)*.

1. In *GNA* select *Setup > Web Configuration > Manage Websites...* to display the Web Sites form.
2. Under the *Web Site* tab, if you are managing multiple sites, ensure that you are on the correct site record; click the **ePayment** tab.
3. For development or testing do not select the **Live Mode** option.

- Complete the parameters as per your requirements in the top section of the form(A).



Web Sites(CMSDEMO\_JXMTLN1\_SQL)

Available Web Sites  
Ms Govern

Web Site 1 Of 1

Web Site Id 1 Web Site Name Ms Govern Menu Setup

Web Skin Southampton\_Main Web Skin Preview

General eProfile **ePayment** eInspection Report Others

☐ Live Mode ☒ User Confirmation Required Minimum Payment Amount \$0.00

Cashier ID WEB\_ Display X Previous Payor 3

Receipt Prefix WEB\_ Business End Day 11:59 PM

Default Installment Total Block RE Payment After 07/26/2011

☐ Disable eSearch Multiple Selection

ACH Credit Card / Debit Card / eCheck Site Seal Script Payment Option

☒ Allow ACH

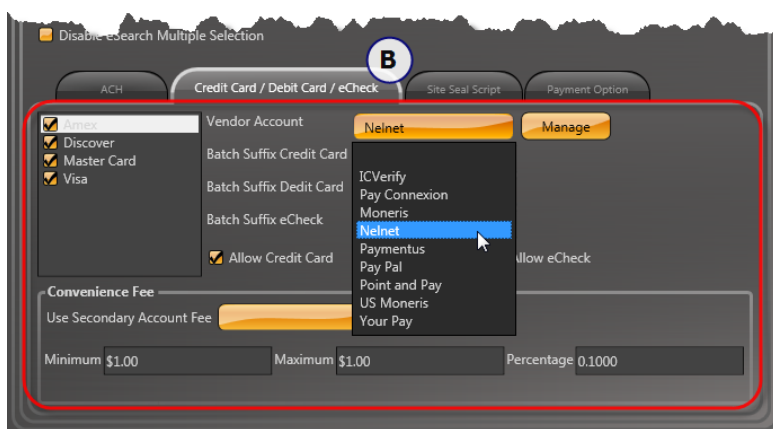
ACH Batch Suffix WEB\_AC

Check Image Path

Convenience Fee

Minimum \$1.00 Maximum \$1.00 Percentage 0

- Click the *Credit Card / Debit Card / eCheck* tab (B).



☐ Disable eSearch Multiple Selection

ACH **Credit Card / Debit Card / eCheck** Site Seal Script Payment Option

☒ Discover Vendor Account Nelnet Manage

☒ Discover Batch Suffix Credit Card

☒ Master Card Batch Suffix Debit Card

☒ Visa Batch Suffix eCheck

☒ Allow Credit Card

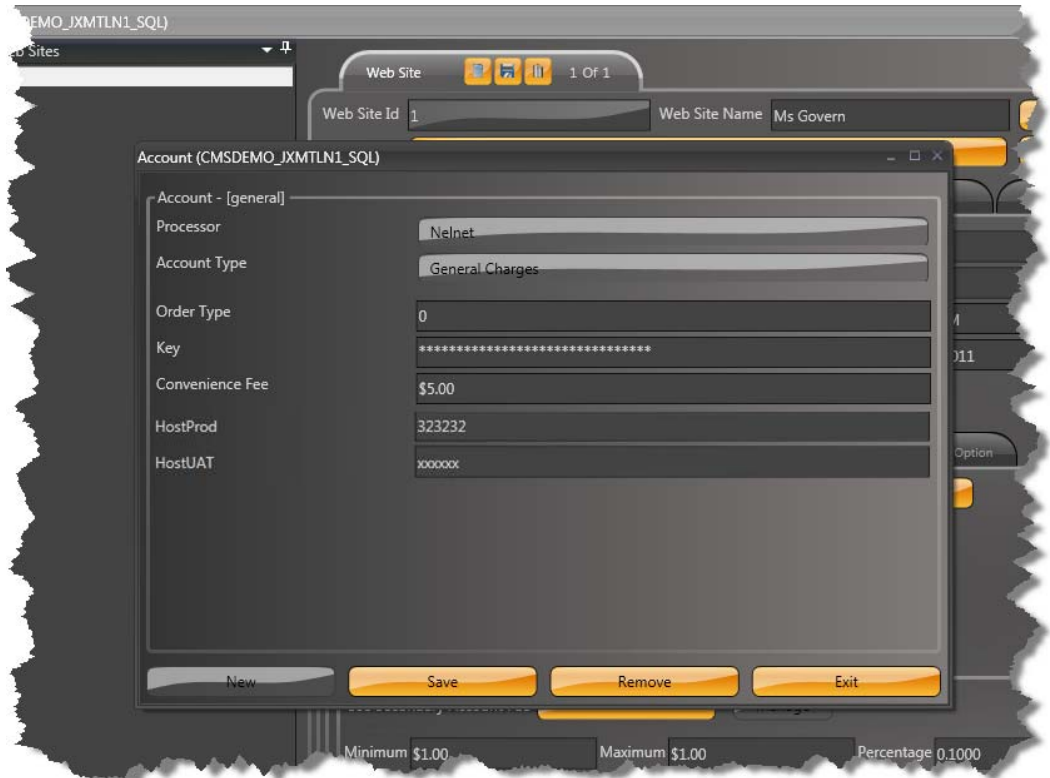
Convenience Fee

Use Secondary Account Fee

Minimum \$1.00 Maximum \$1.00 Percentage 0.1000

- Select *Nelnet* from the drop down menu and enter any required suffixes.

7. Click **Manage** to display the *Account* screen; complete the form.



## Browser errors with Nelnet transactions

**Note:** Nelnet users that encounter transactions errors that may be associated with an upgrade of their WebUserInterface files, characteristically release 4.5.3 or earlier, refer to *Error Associated with WebUserInterface File Update on page 442* for details.

## Account Screen Parameters

**Processor:** This field is preselected and cannot be modified

**Account Type:** Preselected field that cannot be modified

**Order Type:** Specify the order type.

**Key:** Enter the system access key

**Convenience Fee:** Specify the amount of the convenience fee. This amount can be for system use or for the transaction.

### Specify Live or Test Server


It is possible to specify which server, Live or Test server that you would like to use for transactions for *NelNet's Quikpay* or *PayPal*.

**HostProd:** Specify the password used access the Live server.

**Note:** To use this address, the **Live Mode** option under the ePayment tab must be selected.

**HostUAT:** Enter the password to access the User Acceptance Testing (UAT) server.

**Note:** In order for this address to be used, the **Live Mode** option under the ePayment tab must be disabled, i.e. deselected.

8. In the Account screen enter the additional configuration information that will be provided by Nelnet, i.e. *Order Type*, and *Key*.
9. Click **Save** to save the settings; click **Exit**.
10. Complete any additional required parameters under the remaining tabs, i.e. *Site Seal Script*, *Payment Option*, etc..
11. Click **Save**  to save your configuration.

**Note:** Prior to going live with your site, ensure that the **Live Mode** option is selected.

Refer to the *Web Site Manager - ePayment tab Parameters in the MS Govern - eGovern Public Self Service Portal Release 5.1 user guide* for details of available fields.

# APPENDIX F: GNA Configuration Files created at Install

## XML Configuration Files

XML Configuration files that are created during the installation are in the following locations:

By default, `Install_Drive:\install_folder_path\Deployments\Deployment_Folder_Name`

**FILENAME:** `GovernNetConfig.XML`

**Location:** `C:\Program Files\MS Govern\` **OR** the root of the install directory.

**Purpose:** This file contains the network configuration, license information, and resource file location.

**EXAMPLE:**

```
<?xml version="1.0" encoding="utf-8" ?>
- <configuration>
<connectionKey>Suburban05_Seg005_SQL</connectionKey>
<language>eng</language>
<OrganizationName>Town of Any Town</OrganizationName>
<version_dnet>2.400</version_dnet>
<serial_number>Ea5120C-DQDQDQ-DQDQSS</serial_number>
<SecondaryActivationKey>15845375</
SecondaryActivationKey>
<sql>microsoftsql</sql>
</configuration>
```

**FILENAME:** `GovernDABConfig.XML`

**Location:** `C:\Program Files\MSGovern\DatabaseConfig-Files.XML` **OR** in the root of the GNA install directory.

**Purpose:** This file is the *Data Access Block (DAB)* and is used internally by the application.

---

**FILENAME:** DBName\_ServerName\_DBType.XML

Example: SCHUYLKILL95\_GOV027\_SQL.XML

**Location:** C:\Program Files\MSGovern\DatabaseConfig-Files.XML\ **OR** the install\_directory\  
DatabaseConfigFiles.XML\

**Purpose:** This configuration file is your *Connection Key* and contains your database connection information, organization name, and serial number.



## APPENDIX G:Crystal Reports

In this section of the Govern New Administration (GNA) guide is information related to the use of Crystal Reports with the Govern release 5.1 Suite of Applications.

**Note:** Client computers that intend to run Crystal Reports will need to install the *Crystal Reports 2008* runtime on each client computer. Refer to the Crystal Report Runtime section of the DeployEZ™ Installer Guide for installation details.

### Report Function Setup: Formulas

Below are the recommended, general, read-only and conditional formulas to include when creating reports through Crystal Reports.

#### Recommended Formulas

Include the following formulas when you create *Crystal Reports*:

Formula	Definition
@rpt_date (totext (currentdate))	Date & Time
@rpt_name	Report Name
@rpt_Username	Town or Company Name

#### General Formulas

Govern populates the following *Crystal Reports* formulas automatically, if they are included in your reports:

Formula	Definition
@dept	Department (code)
@dept_label	Department label
@language	Language
@rpt_county	County

Formula	Definition
@rpt_default_date	Default Date
@rpt_login	User name
@rpt_range	Range Text
@rpt_state	State
@rpt_title	Report Title
@rpt_uid	User identification code (UserID)
@uniform	Assessment Equalization Rate
@year	Fiscal year in use by current user in Govern

## Read-Only Formulas

The following Crystal Reports formulas are read-only; i.e., they must contain a nonblank value in the report. These formulas trigger specific actions or populate specific formulas:

Formula	Action
@acbill	Refreshes the AC_POST_MASTER table with the current Aircraft ID or the current Name ID (in duplicate bill printing).
@all_ar_needed_ac	Populates the value of several formulas for the current NA_ID and for the all Tax sub-systems. See <i>Conditional Formulas on page 406</i> .

Formula	Action
@all_int	<p>Updates the following fields in the AR_SUMMARY table for all installments with positive balance, for all Taxation and Assessment sub-systems and for the current NA_ID. (All updated installment records within a sub-system will contain the same information).</p> <p>LATE_CHARGES (Accrued Penalty or Interest)</p> <p>CHARGE_DATE (Current date as defined in Govern)</p> <p>BALANCE_AS_OF_DATE (Total balance due, exclusive of late charges)</p>
@btbill	Refreshes the BT_POST_MASTER table with the current Boat ID or the current Name ID (in duplicate bill printing).
@drilldown	Enables <i>Crystal Reports</i> Drill Down feature
@govern_tx_interest  <i>*This formula is used when calling a Web Crystal Report</i>	<p>Updates the LATE_CHARGES column in the AR_SUMMARY table.</p> <p>Use when calling a Web Crystal Report in the Real Property Tax Subsystem.</p>
@govern_ub_interest  <i>*This formula is used when calling a Web Crystal Report</i>	<p>Updates the LATE_CHARGES column in the AR_SUMMARY table.</p> <p>Use when calling a Web Crystal Report in the Utility Billing Subsystem.</p>
@mv_ar_needed_ac	Populates the value of several formulas for the current NA_ID and for the Motor Vehicle Excise Tax sub-system. See <i>Conditional Formulas on page 406</i> .
@mvbill	Refreshes the MV_POST_MASTER table with current Motor Vehicle ID or the current Name ID (in duplicate bill printing).

Formula	Action
@mv_int	<p>Updates the following fields in the AR_SUMMARY table with motor vehicle excise tax information, for all installments having a positive balance for the current MV_ID. (All updated installment records will contain the same information).</p> <p>LATE_CHARGES (Accrued Penalty or Interest)</p> <p>CHARGE_DATE (Current date as defined in Govern)</p> <p>BALANCE_AS_OF_DATE (Total Balance Due, excluding late charges.)</p>
@pp_ar_needed	<p>Populates the value of several formulas for the current PP_ID and for the Personal Property Tax sub-system. See <i>Conditional Formulas on page 406</i>.</p>
@pp_ar_needed_ac	<p>Populates the value of several formulas for the current NA_ID and for the Personal Property Tax sub-system. See <i>Conditional Formulas on page 406</i>.</p>
@ppbill	<p>Refreshes the PP_POST_MASTER table with the current Personal Property ID or the current Name ID (in duplicate bill printing).</p>
@pp_int	<p>Updates the following fields in the AR_SUMMARY table, for the current PP_ID, with Personal Property Tax information, for all installments having a positive balance. (All updated installment records will contain the same information).</p> <p>LATE_CHARGES (Accrued Penalty or Interest)</p> <p>CHARGE_DATE (Current date as defined in Govern)</p> <p>BALANCE_AS_OF_DATE (Total Balance Due, excluding late charges)</p>

Formula	Action
@re_ar_needed	Populates the value of several formulas for the current P_ID and for the Real Estate Tax sub-system. See <i>Conditional Formulas on page 406</i> .
@re_ar_needed_ac	Populates the value of several formulas for the current NA_ID and for the Real Estate Tax sub-system. See <i>Conditional Formulas on page 406</i> .
@re_int	<p>Updates the following columns in the AR_SUMMARY table, for the current P_ID, with Real Estate Tax information, for all installments having a positive balance. (All updated installment records will contain the same information).</p> <p>LATE_CHARGES (Accrued Penalty or Interest)</p> <p>CHARGE_DATE (Current date as defined in Govern)</p> <p>BALANCE_AS_OF_DATE (Total Balance Due, excluding late charges)</p>
@td_ar_needed	Populates the value of several formulas for the current P_ID and for the Tax Deferral sub-system. See <i>Conditional Formulas on page 406</i> .
@td_int	<p>Updates the following fields in the AR_SUMMARY table for all installments having a positive balance, with Tax Deferral information for the current P_ID. (All updated installment records will contain the same information).</p> <p>LATE_CHARGES (Accrued Penalty or Interest)</p> <p>CHARGE_DATE (Current date as defined in Govern)</p> <p>BALANCE_AS_OF_DATE (Total Balance Due, excluding late charges)</p>

Formula	Action
@tt_ar_needed	Populates the value of several formulas for the current P_ID and for the Real Property Tax Title sub-system. See <i>Conditional Formulas on page 406</i> .
@tt_int	<p>Updates the following fields in the AR_SUMMARY table, for the current P_ID, with Tax Title/Lien information, for all installments having a positive balance. (All updated installment records will contain the same information).</p> <p>LATE_CHARGES (Accrued Penalty or Interest)</p> <p>CHARGE_DATE (Current date as defined in Govern)</p> <p>BALANCE_AS_OF_DATE (Total Balance Due, excluding late charges)</p>
@txbill	Refreshes the TX_POST_MASTER table with the current Property ID or the current Name ID (in duplicate bill printing).

## Conditional Formulas

The *Crystal Reports* formulas listed in this table are populated by Govern conditionally, on the presence of the following read-only formulas:

- @all\_ar\_needed\_ac
- @mv\_ar\_needed\_ac
- @pp\_ar\_needed
- @pp\_ar\_needed\_ac
- @re\_ar\_needed
- @re\_ar\_needed\_ac
- @td\_ar\_needed
- @tt\_ar\_needed

Formula	Action
@ar_interest_1 @ar_interest_2 @ar_interest_3 @ar_interest_4	Calculates the interest and penalties committed for the current fiscal year and the specified installment.
@current_due	Calculates the total balance due for the current fiscal year, including late charges.
@daily_interest	Calculates the daily interest and penalties.
@prior_ar_fee_1 @prior_ar_fee_2 @prior_ar_fee_3 @prior_ar_fee_4	Calculates the demands, charges and fees committed for prior fiscal years and the specified installment.
@prior_ar_interest_1 @prior_ar_interest_2 @prior_ar_interest_3 @prior_ar_interest_4	Calculates the interest and penalties committed for the prior fiscal years and for the specified installment.
@prior_due	Calculates the total balance due for the prior fiscal years, including late charges.

## Crystal Reports with P\_ID, YEAR\_ID, or FROZEN\_ID

When using Crystal Reports, if any of the following three (3) are used as *Criteria Keys*, then the *Rule for Keyword Selection Queries* should be followed:

- **P\_ID**
- **Year\_ID**
- **FROZEN\_ID**

### Rule for Keyword Selection Queries

The rule is the same as that used in the VB6 Platform, Govern scans the SQL Query, then takes the first occurrence of the required ID's for the selection formula.

In previous versions, the report selection in the report is set using the **Table.Column** located in the query. Govern would then view the SQL query in the Crystal Report and the first string occurrence of the *Table.Column* combination was used.

**Note:** When several columns having the same name are in the report tables, the ones to be used should be set as hidden print fields.

### Duplicate Parameters

A sub-report is best defined as “a report within a report”. Sub-reports can have many of the features of a normal report. With sub-reports, data can be combined as a single report.

The differences between a primary report and a sub-report are:

- A Primary report can contain sub-reports, but a sub-report can not contain other sub-reports.
- A sub-report does not have a page header or footer section.
- A sub-report is always inserted as an object in the primary report.

Prior to Govern release 5.1, the system would **NOT** allow the parameters used in the *Primary*, or *Main Report*, to be also used in a *sub-report*. In release 5.1.1307.35 and greater, the system has been modified to allow for the use of the same parameter in the *Primary* or *Main Report*, as well as the *Sub-Report*.

### Database Connection

When providing Database access to Crystal Reports, it is preferable to use the OLE DB (ADO) connection, as opposed to using ODBC. Although the ODBC



connection is changed to ADO at runtime, should issues arise, they could be due to the connection change.

### **BEST PRACTISES FOR CRYSTAL REPORTS DATABASE CONNECTIONS**

When specifying database access to a Crystal Report, Best Practices dictates that an *OLE DB (ADO) Connection* is the preferred connection method.

## **A Govern Field Must be specified in the Main Crystal Report**

When designing Reports, there is a minimum one field required for connection rule. The rule refers to the fact that the Database requires at least one Govern field to be included in the *Main Report*. If no *Govern* fields are specified, regardless of whether Govern fields are specified in any included Sub-Reports. The Report will not be executed and will appear grayed out.

### **BEST PRACTISES WHEN DESIGNING MAIN CRYSTAL REPORTS**

When designing a Crystal Report that will be used with Govern, it is recommended that the following parameters in the table below should be specified.

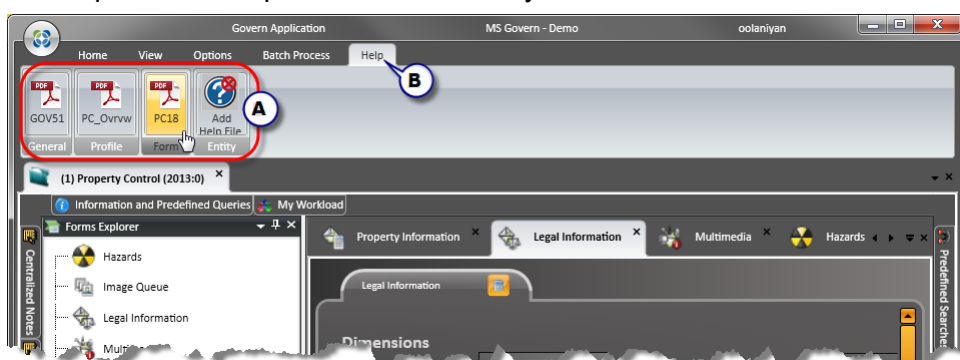
<b>Formula</b>	<b>Definition</b>
@rpt_date (totext (currentdate))	Date & Time
@rpt_name	Report Name
@rpt_Username	Town or Company Name

For a complete listing of all *General*, *Read-Only*, and *Conditional Formulas*, see *Report Function Setup: Formulas* on page 401 of this guide.

## APPENDIX H:Configuring System Help

### Introduction

Installation of the *Govern Release 5.1* Help system is managed by the *Deploy EZ* application during the installation or update process. It is during this process that required directories are created and help content is updated. For the *Govern* application, unlike the Help system of the other applications in the suite, *Govern* help content is **not** invoked with the **F1** key. *Help* content is displayed with a click on one of the help icons (**A**) displayed under the **Help** tab (**B**) in the *Govern* application interface. The user selects the icon that corresponds to the profile, form, or entity of interest.



**Note:** Users can still invoke Help content with the F1 key in all other applications within the *Govern* suite. All help content that is presented to the user is contextual, i.e. relevant to the active user screen.

### Open Form Hierarchy

The Open Forms hierarchy is as follows with order of precedence decreasing from left to right.



The above hierarchy is reflected in the structure of the *Help* directories and subdirectories.

## Changes to the Help Directory

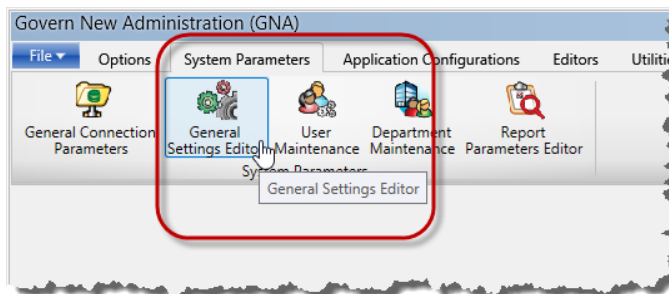
For *Govern Release 5.1* and greater, changes were made to the structure of the Help file directories. The new structure was created to be able to present users with help content in different file formats. Content can include video clips, user system supported file types, custom images, and so on. As with prior versions of the help, the Adobe Acrobat PDF file format is used to distribute the content.

For *Release 5.1*, help content is stored in multiple level directories. All standard content will be deployed as a ZIP archive file. Upon installation, the ZIP package is then extracted to the *Standard* directory.

## Help Content Directory Structure

The directory structure, as in previous releases, has two (2) principal subdirectories, **Standard**, and **Custom**. Both the *Standard* and *Custom* directory structures are set by the system and should not be modified by the user. The structure, and how the system will access the *Custom* directory can be determined by the user through settings in the *Govern New Administration* (GNA). There are two (2) options to choose from in the form.

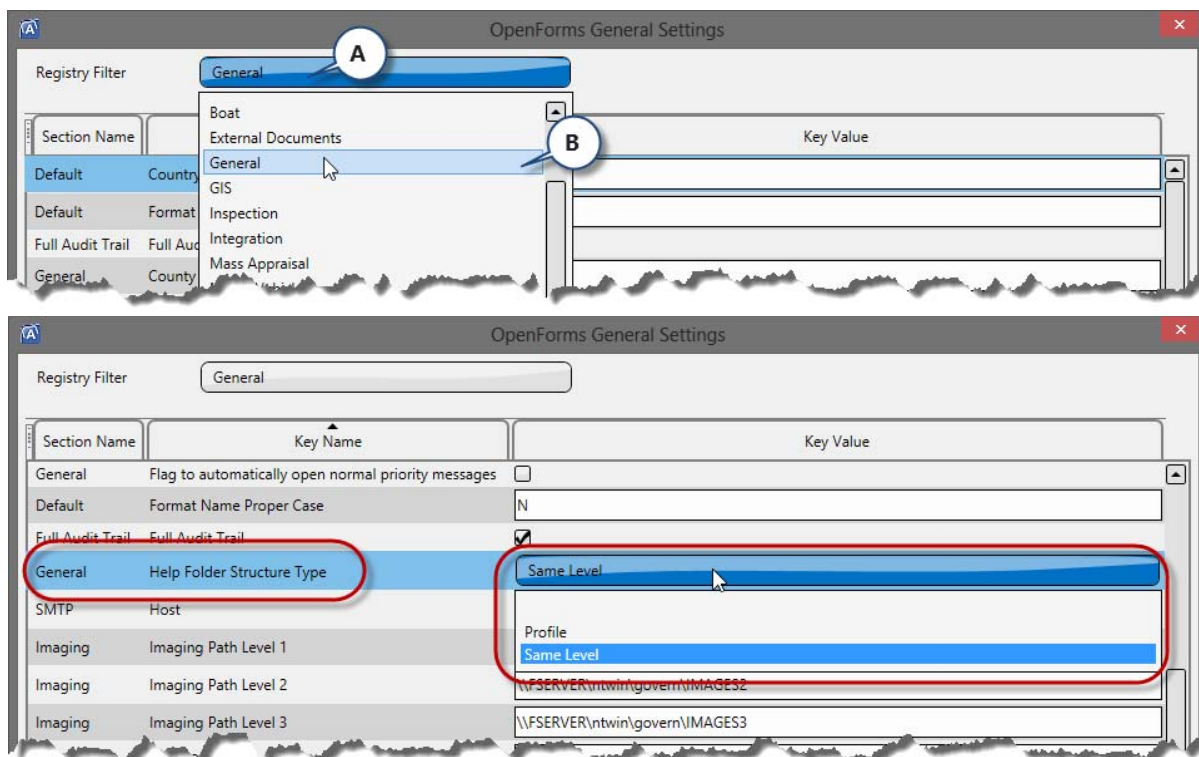
To open the form, in the *GNA*, select the *System Parameters* (tab) > **General Settings Editor...**



In the *Open Forms General Settings* editor, select the following:

1. Under the *Registry Filter*, select **General (A)**.

2. Locate the **General** Section Name (B), available options are **Profile** or **Same Level**.



The selection of **Profile** or **Same Level**, are dependent upon user requirements.

### Same Level option

Users that are content with the Property Control (PC) profile that is the system default should use the **Same Level** option. The same profile will be used by all departments, i.e. the same Open Forms will be accessible to all users. All users will be viewing the same help content for the active forms.

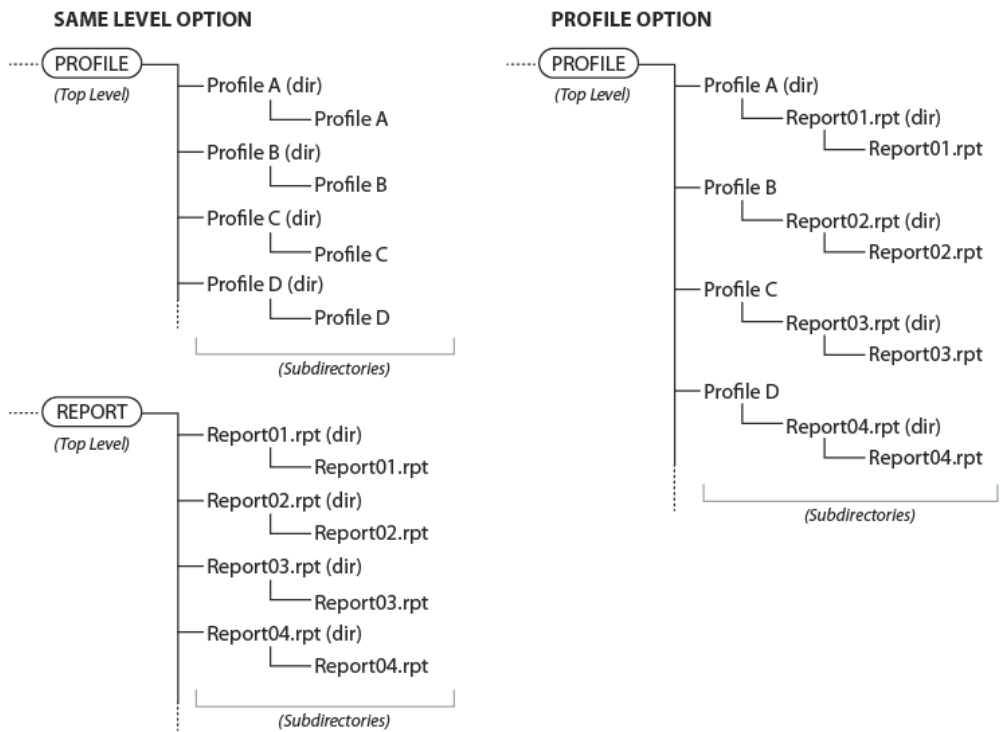
**Note:** The **Same Level** option is the system default.

### Profile option

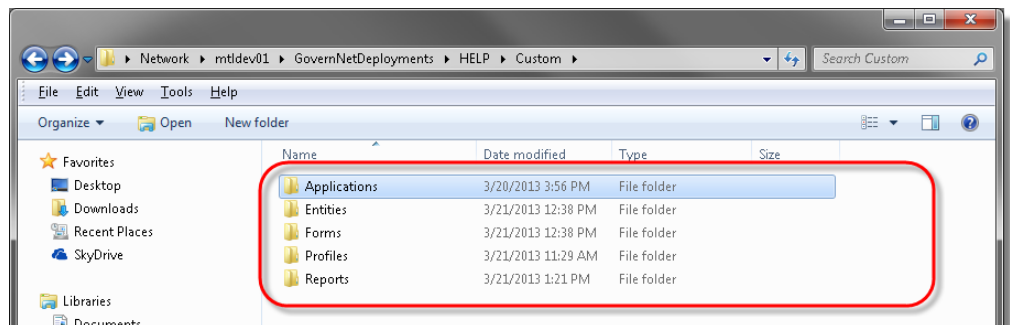
In situations when different profiles are required for the same, or different departments customized profiles will need to be designed. For example, a *PC* profile that is created for the *Assessors* department may not necessarily be the same one used by the *Public Works* department. As the Profiles and Forms are different, the *Help* content may not be the same. Some confusion

regarding functionality may arise unless specific instructions are provided. In this situation, the option for **Profile** should be selected. With the *Profile* option, content is placed in a separate directory that corresponds to each customized profile.

**Note:** Changing the parameter after the directory structure has been established is not destructive to the custom help content, but it will no longer be available until the settings are restored.



## Help Content Directory Structure



As illustrated in the grid below, the structure of the Help directory is multi-levelled. The **<HELP ROOT>** refers to the root level of the help directory, and not the actual deployment installation of the *Deploy EZ* application.

### Govern HELP 5.x - STANDARD Directory Structure: (Same Level option)

The structure for the Standard directory is as follow. The **versionNum** directory will be a version number, i.e. 5.1, 5.2, 5.x,...

<HELP ROOT>	Level 1	Level 2	Level 3 - Directory / Content	Level 4 - Directory / Content
	<b>versionNum</b> (dir) <i>Ex. 5.1, 6.0, etc.</i>	<b>Applications</b> (dir)	<b>MSGNET</b> (dir)	<i>.pdf Help</i> and required supplemental files. i.e. avi, docx, jpg, etc.
			<b>GNA</b> (dir)	<i>.pdf Help</i> and required supplemental files. i.e. avi, docx, jpg, etc.
			<b>QT</b> (dir)	<i>.pdf Help</i> and required supplemental files. i.e. avi, docx, jpg, etc.
			...	
		<b>Entities</b> (dir)	<b>entityName01</b> (dir)	.pdf Help files
			<b>entityName02</b> (dir)	.pdf Help files
			...	
		<b>Forms</b> (dir)	<b>formName01</b> (dir)	.pdf Help files
			<b>formName02</b> (dir)	.pdf Help files
			...	
		<b>Profiles</b> (dir)	<b>profileName01</b> (dir)	
			<b>reportName02</b> (dir)	
			...	
		<b>Reports</b> (dir)		
			<b>reportName01.rpt</b> (dir)	<i>.pdf Help</i> and required supplemental files. i.e. avi, docx, jpg, etc.
			<b>reportName02.rpt</b> (dir)	<i>.pdf Help</i> and required supplemental files. i.e. avi, docx, jpg, etc.
			...	

### Govern HELP 5.x - CUSTOM Directory Structure: (Same Level option)

The structure for the *Custom* directory is nearly identical to that of the *Standard* directory. The exception is that the *Version* directory is not present at *Level 1*. All sub-directories are shifted up by one level.

<HELP>	Level 1	Level 2	Level 3 - Directory / Content	Level 4 - Directory / Content
	<b>Applications</b> (dir)	<b>MSGNET</b> (dir)	.pdf Help and required supplemental files. i.e. avi, docx, jpg, etc.	
		<b>GNA</b> (dir)	.pdf Help and required supplemental files. i.e. avi, docx, jpg, etc.	
		<b>QT</b> (dir)	.pdf Help and required supplemental files. i.e. avi, docx, jpg, etc.	
		...		
	<b>Entities</b> (dir)	<b>entityName01</b> (dir)	.pdf Help files	
		<b>entityName02</b> (dir)	.pdf Help files	
		...		
	<b>Forms</b> (dir)	<b>formName01</b> (dir)	.pdf Help files	
		<b>formName02</b> (dir)	.pdf Help files	
		...		
	<b>Profiles</b> (dir)	<b>profileName01</b> (dir)	.pdf Help files	
		<b>profileName02</b> (dir)	.pdf Help files	
		...		
	<b>Reports</b> (dir)			
		<b>reportName01.rpt</b> (dir)	.pdf Help and required supplemental files. i.e. avi, docx, jpg, etc.	
		<b>reportName02.rpt</b> (dir)	.pdf Help and required supplemental files. i.e. avi, docx, jpg, etc.	
		...		



---

### Govern HELP 5.x - CUSTOM Directory Structure: (Profile option)

<HELP>	Level 1	Level 2	Level 3	Level 4	Level 5
<b>CUSTOM</b>	Applications (dir) MSGNET (dir)	<b>Profiles</b> (dir) <b>profileName01</b> (dir)	Forms (dir) formName01 (dir)	Entities (dir) entityName01 (dir)	Reports (dir) reportName01.rpt (dir) <b>reportName01.rpt</b>
		Profiles (dir) <b>profileName02</b> (dir)	Forms (dir) formName01 (dir)	Entities (dir) entityName01 (dir)	Reports (dir) reportName01.rpt (dir) <b>reportName01.rpt</b>

In the above example, different profiles will require the same report. When the **Profile** option is selected in the *System Registry*, the different profiles will be using the same report. Copies of the same report are placed in the different *Profile* directory.

## Custom Directories

**Note:** The structure of default **Standard**, and **Custom** folders **should not** be modified.

Users are not required to create directories for the **Custom Help** folder; the structure established during installation must be kept in order for the content to be available.

**Note:** Unless additional files are required, the help content are in **PDF** format. Any additional formats that are mentioned above are files that are **supplemental** to the PDF with the main help content.

**Note:** When including any supplemental content, users must ensure that the file format is supported by the end-users system; e.g. if a MicroSoft Office PowerPoint document is to be one of the supplemental files, a PowerPoint viewer or a fully licensed version must be installed on the installation computer.

## Creating and Using Custom Help Files

For a user to open the Help file within the Govern application, they will need to select the **Help** tab in the ribbon of the *Govern* application (**A**). Under the ribbon, the help content which corresponds to the **Application**, the **Profile**, the displayed **Open Form**, and the **Entity** is displayed (**B**).

- **Applications** - Content corresponding to the suite *Application*; the *General* group
- **Profile** - Help content for the *Profile*
- **Form** - The help content for the displayed *Open Form*
- **Entity** - Help content related to the *Entity*
- **Report** - This is the *Report* associated with the form or entity.

The *Help* button displays information for the main application, and the *OpenForm Help* will display Help content that is related to the active OpenForm.



## Missing / Unavailable Help Content



When content is not present the broken help link icon is displayed. This icon is an indication that there is an issue with accessing the Help file(s). Issues can be anything from the files not being present or incorrect directory structure due to a change in the *Open Forms General Settings* form in GNA; the **Help Folder Structure Type** parameter may have been changed. To correct this situation, users will need to either:

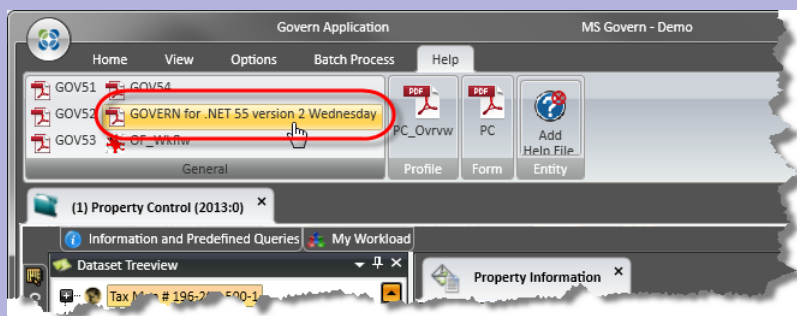
- Place the required content in the appropriate directory.

OR

- Verify that the **Help Folder Structure Type** parameter setting in the *Open Forms General Settings* form in GNA is set to the correct Help folder structure.

## BEST PRACTICES - CUSTOM HELP CONTENT NOMENCLATURE

- Lower case names should be used.
- Users should try to limit filenames of help content to no more than 12 characters because the group will expand to accommodate the name. See image below



- Limit the length of directory names directories; try not to exceed 12 characters
- Use the underscore character “\_” in place of spaces. Ex. parcel\_asmnt
- Ensure that the extension of the file is supported by the end-user’s system that the content will be viewed on.
- As a result of the brevity required for the filename, a detailed description of the *Help Content* can be entered using the **Resource File** editor in *GNA*. The node that contains this information is located in the **WD** module, **CustomHelp** function. The Keys for tool tips will be appended with an **\_TT** in the names.

*Refer to the Govern New Administration (GNA ) Release 5.1 user guide for details about using the Resource File editor.*

## Order of Precedence for Help files Directories

When a user invokes or calls the help file, the Govern system first checks in the **Custom** folder. If the requested file is not found, it will default to the **Standard** folder to display the file. The *Custom* folder is reserved for users that want to generate their own custom PDF help files.

## Security for Custom Folders

**Note:** There is no security imposed on the Custom Help directories. This is the default setting for the installation. Administrators that wish to limit user access to these directories will have to do so using Windows security. Security settings will also need to be done on a user by user basis.

### BEST PRACTICES - SECURITY

The recommended security setting for administrators that require user restriction to directories, is as follows:

- All top level Help directories should be set to **READ ONLY** for the Custom folder.
- In order for users to be able to add or update custom content, subdirectories of the top level **Custom** folder should be made accessible, i.e. **READ / WRITE** for users. This will allow them to place help in the directories when required.

## Creating Custom Help Files

The Govern application is designed to be flexible, with the understanding that users are able to design forms and reports. It is therefore expected that they may have a requirement to customize their Help files contents. When users customize Govern, supplementary help content can be created in one of two (2) ways.

- Annotate existing system Help files
- Generate new content with new PDF files

### Annotating System Help Files

Users may annotate, i.e. add Notes, to existing system PDF files that correspond to the modules. Although system files should not be modified, there are steps that can be taken to ensure that system integrity is maintained.

#### BEST PRACTICES - ANNOTATING SYSTEM FILES

When annotating system PDF files, users should make a complete back up of the installed files. Only the copied files should be annotated and placed in the **Custom** folder. Original system files will remain in the **Standard** folder.

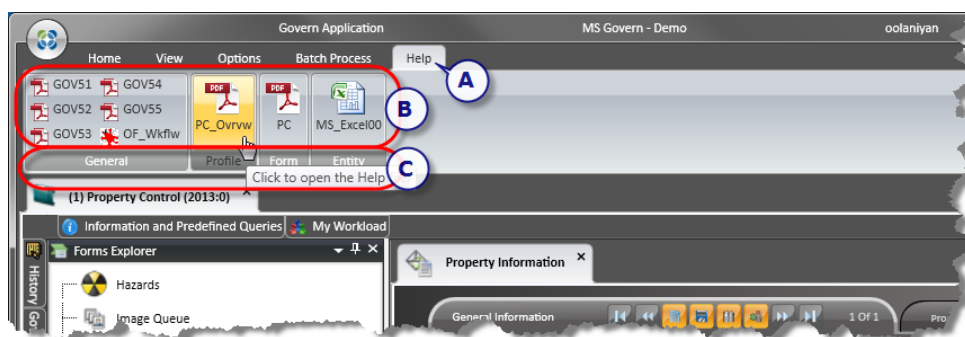
## Generating PDF Help Files

When generating a PDF file with custom content, in order for the system to recognize the custom PDF file, it must have the same name as the one that is used in the Govern application or module.

For example, the **Hazards (PC24)** OpenForm in the *Property Control* module has been customized. A new PDF file is made containing custom instructions. In order for it to be accessible, the new PDF file should have the same name as the system default Help file. For *Hazards* the file is **PC24.pdf**; when this file is created, it should then be placed in the appropriate subdirectory in the **Custom** folder.

**Note:** When a custom PDF is placed in the *Custom* folder, it is not necessary to remove the system default help file in the **Standard** folder. System files should never be modified.

## Adding or Replacing Help Content



There are two zones to the Help content ribbon in Govern (A). Zone 1 (B) which contains the icon for the help content file is the area to click when you

need to access the content. Zone 2 (C), when selected, will give access to the directory that the content is located in.



**Note:** In instance where there is no help content and the broken help link icon is displayed (D), a click on the link will also display the directory.

The directories at the custom content is to be placed in is easily accessible with a click on the icon under the *Help* tab in the *Govern* ribbon.

---

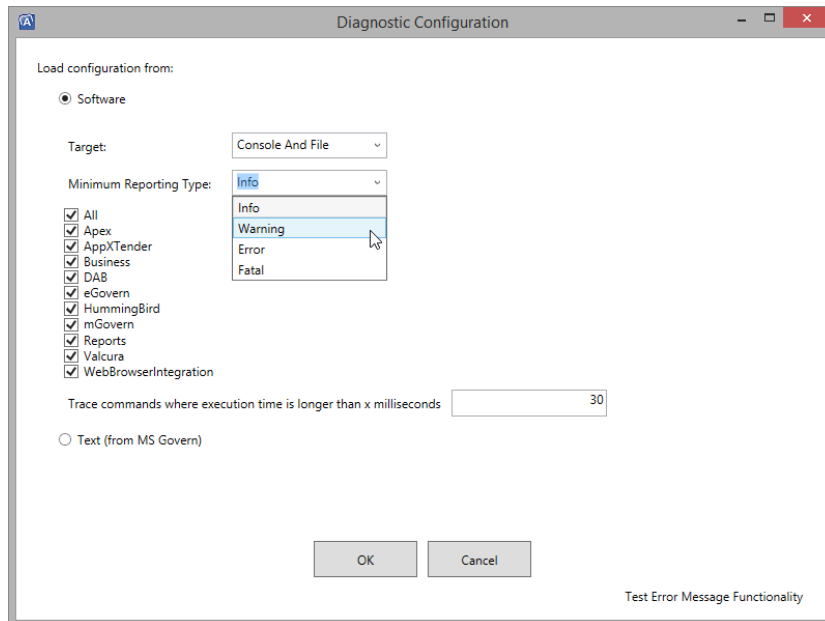
## **APPENDIX I:**



## Diagnostic Configuration form Trace Log

# Resolving Performance Issues

When there are issues with the performance of an application, or queries that are being perceived as “taking too long to complete”, resources are available to assist in determining the root cause. The *Govern Data Access Block* or **DAB** is one of the central components to *Govern*s functioning. Options exist to have the **DAB** generate traces that are logged in a file. Reviewing this file can be instrumental in the resolution of system issues.



The screenshot shows the 'Diagnostic Configuration' window. It has a title bar with a small icon and standard window controls. The main area is titled 'Load configuration from:' and has a radio button for 'Software' selected. Below this, there are three dropdown menus: 'Target' set to 'Console And File', 'Minimum Reporting Type' set to 'Info', and a list of components with checkboxes. The components listed are: All, Apex, AppXTender, Business, DAB, eGovern, HummingBird, mGovern, Reports, Valcura, and WebBrowserIntegration. All are checked. The 'Minimum Reporting Type' dropdown is open, showing options: Info, Warning, Error, and Fatal. Below the checkboxes, there is a text input field for 'Trace commands where execution time is longer than x milliseconds' with the value '30'. At the bottom, there is a radio button for 'Text (from MS Govern)' which is not selected. There are 'OK' and 'Cancel' buttons at the bottom right. A small text 'Test Error Message Functionality' is visible in the bottom right corner of the window.

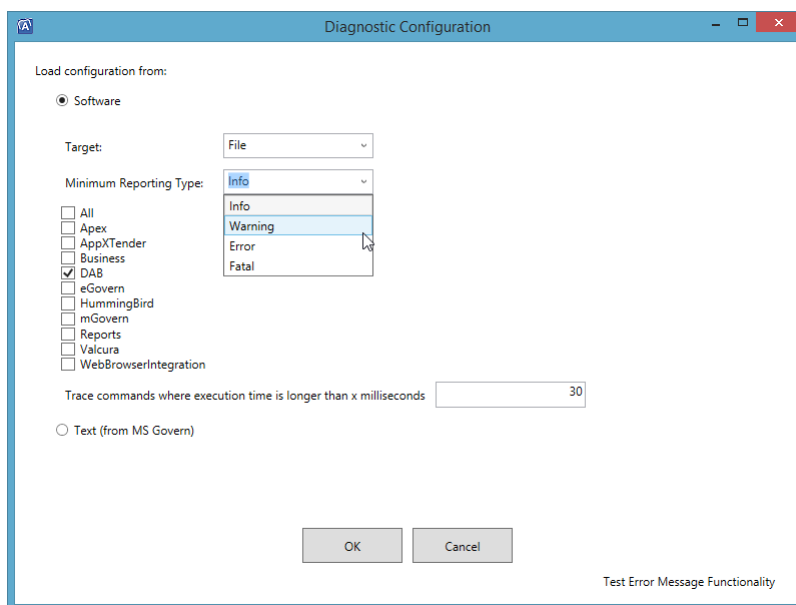
## Enabling the Trace Log

In order to start the trace, the *Trace Log* feature must be enabled in the *Diagnostic Configuration* form in the *Govern New Administration (GNA)*.

To access the form in the *GNA* ribbon...

1. Select *Options (tab)* > **Configuration**.

2. In the *Diagnostic Configuration* form, select the **Software** option.



3. Look for **Trace (B)** under the *Section Name* column in the grid.

## GNA Open Forms General Settings - “Trace” section options

For details about the refer to

### Enable Application Tracing For DAB

Select this option to enable the DAB trace option.  
(Key: **DABTracingIsEnabled**)

### Enable Application Tracing For External Documents

Select this option to enable the DAB trace option.  
(Key: **ExternalDocumentTracingIsEnabled**)

### Enable Application Tracing For GIS

When selected, this option will enable the GIS trace.  
(Key: **GISTracingIsEnabled**)

## Enable Application Tracing For Mobile

Selecting this option will enable the trace option for the Mobile application.  
(Key: **MobileTracingIsEnabled**)

## Trace commands where execution time is longer than X milliseconds

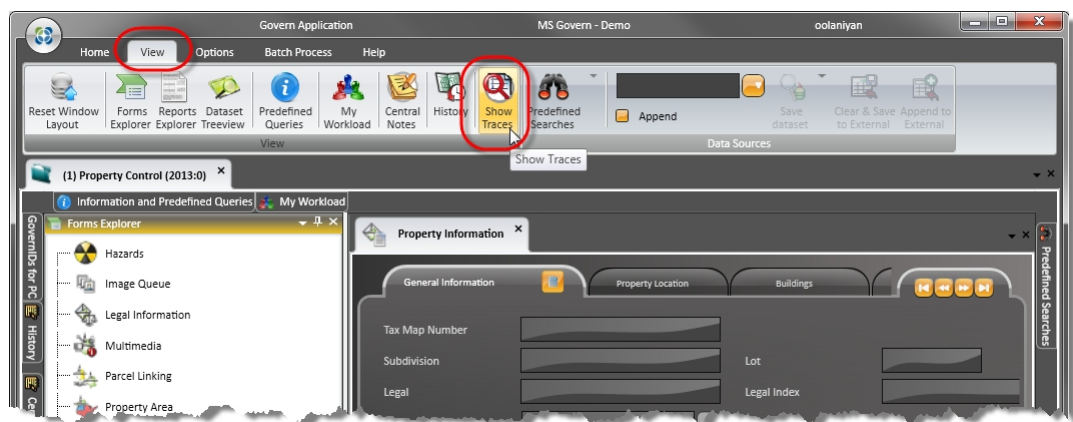
This condition option will log both failed commands as well as those that exceed 'X' number of *milliseconds* to execute. (Key: **DAB\_CommandsMaxInterval**)

**Note:** When this option is selected, a log entry will be made regardless of whether the command was successful or not. The trigger for this option is the fact that the execution of the command exceeded the set time. This option requires that the **DataAccessBlock, Enable Trace** commands option is enabled.

**Note:** Parameter units are in *Milliseconds* (i.e. 1000 milliseconds = 1 second); if you want a delay of 3 seconds, enter a value of **3000**. The default System value is set **30 milliseconds**.

## Access the Trace Log In Govern

After the *DAB Trace Log* has been enabled in the *System Registry*, the log file for the *Govern* application can be displayed through the *Govern Ribbon*. In the *Govern Ribbon*, the log file can be accessed with a click on the **Show Trace** button.



### Format of DAB Trace Log File

The log file is formatted as a *Comma Separated Values* (.csv) file. If you have Microsoft Excel installed, the file will by default, be opened by *MS Excel*. The log file is located in the **Trace** folder of the *DeployEZ* deployment. The file name is formatted as follows:

```
[UserName]_[MachineName]_[ConnectionKey]_[GovernApplication-  
Name]_VersionNumber.csv
```

For example: A log file is generated by the *Govern* application for a user called **pparker**. The users computer is called **octavius8**, and a connection key name of **OCTAVIUS8\_MYDB\_SQL** was used. The name of the trace file will be as follows:

**pparker\_OCTAVIUS8\_OCTAVIUS8\_MYDB\_SQL\_GovernContainer\_5.1.1  
234.csv**

When the file is opened in a spreadsheet application, the log file parameters will be listed under the following headings:

- Trace Date
- Level
- Class Name
- Method Name
- Execution Time
- Message



















# SUPPLEMENTAL INFORMATION

## Overview

### Installing and Configuring eGovern - Public Self Service Portal

This chapter provides additional information relating to installations of the *Govern New Administration (GNA)*. It includes the following sections:

- **Notes on Setting up Microsoft™ and Third Party Software:** This section provides important information on *Microsoft Internet Information Services (IIS)*, *Microsoft .NET Framework V2.0* and *Crystal Reports*.

**Note:** Prior to commencing with the installation procedures, run the *Govern Updata* utility to ensure that your database is up-to-date. *For details, refer to the Getting Started guide for Govern for Windows.*

### Notes on Setting up Microsoft™ and Third Party Software

This section provides information on *Microsoft Internet Information Services (IIS)*, *Microsoft .NET Framework v2.0* and *Crystal Reports*.

**Note:** For successful configuration of Govern's eGovern – Public Self Service Portal, it is critical that you Internet Information Services (IIS) is installed before installing the Microsoft .NET Framework 2.0 or Visual Studio .NET 2005, which includes .NET Framework 2.0. During installation, the .NET Framework setup program detects the presence of IIS and installs additional IIS components, which are not installed otherwise.

**Note:** The eComponents that make up the eGovern – Public Self Service Portal are compatible with *Crystal Reports 2015*. Users of *Crystal Reports* will need to install the *Crystal Reports 2015* runtime on the server hosting the application, and on each client computer. *Refer to the Crystal Report Runtime section of the DeployEZ™ Installer Guide for details.*

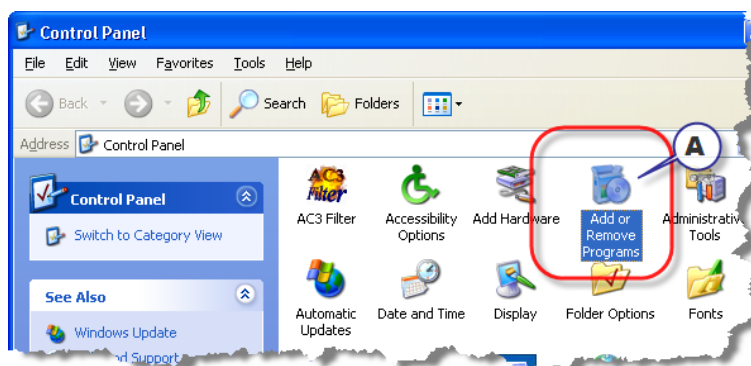
## Verification of Microsoft Internet Information Services (IIS)

Microsoft Internet Information Services (IIS), with Front Page 2000 Server Extension, is a prerequisite:

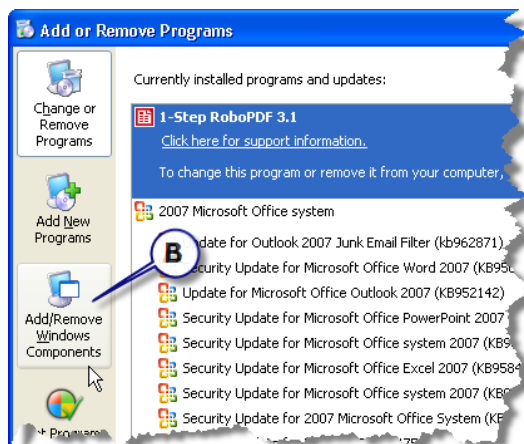
**Note:** NOTE: *Front Page 2000 Server Extensions* are not applicable to Windows Vista, Windows 7 and Windows Server 2015.

To verify that IIS is installed:

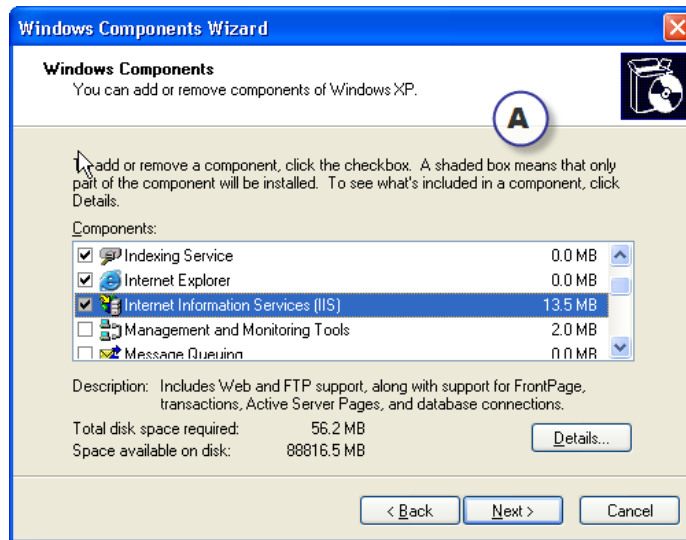
1. Open **Add Remove Programs (A)** in your Control Panel.



2. Select **Add Remove Windows Components (B)**, from the left pane.



3. Ensure that **Internet Information Services (IIS)** is displayed in the **Windows Components Wizard** list box (A).

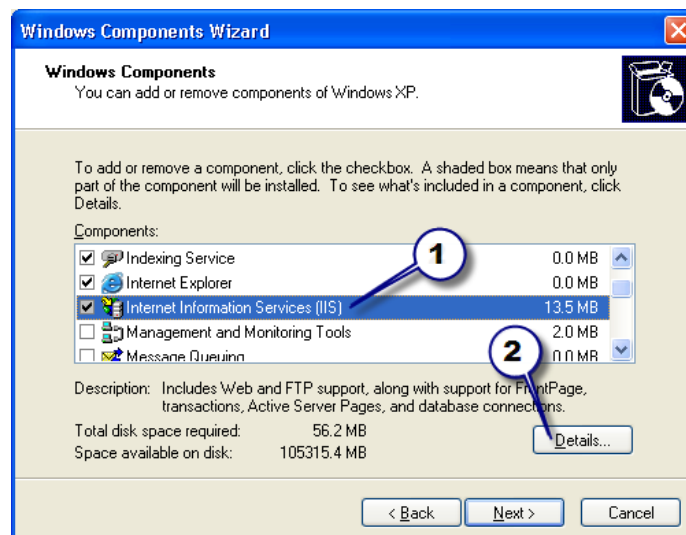


If IIS is not installed...

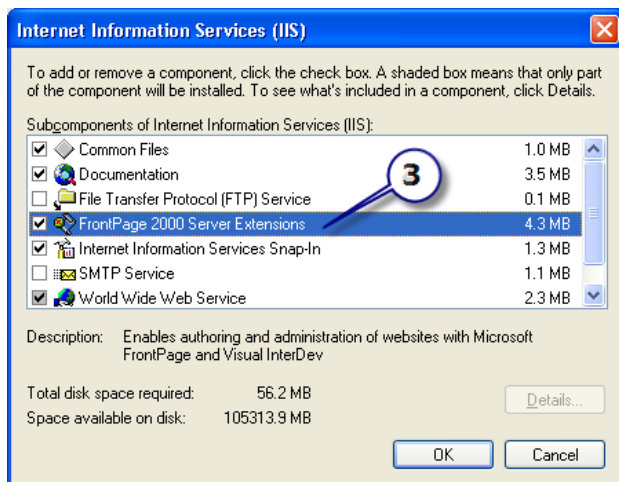
4. Do one of the following:
  - Visit *Microsoft's* Web site and follow the IIS installation procedure for your operating system. Then, repeat this procedure.

**OR**

5. When IIS is installed, verify the version of the installation, highlight it in the list (1), and select **Details** (2).



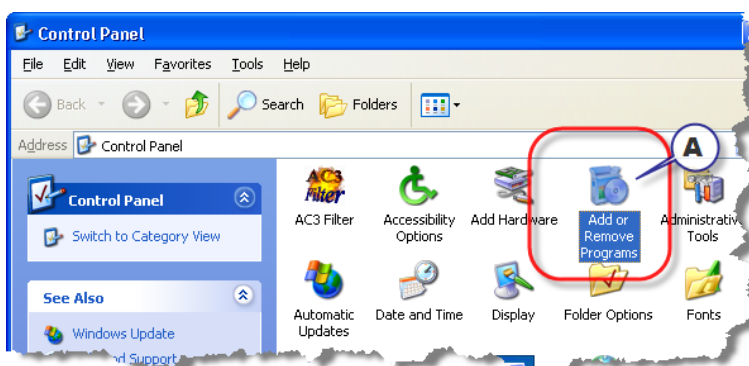
- If IIS, version 6, is installed, follow the procedures for *Microsoft .NET Framework, version 2.0* on page 432 and *ASP.NET, version 2.0* on page 433.
6. Ensure that **Front Page 2000 Server Extensions** is selected on the **Internet Information Services (IIS)** screen. If IIS is not selected, select it.



## Microsoft .NET Framework, version 2.0

To ensure that Microsoft .NET Framework, version 2.0 is installed:

1. Open **Add Remove Programs (A)** in your *Control Panel*.



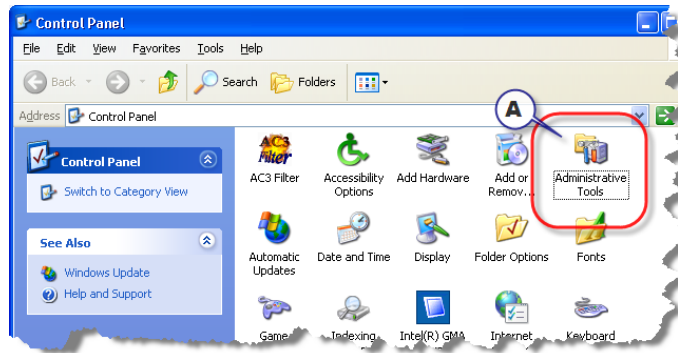
2. Verify that Microsoft .NET Framework, version 2.0 is listed.  
Otherwise, visit Microsoft's Web site and follow the installation procedure for your operating system.



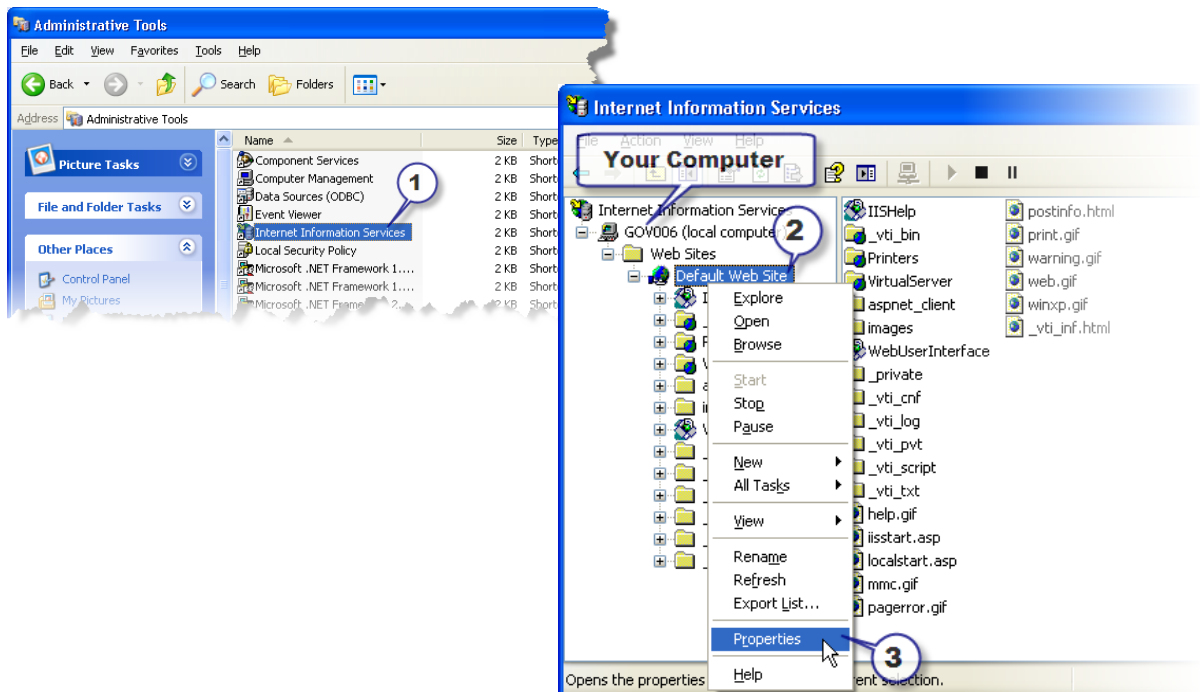
## ASP.NET, version 2.0

To ensure that *ASP.NET, version 2.0*, is specified:

1. Select *Control Panel* > **Administrative Tools (A)**.

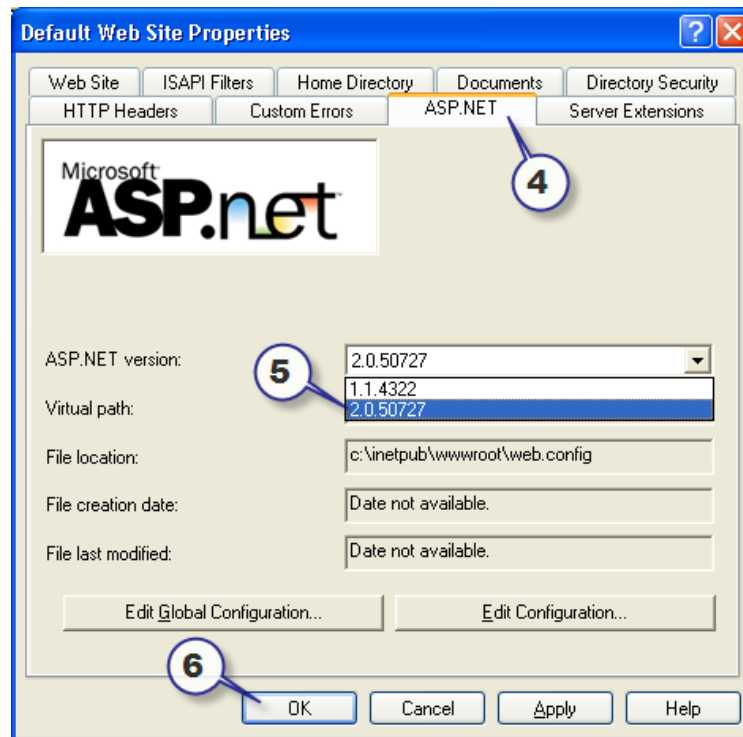


2. Double-click on **Internet Information Services (1)** to launch IIS.
3. Do one of the following:
  - For IIS, version 5, follow steps 4 to 6.
  - For IIS, version 6, follow steps 8 to 11.

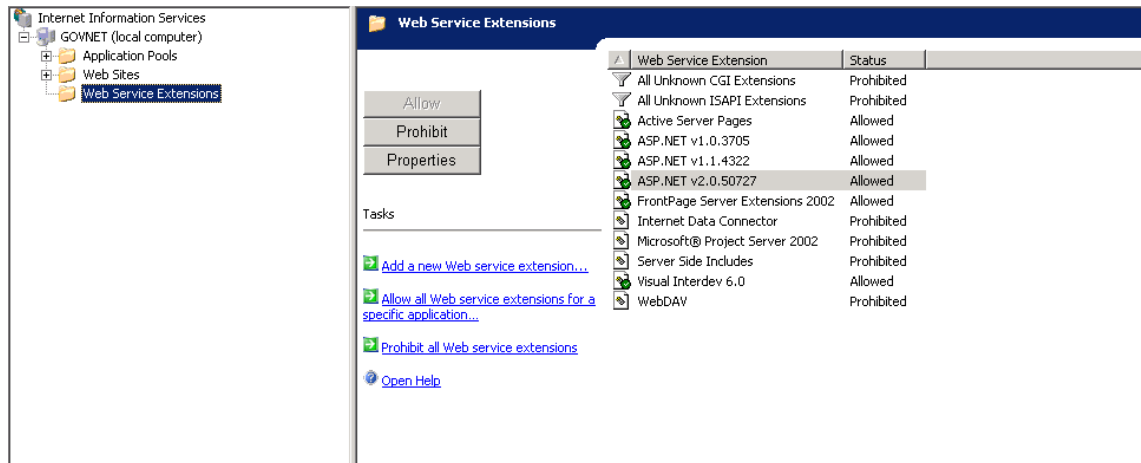


## IIS Version 5.0

4. In IIS, version 5, expand the **Web Sites** (2) directory under your computer.
5. Right-click on your Web site and select **Properties** (3).



6. Select the **ASP.NET** tab (4) and ensure that the version indicated in the **ASP. NET version** drop-down menu (5) indicates 2.0 or higher; select it.
7. Click **OK** (6).



## IIS Version 6.0

8. In IIS, version 6, expand the directory for your computer, in the left pane.
9. Open the **Web Services** directory.
10. Highlight **ASP.NET, version 2** and select **Allowed**.
11. Highlight **FrontPage Server Extensions 2000**, or higher, and select **Allowed**.

## Browser Errors Related to the Web.config File

One potential source of error during the configuration of the Web Portal is referencing the GovernNetConfig.xml file. See *XML Configuration Files on page 399 for details*. This file will need to be referenced in the **Web.config** file that is located in the following path:

**Root Directory... \ InetPub \ wwwroot \ WebUserInterface**

## Security and the DeployEZ™ Publisher

Applications that are deployed with the *Govern DeployEZ™ Publisher* will create a **GovernNetConfig.xml** file. This file containing licensing information is located in the deployment folder. Typically the deployment folder is located outside of the DMZ and should not be accessible externally. For security purposes you would not, and should not, reference this file directly.

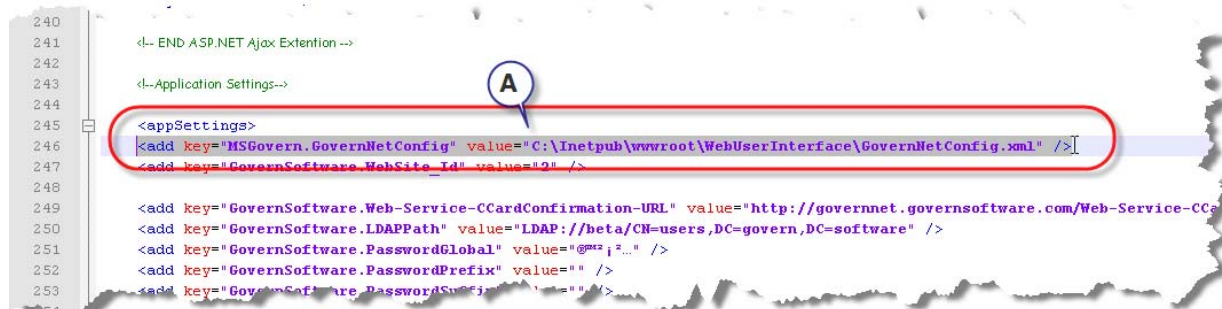
To resolve this issue, copy the *GovernNetConfig.xml* file and place it in an accessible location, e.g. the same location as the *Web.config* file.

To reference the *GovernNetConfig.xml* file:

1. Copy the *GovernNetConfig.xml* file from the *Deployment* folder that was created by the DeployEZ™ Publisher.
2. Paste the copy of the file in the location of the *Web.config* file, typically **Root Directory... \ InetPub \ wwwroot \ WebUserInterface**. Write down this path.

Using an ASCII text editor like **Notepad.exe**, you will edit the *Web.config* file.

1. Open the *Web.config* file in your text editor.
2. In the file, search for the **<AppSettings>** section (A).



3. Create a new line and make an entry that will reference the location of the *GovernNetConfig.xml* file.

The line should be entered exactly as it appears below:

```
<add key="MSGovern.GovernNetConfig" value="Root
Directory\ InetPub \ wwwroot \ WebUserInterface.\
GovernNetConfig.xml" />
```

...where **Root Directory** is your install directory for the Web site

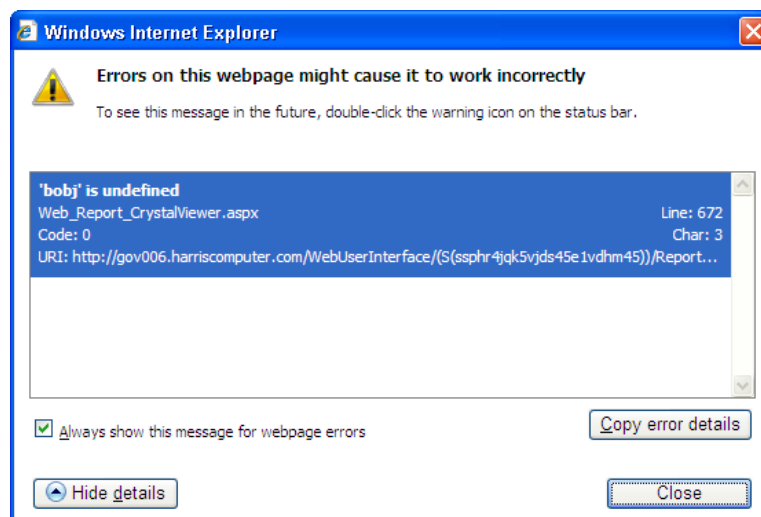
4. Verify the line entered, save and close the file.

Once this entry has been made, errors related to referencing the *GovernNet-Config.xml* file will be resolved.

**Note:** The *GovernNetConfig.xml* file that was copied will only need to be updated if the deployment folder is reinstalled, or there is a change in the server or location.

## Resolving the 'bobj is undefined' Error

When using the Web portal, errors may be generated that are related to the use of *Crystal Reports*. When reports are requested e.g. a menu selection that might provide property information, an error appears in the form of a **'bobj is undefined'** message.



This error is caused by the inability of the web application to locate *JavaScript* code that is located in the *aspnet\_client* folder.

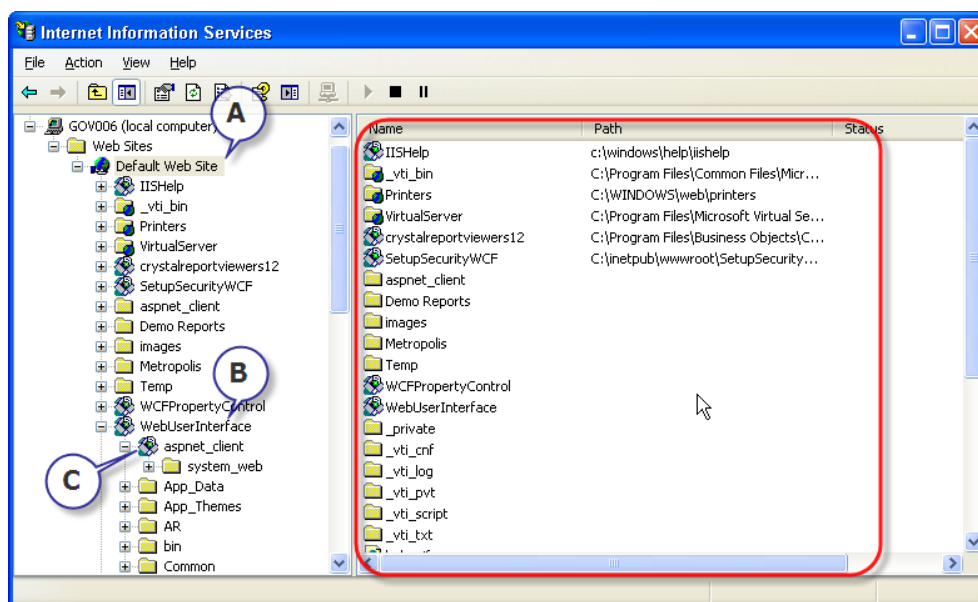
There are two (2) possible methods of resolution.

If you have a default website, the *ASP.net* folder will need to be placed within the *WebUserInterface* folder. The *ASP.net* folder needs to be in this folder so it can find the *JavaScript* code it is looking for.

### 'bobj undefined' Resolution 1

Placing the *aspnet\_client* folder directly in the *WebUserInterface* folder is not recommended because when the Web application is refreshed, typically this

folder will also be deleted. This in turn would also, unfortunately, delete the settings in the `aspnet_client` folder (C). A workaround is to place an alias file to the folder in the `WebUserInterface` folder (B) that is located under the **Default Web Site** (A).

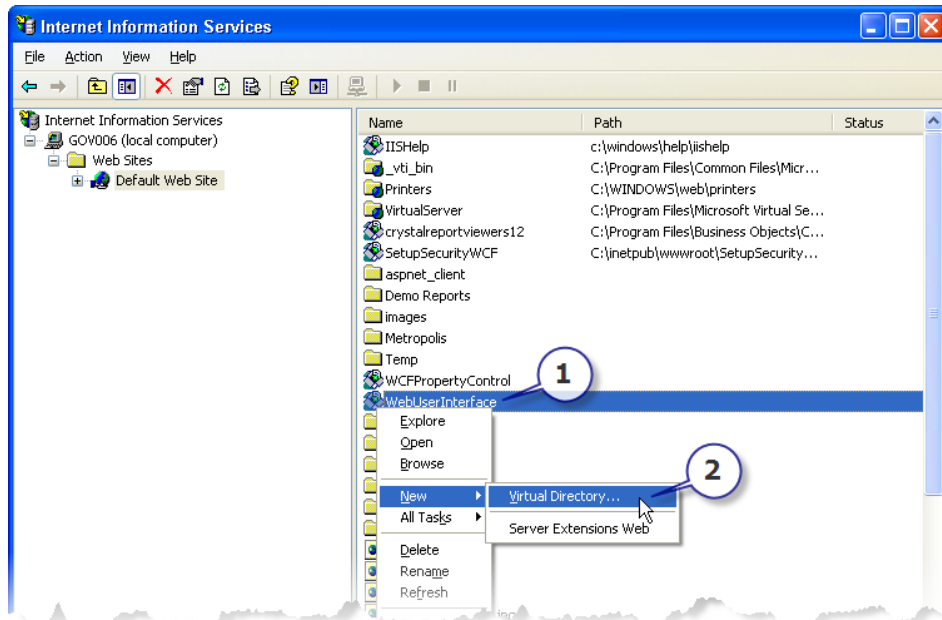


This folder that will be created is a virtual directory, the actual ASP.net folder is located outside of the `WebUserInterface` folder.

To create an `aspnet_client` virtual directory...

1. On your desktop, click **Start** > **Settings** > **Control Panel** > **Administrative Tool** > **Internet Information Services**.

2. In the Internet Information Services Control Panel, double click to expand to the level of the **Default web Site (1)**.

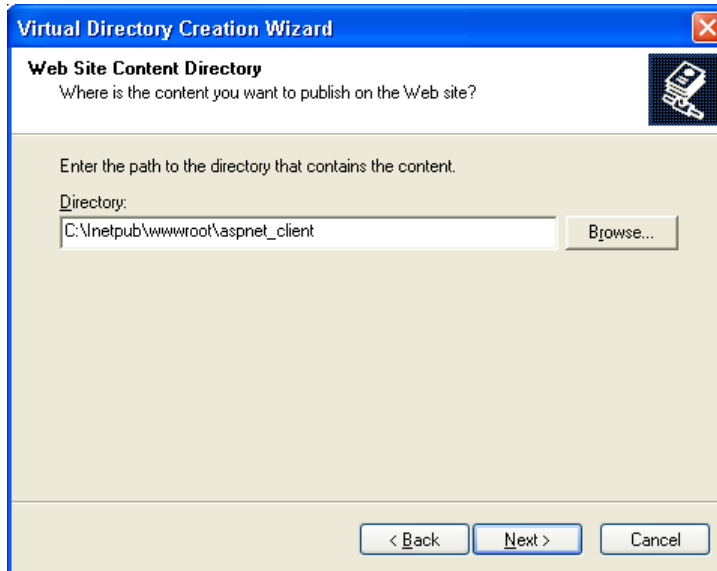


3. Look for the WebUserInterface folder and right-click; select **New > Virtual Directory...** from the floating menu (2)
4. In the *Virtual Directory Creation Wizard*, click **Next**.



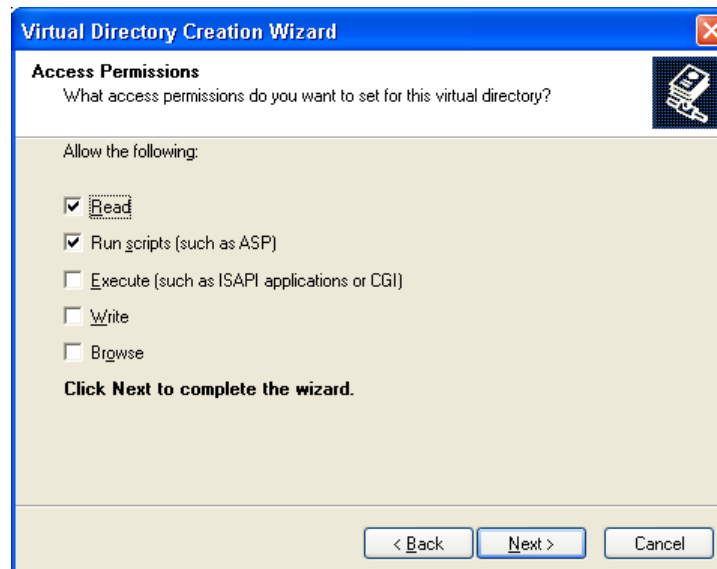
5. In the *Virtual Directory Alias* screen, enter **aspnet\_client** in the *Alias* parameter; click **Next**.

6. In the *Web Site Content Directory* screen, either type in the path to the aspnet\_client directory, or click **Browse** to locate it manually.



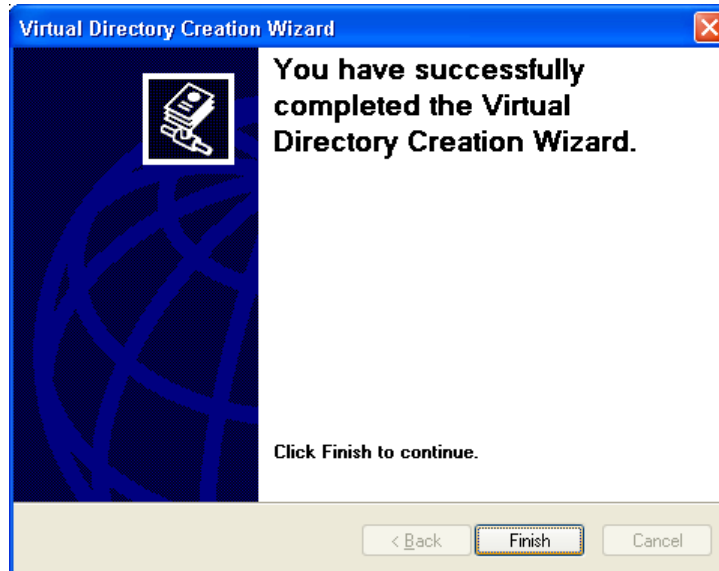
Once the following parameter C:\inetpub\wwwroot\aspnet\_client or a path that corresponds with the location on your system is entered, click **Next**.

7. In the *Access Permissions* screen, click to select the options for **Read**, and **Run scripts (such as ASP)**; click **Next**.





8. At the final screen, click **Finish**.



Now the **aspnet\_client** virtual folder will be referenced as if the real folder was present in the directory. Should you perform a site update, usually you would keep the Web config and delete all other files. In deleting the other files, you could inadvertently delete the aspnet\_client folder. With this solution only the alias is deleted.

## Multiple Web sites

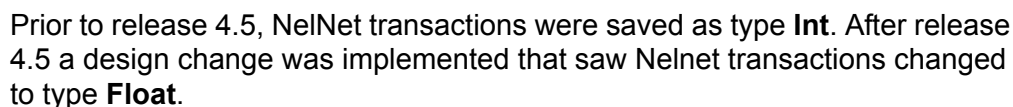
In instances when you have multiple web sites, you would still have the Default Web Site folder, but have multiple web site folders. In most instance The above *Resolution 1* will resolve issues where there are multiple Web site folders. The aspnet\_client folder is located inside the WebUserInterface folder. In other instances, resolution is only achieved by placing the aspnet\_client folder one level up outside of the WebuserInterface folder.

## 'bobj undefined' Resolution 2

Although the above *Resolution 1* will work for 99% of 'bobj undefined' errors generated in a single Web site scenario, it will only occasionally work in instances of multiple Web sites. In instances when no resolution is obtained, the following procedure can possibly be of assistance.

## Error Associated with WebUserInterface File Update

Value was either too large or too small for an Int32.



Users will need to update their table structure. Running the following script in the database will update the table structure from a type **int** (integer) to a type **float**(floating point). Typically this script can be run in a database management application like *Microsoft SQL Server Management Studio*.

---

### **- Script Start -**

```
-- DROP INDEXES --
DROP INDEX [CC_NELNET_TRANS_TRANSACTION_ID] ON
    [dbo].[CC_NELNET_TRANS] WITH ( ONLINE = OFF )

GO

DROP INDEX [CC_NELNET_TRANS_ORIGINAL_TRANSACTION_ID] ON
    [dbo].[CC_NELNET_TRANS] WITH ( ONLINE = OFF )

GO

DROP INDEX [CC_NELNET_TRANS_TRANSACTION_RESULT_CODE] ON
    [dbo].[CC_NELNET_TRANS] WITH ( ONLINE = OFF )

GO

DROP INDEX [PK_CC_NELNET_TRANS] ON [dbo].[CC_NELNET_TRANS] WITH (
    ONLINE = OFF )

GO

-- Alter tables --
ALTER TABLE cc_nelnet ALTER COLUMN TRANS_ID  FLOAT
GO
ALTER TABLE cc_nelnet ALTER COLUMN TRANS_ID_ORIG FLOAT
GO
ALTER TABLE CC_NELNET_TRANS ALTER COLUMN TRANS_ID FLOAT
GO

-- Recreate INDEXES --
CREATE NONCLUSTERED INDEX
    [CC_NELNET_TRANS_ORIGINAL_TRANSACTION_ID] ON
    [dbo].[CC_NELNET_TRANS]
(
    [ORG_ID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
    SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF, DROP_EXISTING
    = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON,
    ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]

GO

CREATE NONCLUSTERED INDEX [CC_NELNET_TRANS_TRANSACTION_ID] ON
    [dbo].[CC_NELNET_TRANS]
(
    [TRANS_ID] ASC
```

```
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,  
        SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF, DROP_EXISTING  
        = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON,  
        ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]  
  
GO  
  
CREATE NONCLUSTERED INDEX  
    [CC_NELNET_TRANS_TRANSACTION_RESULT_CODE] ON  
    [dbo].[CC_NELNET_TRANS]  
  
    (  
        [RESULT_CODE] ASC  
    )WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,  
        SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF, DROP_EXISTING  
        = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON,  
        ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]  
  
GO  
  
CREATE UNIQUE NONCLUSTERED INDEX [PK_CC_NELNET_TRANS] ON  
    [dbo].[CC_NELNET_TRANS]  
  
    (  
        [BATCH_NO] ASC,  
        [TRANS_NO] ASC  
    )WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,  
        SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF, DROP_EXISTING  
        = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON,  
        ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]  
  
GO
```

**- Script End -**

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