

GALAXY SCRIPT COMMANDER

for Command Scripts & Scheduler

Controlling Doors and Hardware Devices
with the Command Scripts Feature

2024 | SG 11.8.6

How to Program Command Scripts & Script Scheduler

Information in this document is subject to change without notice. Therefore, no claims are made as to the accuracy or completeness of this document.

The Command Scripts and Script Scheduler features are included in the Script Commander, which was introduced in SG v10.3 (Aug 2013). This first-gen Script Commander Utility extends the 'operator command' feature beyond the ability to issue single commands individually. The Script Commander Utility can issue a batch of multiple operator actions with a single command. The operator can manually trigger a script, or schedule a date/time for the system to trigger the script. All the operator commands in a script are executed in sequence.

1st Edition

Copyright © 2013 ♦ Galaxy Control Systems ♦ All rights reserved

No part of this document may be reproduced, copied, adapted, or transmitted, in any form or by any means, electronic or mechanical, for any purpose, without the express written consent of Galaxy Control Systems. Copyright protection claims include all forms and matters of copyrighted material and information, including but not limited to, material generated from the software programs, which are displayed on the screen such as icons, look and feel, etc.

Trademarks

Microsoft®, Windows®, Windows NT®, MSDE® and SQL Server® are registered trademarks of Microsoft Corporation in the U.S. and other countries.

Adobe®, Acrobat® are registered trademarks of Adobe Systems Inc.

This PDF is created with Adobe v9 or later.

Graphics and illustrations by Candace Roberts, SQA & Technical Writer.

Galaxy Control Systems

3 North Main Street
Walkersville MD 21793
800.445.5560

www.galaxysys.com

Table of Contents

Introduction to Command Scripts and Action Scheduler.....	4
What's Covered in this Guide	4
DIFFERENT WAYS THE OPERATOR COMMANDS ARE ISSUED	5
REQUIREMENTS & CAUTIONS.....	6
Overview of Command Script Feature and Script Planning	7
PLANNING TO USE THE COMMAND SCRIPT FEATURE.....	7
ABOUT THE OPERATOR MANUAL COMMANDS.....	8
A word about scheduled control of doors, devices, door groups and i/o a groups:	8
Manually commanding a single door or device:	8
Manually commanding a group of doors or devices:	8
What happens if the door or device is operating on a schedule?	8
ABOUT THE COMMAND SCRIPT EDITOR	10
ABOUT THE COMMAND SCRIPT EXECUTER.....	11
ABOUT THE COMMAND SCRIPT SCHEDULER	12
ABOUT THE DEVICE ACTION SCHEDULER	13
HOW TO CREATE A SCRIPT IN THE COMMAND SCRIPT EDITOR	14
HOW TO EXECUTE A SCRIPT VIA THE 'SCRIPT EXECUTOR UTILITY'	15
HOW TO ADD A SCHEDULE DATE/TIME TO A SCRIPT VIA THE SCRIPT SCHEDULER	16
HOW TO SCHEDULE AN INDIVIDUAL DOOR/DEVICE/GROUP VIA THE ACTION SCHEDULER.....	17
HOW TO VIEW SCHEDULED ACTIONS REPORT FOR A DOOR/DEVICE/GROUP	18
Managing the GCS Commander Service.....	19
ABOUT THE GCS COMMANDER SERVICE	20
Editing & Encrypting Database Connection Information	21
HOW TO: Edit the Database Connection String	21
HOW TO: encrypt the database connection string	22
Encrypting Configuration Data Excerpt taken from Microsoft Enterprise Library 5.0 documentation	23

Introduction to Command Scripts and Action Scheduler

A **Command Script** is simply a batch of operator commands that are grouped together in a script. The command script can contain any command for any door or device in the system (i.e. any loop or all loops).

The **Command Script Editor utility** allows the operator to build Command Scripts as needed.

- ▶ a Command Script can be executed manually in the *Command Script Executer utility*;
- ▶ a Command Script can be scheduled to run at specific times from the *Command Script Scheduler* window, which is opened from the Script Editor utility;

The **Command Script Executer utility** allows the operator to run Command Scripts manually. The operator can run/execute a single script; or the operator can run multiple scripts at once.

Galaxy also supports **Scheduled Action Scripts**:

- ▶ *Command Script Scheduler*, supports scheduling Command Scripts (the Scheduler window is opened from the Script Editor).
- ▶ *Action Scheduler*, supports scheduling specific commands that pertain to a specific device (opened from the device properties window).

The **Command Script Scheduler** allows the operator to configure specific dates and times that the Command Script will automatically execute. The **GCS Commander Service** must be running to support this.

The **Action Script Scheduler** allows the operator to configure specific dates and times that the device action commands will automatically be issued. In this case the command script is not executed. The commands being scheduled belong to an individual device or door. The **GCS Commander Service** must be running to support this.

What's Covered in this Guide

- Overview & Requirements for using command scripts
- Stop and Start the **GCS Schedule Commander Service**
- **Create command scripts** (sequential hardware commands) in the *Script Editor screen*.
- **Execute scripts** via the *Script Executer Utility*
- **Create schedules** in the *Scheduled Action Editor* from the Script Editor
- Create schedules in the *Scheduled Action Editor* from a Device Properties Screen
- Print the **Scheduled Actions Report** from a Device Properties Screen

DIFFERENT WAYS THE OPERATOR COMMANDS ARE ISSUED ...

(See the next section for a list of the commands supported)

1) OPERATOR COMMAND MENU (manually issued from the Hardware Tree or a Logged Event)

- ▶ **Issue a manual command** to a door, device (input or output), Door Group or I/O Group

2) COMMAND SCRIPT EXECUTER UTILITY (opens from the Configure > Hardware menu)

- ▶ **Run a command script(s)** (manually executed) – issues any combination of commands to multiple doors/devices or groups that belong to any loop (multiple loops/all loops).

NOTE: this includes the ability to **Activate & Deactivate CRISIS MODE** to multiple or all loops.

NOTE: a **command script** can contain any combination of doors, devices, door groups, i/o groups that belong to any loop (one, some, or all loops). And the script must be built in the *Script Editor* before it will be listed or be executed in the **Command Script Executer Utility**.

NOTE: **Command Scripts** can potentially interfere with **Scheduled Action Commands (or visa-versa)** if conflicting commands are being issued to the same devices. **Be careful when using these features.**

3) SCHEDULED ACTION SCRIPTS (requires the GCS Commander Service to be running)

- ▶ **Automatically runs COMMAND SCRIPTS** according to when they are scheduled to execute. These schedules are built in the Action Schedule window, which opens from the Script Editor window.
- ▶ **Automatically runs SELECTED COMMANDS** (sequentially or repeatedly) **for an individual door, device, door group or i/o group**. These schedules are built in the Action Script Scheduler, which opens from the Properties screen of the door, device or group.

NOTE: the **GCS Commander Service** must be running to support Scheduled Action Scripts.

NOTE: **Scheduled Action Scripts** can potentially **conflict** with the manual commands that you issued from the Script Executor or operator menu. **It may be advisable to suspend the GCS Commander Service while you are performing manual commands. Be careful when using these features.**

REQUIREMENTS & CAUTIONS

The **Command Script feature** does not require any system registration or workstation configuration to be performed in order to use them.

The system programming of all the doors, inputs, outputs, I/O groups, and door groups must be completed and loaded to the panels before you can execute command scripts (manually or scheduled).

The **GCS Command Service** is installed with the software and is initialized to run manually. **IMPORTANT: the GCS Commander Service should be configured to run automatically** when using the **Command Scheduler** or the **Action Scheduler** components of this feature. The service defaults to manual but can be set to run automatically if you are depending on your scripts to run via the Schedulers.

NOTICE: The **GCS Commander Service** itself will not interfere with manual issuance of commands or manual execution of scripts. However, if you have a script that is scheduled to run that **contains conflicting commands and targets the same devices, doors or groups** that you are controlling with manual commands/scripts, then those conflicting commands CAN INTERFERE with your manual issuances. In such cases you can temporarily stop the GCS Commander Service in the PC control panel. Do not forget to restart the service when your manual issuance of commands is complete. See the section ABOUT GCS COMMANDER SERVICE for details.

IMPORTANT: the Command Scripts and their schedules are never stored in the panel. They are only stored in the database. Therefore, **network connectivity between the main communication server and the panels must be maintained to ensure effectiveness** since the panels do not store the command scripts or their schedules.

IMPORTANT: It is not recommended to use command scheduling for mission critical performance of doors and other hardware (inputs, outputs, crisis modes, i/o groups, door groups) that protect or ensure human or animal safety, valued assets, or secure areas. You should not risk security and safety by depending on uninterrupted network connectivity. It is recommended to configure Time Schedules to operate such hardware since Time Schedules are stored locally at the panel for the hardware being controlled to offer the maximum reliability for door/hardware operation. Make sure all precautions are taken when planning and implementing Time Schedules for doors and hardware. *This feature is designed for quick and temporary control of devices across loops that are being monitored by trained/authorized personnel.*

IMPORTANT: the doors, inputs, outputs, door groups, and i/o groups will resume their normal scheduled condition or operation the next time their assigned time schedule takes effect (activates). If a device or door or group needs to return to its normally scheduled condition before the assigned schedule will kick in again, you must use a command script or scheduled action to return the device, door, or group to the desired state.

IMPORTANT: Crisis mode only affects any access groups. Access groups must be preconfigured to change behavior during an active crisis mode. Access groups that are not configured to respond to crisis mode will remain unchanged. Also the *crisis mode commands* (activate and deactivate crisis mode) are the only commands that affect access groups (do not affect any other door or device). Crisis Mode is a system-wide, setting so it applies to all loops/control panels. The operator can use the **crisis mode toolbar buttons to reset/deactivate a crisis mode or use a script to reset/deactivate crisis mode.**

IMPORTANT: Relay 2 must be configured to a mode that supports operator command actions (manual or scheduled). If the operator command menu does not support the ON and or OFF action, then the script will not change the state of the relay; although an event will be logged showing that the script attempted to run a command on the relay.

Overview of Command Script Feature and Script Planning

The **Command Script Feature** consists of three components: the **Command Script Editor**, the **Command Script Executer** and the **Command Scheduler** (including GCS Commander Service).

The Command Script Feature allows the control of doors and devices system wide (across loops). The scripts can contain multiple doors, devices, multiple i/o groups and multiple door groups.

PLANNING TO USE THE COMMAND SCRIPT FEATURE

This feature is designed for quick and temporary control of devices across loops that are being monitored by trained/authorized personnel. Typically for exceptions to schedules but is not recommended for situations that provide human safety or mission critical systems.

The Command Script Feature offers flexibility in the following scenarios

1. **On-demand control** of a “batch” of doors or devices ...
 - a. **to avoid the difficulty of individual issuance from the Operator Command Menu** for a large number of doors / devices (via Hardware Tree, Device Graphic/Floor Plan)
 - b. **in the absence of having Graphic Floor Plans** (a very intensive programming effort)
2. A **quick solution** when...
 - a. **unplanned control is needed across multiple loops** (absence of advance notice)
 - b. **altering schedules is counter-indicated** (i.e. too time-consuming to evaluate the reach of existing schedules before making invasive schedule alterations).
3. A **temporary solution** to ...
 - a. **support minor or brief interruptions to your normal schedules.**
 - b. **avoid making extensive & risky schedule changes for exception**
 - c. **avoid performing a Load Data action** to all the controllers affected by the changes
4. A **convenient solution** to ...
 - a. **control doors and devices for testing or emergency exercises.**
 - b. **avoid making changes to existing system programming.**
 - c. **isolate control of doors** that are part of a door group, without having to alter the programming of the door groups or the assigned schedules.
 - d. **isolate control of devices** that are part of an i/o group without having to alter system programming or assigned schedules.

ABOUT THE OPERATOR MANUAL COMMANDS

The **Operator Command Menu** allows the operator to **send manual commands** to a door or device that will change the state of the door/device. This will override the schedule if a schedule is applied.

A word about scheduled control of doors, devices, door groups and i/o a groups:

The panel will automatically control the state of doors and devices if schedules have been assigned and loaded to the panel. Schedules should be created to control the states of doors and devices that you will always need to work in a predictable pattern. Operator manual commands are used to handle exceptions.

Example: **a door is unlocked from 8a to 5p on Monday through Friday; and closed on nights and weekends – done by an assigned time schedule.** But one Saturday you will unlock the door from 11a to 2pm. You might not want to change the complex programming and reload panels for this one day, when you can manually send an unlock command at 11am and a lock command at 2pm.

Manually commanding a single door or device:

The operator can command an individual door or device through the operator command menu by selecting the command from that device's icon on the hardware tree or a logged event from that door/ device.

Manually commanding a group of doors or devices:

The operator can command an groups of doors or devices through the operator command menu by selecting commands from the Door Group or I/O Group icons on the hardware tree. Doors and devices must be configured to link to the door group or I/O group before they can be controlled this way.

- ▶ The door, device or group will remain in the new state sent from the manual command until another manual command is sent -OR- whenever an assigned schedule becomes **active**.
- ▶ Doors, devices, and groups can operate on a schedule only if you have assigned a schedule. This is done from the properties screen for that door/device/group. The panel must subsequently be loaded with the schedule programming in order for it to take effect.
- ▶ Schedules are stored in the memory of the panel. If the software or server goes offline from the panels, the panels will continue to operate as they are expected, based on the internal schedules.
- ▶ In order to send **operator manual commands**, the Galaxy software and services must be running and connected to panels (GCS Client Gateway, Comm Svc, Event Svc, and DBwriter).
- ▶ In order to send manual commands through the **Script Commander** (manually or scheduled) the Commander Service must also be running.

What happens if the door or device is operating on a schedule?

If the door or device is operating on a schedule when the operator sends a manual command, the door/device will change states and obey the command the operator sent. The door or device will remain in that state until the next time the schedule is active or when the operator sends another command.

The door will not change states again until it is commanded (either by the operator The operator must send an unlock command if the door needs to return to the unlock

IMPORTANT: This means when a door is on a 'lock schedule' and is in the locked state, when the operator sends an unlock command; the door will remain unlocked until the next time the schedule sends another lock command. The schedule does not relock a door when you unlock it during its scheduled lock period. Likewise an unlocked door will remain locked until the next time the schedule sends an unlock.

The command menu is available by right-clicking the target device's icon in the Hardware Tree or Device Graphic screen (floor plan). The command menu contains the commands that are relevant to the selected device – i.e. door commands when a door is selected or input commands when and input is selected.

The limitation of the ***Operator Command Menu*** is that the operator can only send commands to one device at a time. At best to one i/o group or door group if the devices could feasibly be configured into a door group or i/o group.

ABOUT THE COMMAND SCRIPT EDITOR

The **Command Script Editor** allows the operator to **create scripts** containing multiple commands which can be executed all at once, rather than individually from the Operator Command Menu. This way the operator can control multiple inputs, outputs or doors that are not normally grouped through a door group or i/o group. Or the operator can control multiple door groups or i/o groups.

- ▶ The **Command Scripts** can contain any command for any door, device, i/o group or door group in the system. Commands can be mixed as desired.
- ▶ The doors and devices and groups can belong to any loop in the system.

A command script can be executed in the **Command Script Executer utility** (shown in following section).

A command script it can be scheduled in the **Script Scheduler or Action Scheduler screens** (shown in following sections).

COMMAND SCRIPT EDITOR SCREEN (WITH SCHEDULING CAPABILITY)

The screenshot shows the 'Command Script Editor' window. At the top, there is a dropdown menu labeled 'Select Command Script and/or Action:' with an 'Add New' button next to it. To the right are 'Save', 'Delete', 'Cancel', and 'Scheduled Action Report' buttons. Below this is a table titled 'Script Items:' with three columns: '#', 'Command', and 'Device'. The table contains four rows of data. To the right of the table are three buttons: a blue up arrow, a blue down arrow, and a red X. Further right are two text input fields: 'Description:' containing 'DOOR - LOCK (FHS 1 & 2)' and 'Notes:' which is empty. Below these is a section titled 'Select Command Target:' containing three dropdown menus: 'Select Command:' (set to 'Arm I/O Group'), 'Select Loop/Cluster:' (set to 'FHS (#3)'), and 'Select Device:' (set to 'DOOR GROUP I/O'). Below the dropdowns is a green plus icon. At the bottom right is a 'Scheduled Execution:' section with a date/time picker set to '8/12/2013 10:34:27 AM' and a 'Date and Time' text box containing '8/12/2013 10:34:27 AM (Monday) -'. A 'Close' button is at the bottom right corner.

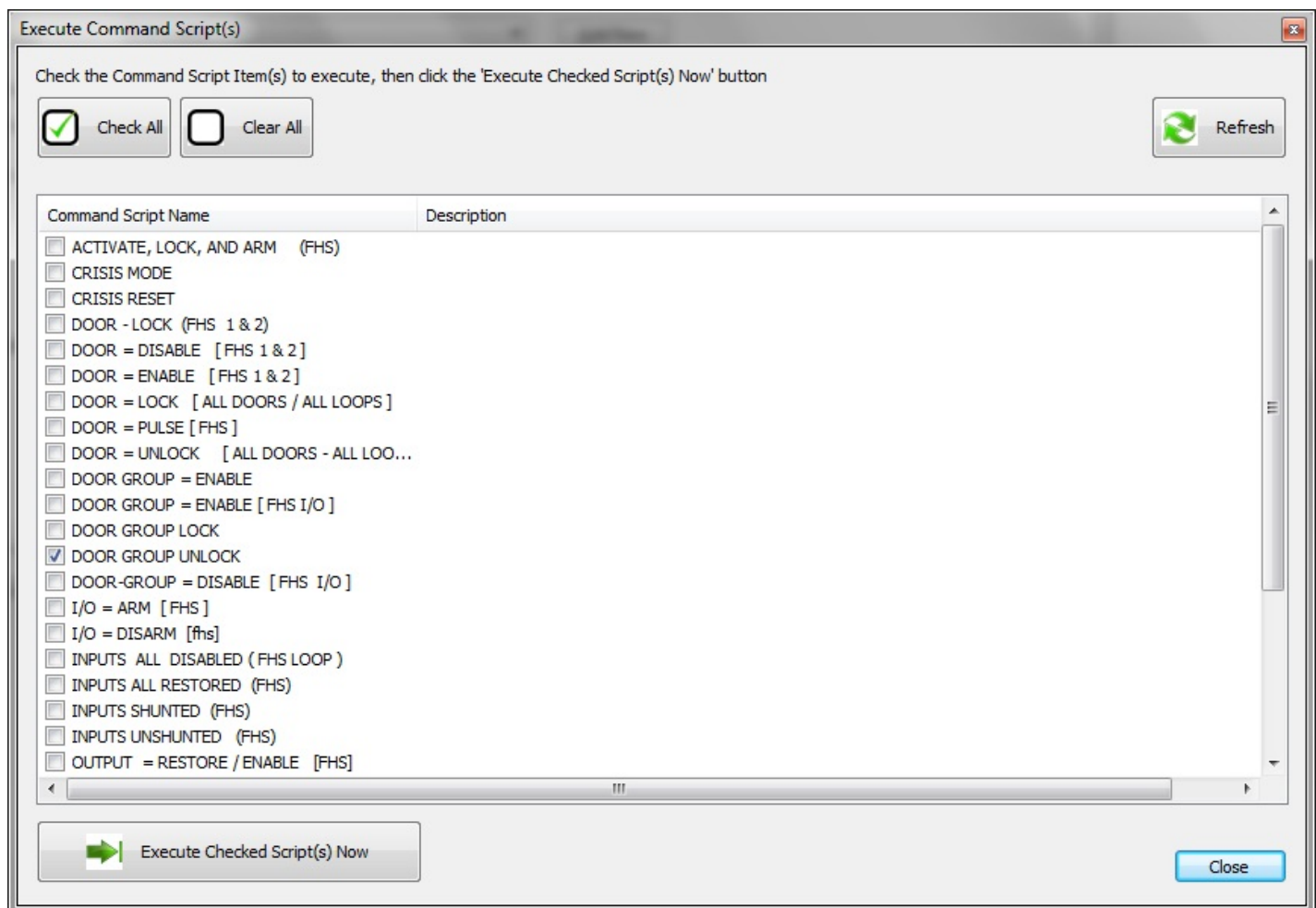
#	Command	Device
1	Activate Crisis Mode	F H S (#3)
2	Arm I/O Group	DOOR GROUP I/O
3	Lock Door	FHS DOOR 1
4	Lock Door	FHS DOOR 2

ABOUT THE COMMAND SCRIPT EXECUTER

Using the **Script Execute Utility**, the operator can manually execute individual scripts or manually execute multiple scripts at the same time. Executing scripts from the Execute Utility is considered to be manual execution.

When scripts are executed, an event is logged in the system Event Screen (i.e. the monitoring screen). These events can also be printed from system reports. Commands that are issued from the short-cut menu are logged exactly like events that are issued from the Script Executor utility.

If scheduled execution is desired, the operator must use the Action Scheduler or the Command Script Scheduler to configure the dates and times for the commands to be sent.



ABOUT THE COMMAND SCRIPT SCHEDULER

The **Command Script Schedule utility** allows the operator to schedule the execution of a script. The script cannot be combined with other scripts; however, any and every script can be scheduled to run on the same dates and times.

The Command Script Scheduler is opened from the Script Editor screen. The Scheduler can be used to select any single date and time. Or the operator can set multiple (repeat) date/times that the script will run. The utility allows the operator to choose the number of seconds, minutes or hours between each occurrence. Or the operator can choose which days of the week the script will run.

When a scheduled date and time elapses, it will be dropped from the list of scheduled times. The GCS Commander Service must be running and network connectivity to the panels must be established and maintained in order for the commands to affect the doors or hardware.

The screenshot shows the 'Scheduled Action Editor' window. It has a title bar with standard window controls. The main area is divided into sections:

- Action Target:** Contains two dropdown menus. 'Select Target Type:' is set to 'Command Script'. 'Select Command Script:' is set to 'DOOR - LOCK (FHS 1 & 2)'.
- Scheduling Information:** Contains several fields:
 - 'Starting Date and Time:' with a date picker set to '8/12/2013' and a time spinner set to '5:59:34 PM'.
 - 'Stop Repetition Date and Time:' with a date picker set to '8/23/2013'.
 - 'Select Repetition Behavior:' with a dropdown menu set to 'Repeat on selected weekdays'.
 - A set of checkboxes for days of the week: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday. All are checked.
 - A blue button with a green plus icon labeled 'Add To Schedule List'.
- Scheduled Action Times:** A list box containing a series of dates and times, each followed by a day of the week in parentheses. The list starts with '8/12/2013 5:59:34 PM (Monday)' and ends with '8/22/2013 5:59:34 PM (Thursday)'. The last four entries are highlighted in blue.
- Buttons:** At the bottom, there is a 'Delete Selected Times' button with a red X icon, and 'OK' and 'Cancel' buttons on the right.

ABOUT THE DEVICE ACTION SCHEDULER

The **Device Action Schedule utility** allows the operator to schedule commands that relate specifically to a device or door or group. The scheduled commands saved in this screen are independent from any Command Scripts that are scheduled through the Command Script Scheduler; and are executed only on the selected device, door or group whose properties are being edited.

These actions cannot be combined with other doors or devices; however, any and every device, door, or group can be scheduled to run on the same dates and times. This programming is accessed through the properties screen of the device or door or group being targeted.

When a scheduled date and time elapses, it will be dropped from the list of scheduled times. The GCS Commander Service must be running and network connectivity to the panels must be established and maintained in order for the commands to affect the doors or hardware.

The screenshot shows the 'Scheduled Action Editor' window. It has several sections:

- Action Target:** Includes 'Select Target Type:' (Reader/Door), 'Select Loop/Cluster:' (F H S (#3)), 'Select Target Device:' (FHS DOOR 1), and 'Select Action:' (Unlock Door). The 'Select Action:' dropdown lists: Unlock Door, Disable Door, Enable Door, Lock Door, Pulse Door, Relay 2 Off, Relay 2 On, and Unlock Door.
- Scheduling Information:** Includes 'Starting Date and Time:' (8/12/2013 8:00:00 AM), 'Stop Repetition Date and Time:' (8/30/2013), and 'Select Repetition Behavior:' (Repeat on selected weekdays). Below this are checkboxes for days of the week: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday.
- Scheduled Action Times:** A list of scheduled actions, each with a date, time, and action name. The list shows a repeating pattern of 'Unlock Door' and 'Lock Door' at 8:00:00 AM and 5:00:00 PM on weekdays from 8/12/2013 to 8/30/2013.
- Buttons:** At the bottom, there is a 'Delete Selected Times' button (with a red X icon), an 'OK' button, and a 'Cancel' button.

HOW TO CREATE A SCRIPT IN THE COMMAND SCRIPT EDITOR

To create scripts do the following steps.

Open the Script Editor screen - from the SG Menu choose Configure > Command Script > Editor.

1. click ADD NEW to create a new script; *to edit existing script select the script name in the droplist,*
2. Type a description (descriptive) **NAME** for the NEW SCRIPT;
3. Type a comment in the **NOTES** field to help you understand or remember why you made the script or when you made the script.
4. Select / highlight a **Command** from the first droplist for the target device (activate device, unlock door, etc.).
5. Select / highlight a **Loop Name** that the device belongs to.
6. Select / highlight the desired **Target Device** name.
7. Click the **[+] (plus button)** to add the chosen device to the **Action List**. You can use the **arrow up** and **arrow down** buttons to move items in the script.
8. To delete an item, simply select/highlight it and click the **red [x] button** to remove it. You can select multiple items by using your **shift** or **control** keys in combination with clicking the item.
9. Repeat steps 4 thru 7 until you have chosen all the actions for all the devices you desire. NOTE: While there are no restrictions on which actions you can combine in the script, you must obviously make choices that do not conflict (for example, you will not turn ON an Output in the same script where you are turning OFF that same output). ***If you include conflicting commands, they script will not produce the desired results.***
10. Click the **SAVE** button to close the screen.

The screenshot shows the 'Command Script Editor' window. At the top, there's a dropdown menu for 'Select Command Script and/or Action:' with 'DOOR - LOCK (FHS 1 & 2)' selected. Below this are buttons for 'Add New', 'Save', 'Delete', and 'Cancel'. The main area is divided into two sections. On the left, under 'Script Items:', there is a table with four rows:

#	Command	Device
1	Activate Crisis Mode	F H S (#3)
2	Arm I/O Group	DOOR GROUP I/O
3	Lock Door	FHS DOOR 1
4	Lock Door	FHS DOOR 2

On the right side of the table are three buttons: an up arrow, a down arrow, and a red 'X'. To the right of the table, there are two text input fields: 'Description:' with 'DOOR - LOCK (FHS 1 & 2)' and 'Notes:' which is empty. Below these is a section titled 'Select Command Target:' containing three dropdown menus: 'Select Command:' with 'Arm I/O Group', 'Select Loop/Cluster:' with 'F H S (#3)', and 'Select Device:' with 'DOOR GROUP I/O'. At the bottom of this section is a green plus button.

HOW TO EXECUTE A SCRIPT VIA THE 'SCRIPT EXECUTOR UTILITY'

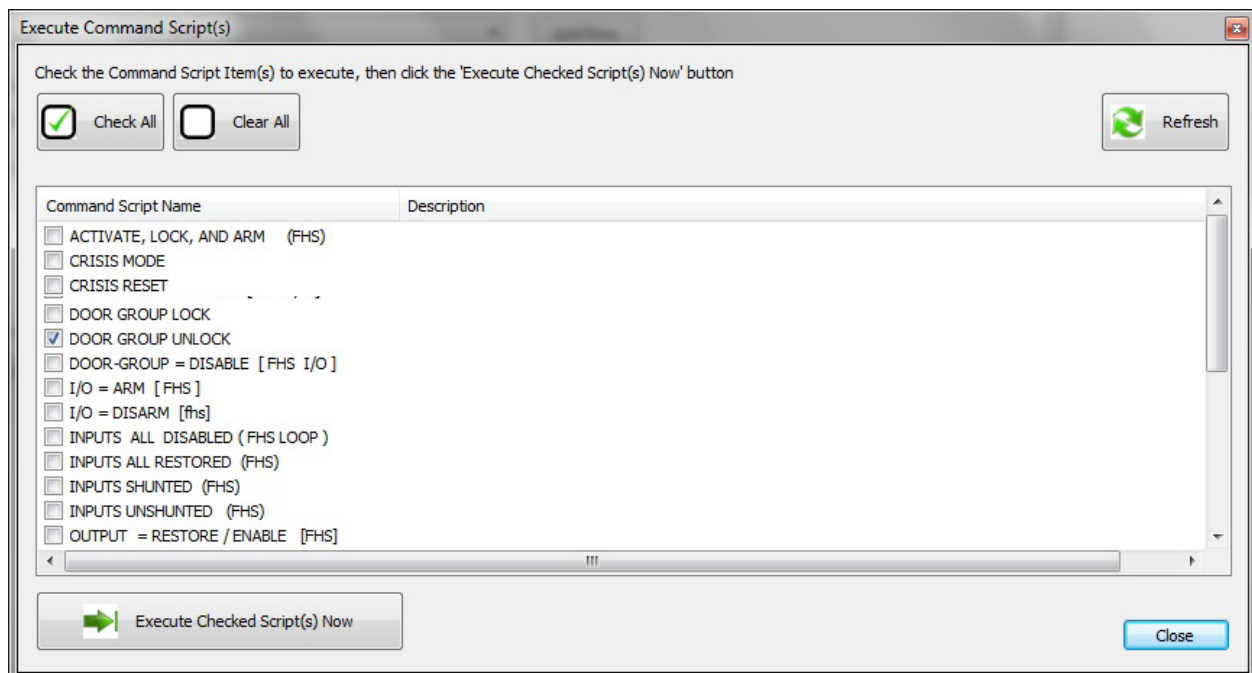
IMPORTANT: The **GCS Command Service** does NOT need to be running for a manual execution. The service is only needed for **Schedule Action Scripts**.

WARNING – avoid conflicting commands from action scripts: Although the **GCS Command Service** itself will not interfere with **manual script execution**; if you have created **scheduled action scripts** that contain conflicting commands for the same doors or devices you are manually targeting with the script executor, that **it can undo the commands you are trying to execute manually**. You can suspend (stop) the **GCS Commander Service** until your manual scripts are completed. Stopping the service will suspend ALL scheduled action scripts (this does not interfere with time schedules). **Do not forget to restart the Commander Service to operation.**

NOTICE: *If scheduled action scripts do not have conflicting commands with manual scripts, they can be allowed to run.*

To run a script manually do the following steps.

- **Open the Script Execute screen - from the SG Menu choose [Configure](#) > [Command Script](#) > [Execute](#).**
- 1. Click the **REFRESH** button to query all saved scripts.
- 2. The window may remember your last selections, therefore **you should deselect any script you do not want to execute** by unchecking the checkbox beside the script name
- 3. Click **(check)** the **checkbox** beside the scripts you wish to run . You can run a single script or you can select multiple scripts to run. If scripts are large and contain a lot of commands, you may want to use your own discretion about how many you run at a time.
- 4. Click the **EXECUTE** button at the bottom of the screen to run the scripts. You cannot delete scripts from this screen. Return to the Editor to manage scripts.
- 5. When a script is executed, the events it generates will be logged in the SG Event Monitoring window and they will appear on Activity reports throughout the system.



HOW TO ADD A SCHEDULE DATE/TIME TO A SCRIPT VIA THE SCRIPT SCHEDULER

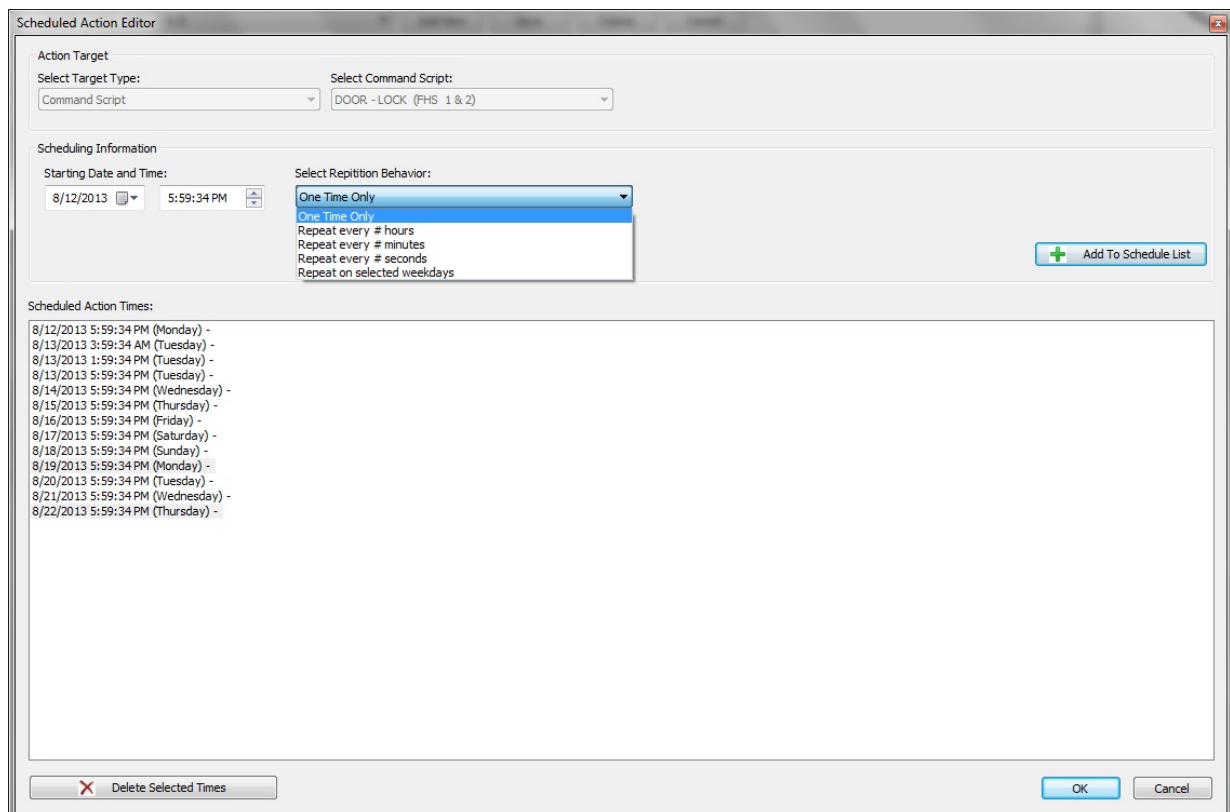
The GCS Commander Service must be running for the script to execute on the scheduled dates and times. The panels do not store the scripts or the times; therefore network connectivity must be maintained.

To schedule a script do the following steps.

Open the Script Editor screen - from the SG Menu choose Configure > Command Script > Editor.

1. Select or highlight an existing script in the script name in the droplist that you wish to schedule.
2. In the calendar controls at the bottom right corner of the Editor, you must choose the future date and time you wish the script to run. **Click the [+] (single plus button)** to add the date/time to the listview. You can select as many future dates/times you need.
3. To delete a date/time, simply select/highlight it and click the **red [x] button** to remove it. You can select multiple items by using your **shift** or **control** keys in combination with clicking the item.
4. If you need more room to see your scheduled times, you can open the Command Script Scheduler window by **clicking the [++] (double plus button)**. In the Command Script Editor you can select the amount of times to repeat a script. All the actions in the script will be executed on each date/time you add to the Scheduler.
5. To delete an item in the, simply select/highlight it and click the red [x] button to remove it. You can select multiple items by using your shift or control keys in combination with clicking the item.
6. Click the red [x] to delete a selected item/s.
7. Click the **OK button** to exit the Scheduler and click the **SAVE button** in the Editor to save your dates.

NOTE: expired the DATE/TIMES will not appear in the list.



HOW TO SCHEDULE AN INDIVIDUAL DOOR/DEVICE/GROUP VIA THE ACTION SCHEDULER

The GCS Commander Service must be running for SCHEDULED ACTIONS to execute on the chosen dates and times. The panels do not store the scripts or the times, therefore network connectivity must be maintained.

To schedule a script do the following steps.

Open the appropriate Properties screen - from the SG Menu choose Configure > Hardware > and then choose Doors/Readers, or Inputs, or Outputs, or I/O Groups (serve as door groups when assigned to a door).

1. Select or highlight an existing **Loop**, **Controller** and **Target Device** from the droplists in the top of the screen
2. Click the **EDIT** button; the other buttons should enable.
3. Click the **ACTION SCHEDULER** button at the top of the screen; the scheduler window will open.
4. Select or highlight the **Action** you wish to schedule on this device and click the **[ADD...]** button.
5. To delete an item, simply select/highlight it and click the red [x] button to remove it. You can select multiple items by using your shift or control keys in combination with clicking the item.
6. Click the OK button to exit the Scheduler and click the APPLY button to save your SCHEDULED ACTIONS.

NOTE: expired the DATE/TIMES will not appear in the list.

IMPORTANT: YOU MUST CLICK THE APPLY BUTTON IN THE PROPERTIES SCREEN TO SAVE THESE SCHEDULED DATES AND TIMES !

HOW TO VIEW SCHEDULED ACTIONS REPORT FOR A DOOR/DEVICE/GROUP

The GCS Commander Service must be running for SCHEDULED ACTIONS to execute on the chosen dates and times. The panels do not store the scripts or the times, therefore network connectivity must be maintained.

To schedule a script do the following steps.

Open the appropriate Properties screen - from the SG Menu choose Configure > Hardware > and then choose Doors/Readers, or Inputs, or Outputs, or I/O Groups (serve as door groups when assigned to a door).

1. Select or highlight an existing **Loop**, **Controller** and **Target Device** from the droplists in the top of the screen
2. Click the **REPORT DOWN ARROW** button; the report menu should open.
3. select the Scheduled Actions report (crystal report)
4. supply the desired date range – or check the include all option. And click OK
5. the Scheduled Actions report window will open in a separate window. Grey items have already been executed. White items have not been executed.

Preview

Scheduled Action Report

8/12/2013 8:11:30PM

Device Name: Cluster: 003, Cont: 001, Board 2, Out: 2

Date/Time Range: 7/22/2013 3:14:28 PM - 8/30/2013 8:11:03 PM

8/7/2013 3:40:37PM	Turn Output On	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/7/2013 3:44:21PM	Turn Output Off	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/7/2013 3:44:21PM	Turn Output On	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/7/2013 3:54:21PM	Turn Output Off	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/7/2013 3:54:21PM	Turn Output On	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/7/2013 4:04:21PM	Turn Output Off	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/7/2013 4:04:21PM	Turn Output On	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/7/2013 4:14:21PM	Turn Output Off	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/7/2013 4:14:21PM	Turn Output On	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/12/2013 7:55:45PM	Disable Output	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/12/2013 7:58:21PM	Enable Output	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/12/2013 8:28:21PM	Enable Output	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/12/2013 8:58:21PM	Enable Output	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/12/2013 9:28:21PM	Enable Output	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/12/2013 9:58:21PM	Enable Output	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/12/2013 10:28:21PM	Enable Output	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/12/2013 10:58:21PM	Enable Output	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/12/2013 11:28:21PM	Enable Output	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/12/2013 11:58:21PM	Enable Output	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/13/2013 12:28:21AM	Enable Output	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/13/2013 12:58:21AM	Enable Output	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/13/2013 1:28:21AM	Enable Output	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/13/2013 1:58:21AM	Enable Output	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/13/2013 2:28:21AM	Enable Output	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/13/2013 2:58:21AM	Enable Output	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)
8/13/2013 3:28:21AM	Enable Output	Cluster: 003, Cont: 001, Board 2, Out 2	F H S (#3)

Managing the GCS Commander Service

The **GCS Commander Service** must be running to support the automated issuance of **Scheduled Action Scripts**.

IMPORTANT: The *Commander Service* is initially installed to **run/start “manually”**, which means it will not automatically start-up if your Communication Server/PC is rebooted or power-failed. Therefore, you need to configure the Commander Service to run/start “automatically” to avoid interruption in service after a reboot to your comm server/PC.

The **GCS Commander Service** connects to the database to read out the list of **Scheduled Action Scripts** saved in the Command Scripts Editor Screen (*this does not pertain to the normal time schedules that are assigned to doors, devices, or groups*). **Command Action Scripts** are not save in the panels, therefore the **Commander Service** must be running and able to connect to the database to run the scripted commands.

IMPORTANT: The **GCS Command Service** does NOT need to be running for a manual command execution (via operator command menu or via the Command Script Executor utility).

IMPORTANT: The **GCS Command Service** must be running for **Schedule Action Scripts** to take effect. Scheduled Action Scripts are not the same thing as the normal time schedules which are stored in the panels. Commands sent via the Scheduled Action Scripts will temporarily override the state of doors, devices and door or i/o groups that are normally controlled by a **time schedule**; however, the **time schedule** will take effect again the next time it is supposed to become active.

NOTICE: **Time Schedules** are controlled by the panel (internal panel programming must be loaded). **Scheduled Action Scripts** are controlled by the **GCS Command Service** .

WARNING – avoid conflicting commands from action scripts: Although the **GCS Command Service** itself will not interfere with **manual script execution**; if you have created **scheduled action scripts** that contain conflicting commands for the same doors or devices you are manually targeting with the script executor, that it can undo the commands you are trying to execute manually. You can suspend (stop) the **GCS Commander Service** until your manual scripts are completed. Stopping the service will suspend ALL scheduled action scripts (this does not interfere with time schedules). **Do not forget to restart the Commander Service to operation.**

NOTICE: *If scheduled action scripts do not have conflicting commands with manual scripts or manual operator menu commands, they can be allowed to run.*

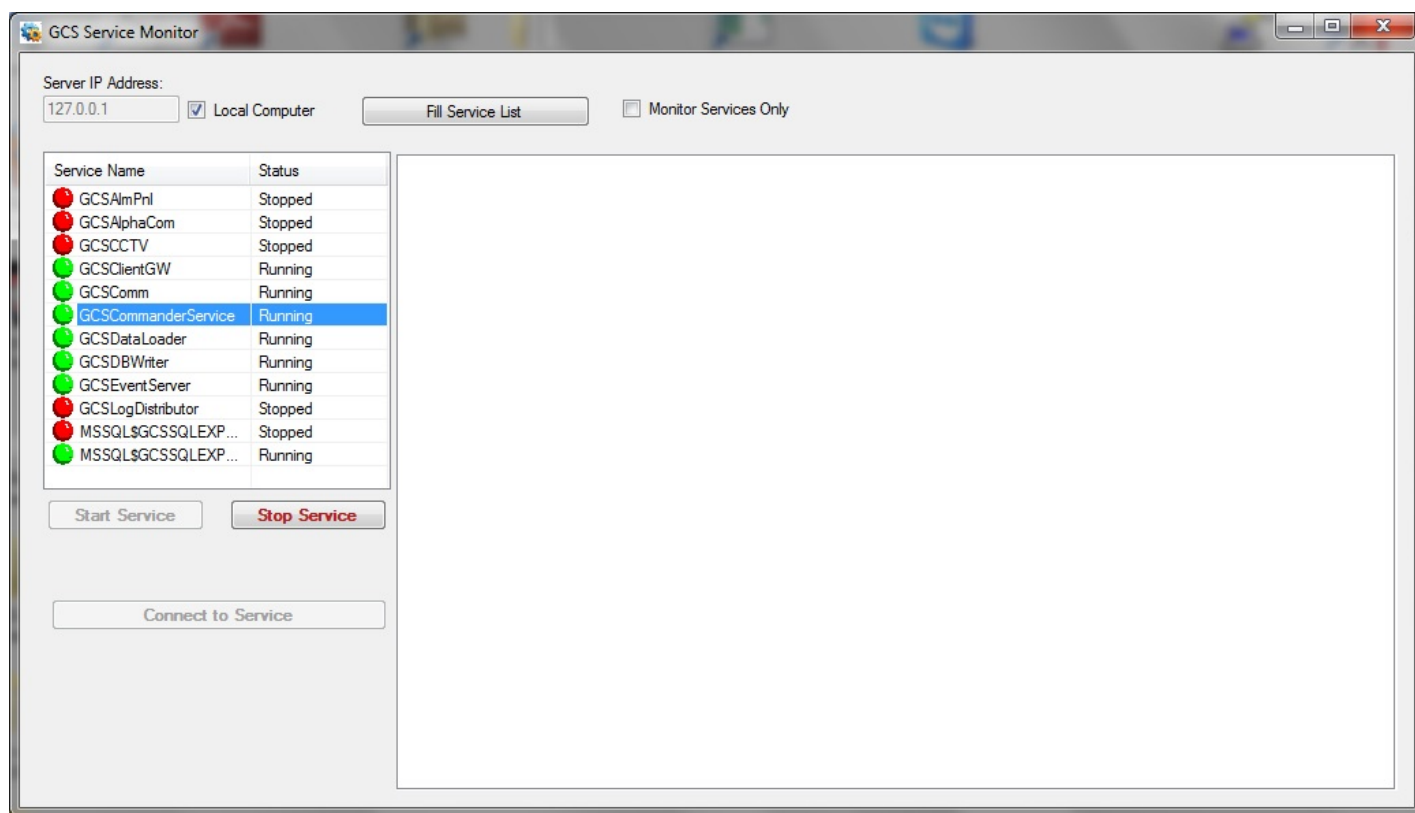
ABOUT THE GCS COMMANDER SERVICE

The **GCS Commander Service** is installed on the main communication server. The service is set to run manually by default, which means it will not be running unless you deliberately start the service.

To start the Commander Service you can go to the PC **Control Panel** and open **Administrative Tools** and then open **Services** window. Scroll down to the **GCS Commander Service** in the list of services (listed alphabetically). Highlight and right-click the service to get the context-menu. On the menu, choose **START** to start the service.

IMPORTANT: A *manual* service must be restarted if the PC is powered off/on. You should configure the service to run *automatically* by choosing Properties from the context menu and changing the setting in the configuration screen. Automatic services will auto-start when the PC is powered up.

NOTE: Galaxy provides a **Service Monitor utility** that allows the operator to start and stop the Commander Service. *You must use the PC Control Panel to change the properties of the service from manual startup to automatically start when PC starts.*



IMPORTANT: the GCS Commander Service must be running to execute Scheduled scripts. See requirements for more requirements and cautions.

Editing & Encrypting Database Connection Information

The Microsoft Enterprise Library Configuration Tool must be used to edit and encrypt the database connection string.

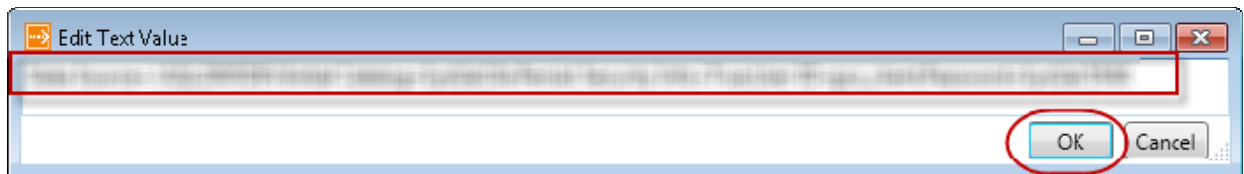
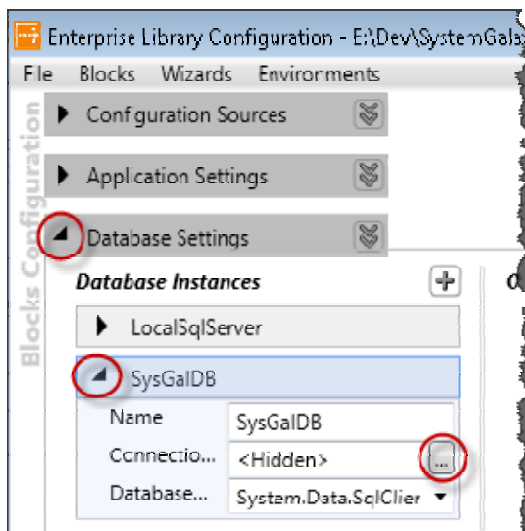
- 1) Execute the Enterprise Library configuration utility (EntLibConfig.NET4.exe or EntLibConfig.NET4-32.exe)

Name	Date modified	Size	File version
 EntLibConfig.NET4.exe	8/2/2012 12:39 PM	149 KB	5.0.414.0
 EntLibConfig.NET4-32.exe	8/2/2012 12:39 PM	149 KB	5.0.414.0

- 2) Open the application configuration file

HOW TO: Edit the Database Connection String

- 3) Expand **Database Settings**
- 4) Then Expand **SysGalDB**
- 5) Edit the connection string by clicking the [...] button; (the Edit Text Value dialog box will open)



Examples of connection strings are:

Example using SQL User ID and Password:

Data Source=.\GCSSQLEXPRESS;Initial Catalog=SysGal;Persist Security Info=True;User ID=gcs_client;Password=SysGal.5560

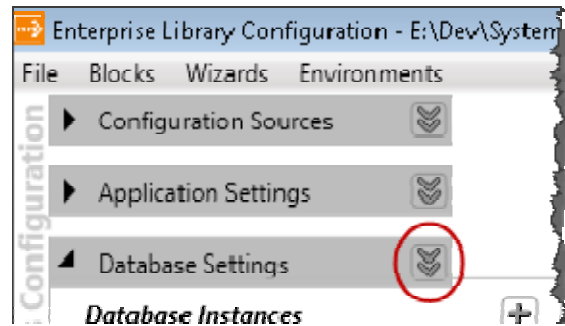
Example using Integrated login:

Data Source=.\GCSSQLEXPRESS;Initial Catalog=SysGal;Persist Security Info=True; Integrated Security=SSPI

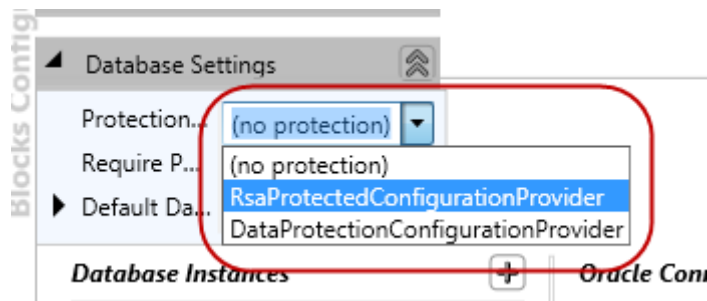
The Data Source= value must specify the SQL Server machine and instance name

HOW TO: encrypt the database connection string

- 1) Expand the **Database Settings** section
- 2) click the **down-arrows** (at the right) to open a drop menu



- 3) from the 'Protection...' option, choose the desired encryption method (refer to *Encrypting Configuration Data*)



- 4) Save the configuration file
- 5) See the Microsoft Excerpt on next page >>

Encrypting Configuration Data Excerpt taken from Microsoft Enterprise Library 5.0 documentation

You can encrypt and decrypt the data in a configuration file's configuration sections. A configuration section contains the configuration information for an application block. The configuration tool allows you to select from the encryption providers that are included in the Machine.config file. Typically, these are the DataProtectionConfigurationProvider, which uses the Windows data protection API (DPAPI), and the RsaProtectedConfigurationProvider, which uses RSA.

You can use the DataProtectionConfigurationProvider If the encrypted configuration file is going to be on only a single server.

If you want to deploy the same encrypted configuration file on multiple servers in a Web farm, you should use the RsaProtectedConfigurationProvider. This provider makes it easy for you encrypt the data on one server computer and then export the RSA private key needed to decrypt the data. You can then deploy the configuration file and the exported key to the target servers, and then re-import the keys.

The user account used for encrypting the file when using the RsaProtectedConfigurationProvider must have the appropriate minimal permissions, which must include read permissions on the NetFrameworkConfigurationKey key container, in order to encrypt and decrypt sections when using the Enterprise Library configuration tools. By default, this includes only administrative accounts.

The appropriate minimal permissions, which must include read permissions, are also required for run time and configuration merges performed when using the configuration tools and working with configuration sections that have been encrypted by using the RsaProtectedConfigurationProvider.

For more information see [Creating and Exporting an RSA Key Container](#) on MSDN.

Note: Whenever you change security settings and permissions, be sure that you are aware of any security risks raised by giving elevated permissions.

To encrypt a configuration section

- 1) Open one of the Enterprise Library configuration tools.
- 2) Open an existing configuration file or create a new one.
- 3) Click the chevron arrow at the right of name of the application block whose configuration information you want to encrypt.
- 4) In the Properties pane, click the drop-down list for the Protection Provider property.
- 5) Select either DataProtectionConfigurationProvider or RsaProtectedConfigurationProvider.

All the settings for the providers, such as where keys are stored, are also in the Machine.config file. You cannot change this file with a configuration tool. Instead, you must modify the file using a text editor.

To decrypt a configuration file, simply open it in the configuration tool. The file is automatically decrypted.