

Niagara 4 Driver for Galaxy

User Guide

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Change log

4.8

- Build for 4.8.0.110

Driver Overview

The SAFECONTROL Driver for Galaxy is written using Tridium's BFramework, for use in Niagara 4 or later.

The driver provides support for communication with Galaxy control panels using SIA Protocol Revision 1.05 and TCP through network. The driver's main purpose is to serve as gateway to Galaxy control panel for Tridium Supervisor 4 or JACE8000 stations (and OEM variations i.e. Centra Line, Trend, ...).

The driver allows you to send commands to groups, zones and read their statuses, to control outputs and to read users and set their codes.

This help is also connected to the objects in Workbench / Coach NX and you can use the "Guide on target" function in the help or right menu to get more information.

Prerequisites for integration

1. Correctly installed modules with the driver, see chapter "Installation" for more details.
2. Active license and certificate for the driver on the target platform, see chapter "Licensing" for more details.
3. JACE 8000 or PC with Tridium Supervisor 4 must be connected to internet.

Installation

Source files are available for download from SAFECONTROL license web (<https://license.safecontrol.cz>). Extract the **galaxy.zip** archive and copy all included *.jar files to your Niagara modules directory, which is typically **C:\Niagara\Niagara-4.x.xx.xx\modules**.

For correct behaviour it is necessary to install *.jar files on the client platform (Workbench PC) as well as on the target platform (JACE8000 or Supervisor).

Note: Close the Niagara Workbench after inserting all the modules in the folder. Next time you start the Niagara Workbench the driver will be loaded in Niagara Workbench and will be immediately available for use.

Licensing

Demo license is limited up to 90 days and purchased licenses are not time limited.

You can ask for license via SAFECONTROL license web (<https://license.safecontrol.cz>) or by sending e-mail to sales@safecontrol.cz. Purchased license will be generated via Niagara-Central license web where it will be available for download together with safecontrol.certificate file. You can also download license online in Niagara Workbench from license manager view, see picture below:

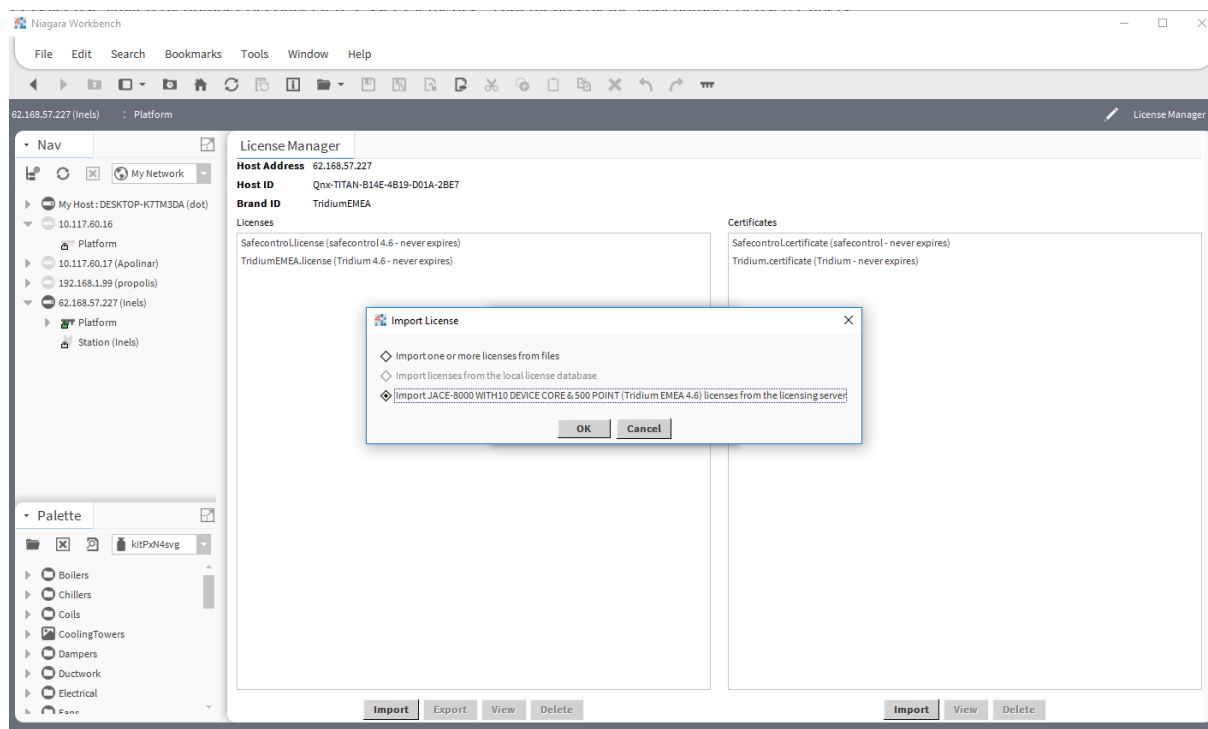


Figure 1: License import via License manager

Order codes

- DR-SC-GLX – Driver for Galaxy control panel

Basic config guide

1. Connect JACE 8000 or PC with Tridium Supervisor 4 to the internet.
2. Configure Galaxy control panel
3. Add new GalaxyNetwork to your Drivers node.
4. Correctly configure newly added GalaxyNetwork
5. Add GalaxyDevice under GalaxyNetwork
6. Add desired points under GalaxyDevice.

For more in-depth help read following chapters.

Setup guide

Configuring Galaxy control panel

For driver to function correctly the Galaxy control panel needs to be set up correctly.

Set SIA IP address to IP address of device where driver is running.

Set mode to direct access Mask under Remote Access tab.

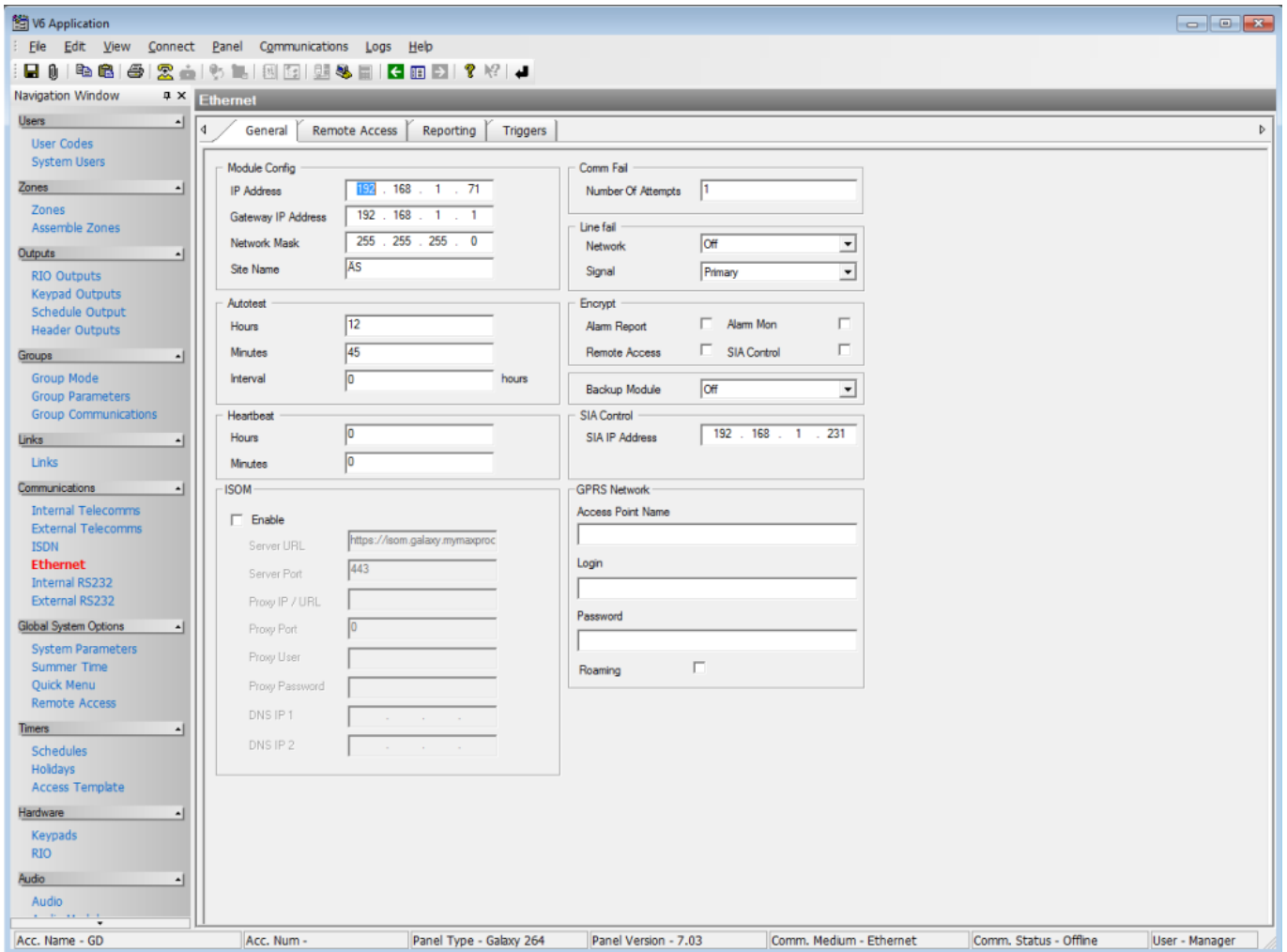


Figure 2: Galaxy panel SIA IP address configuration

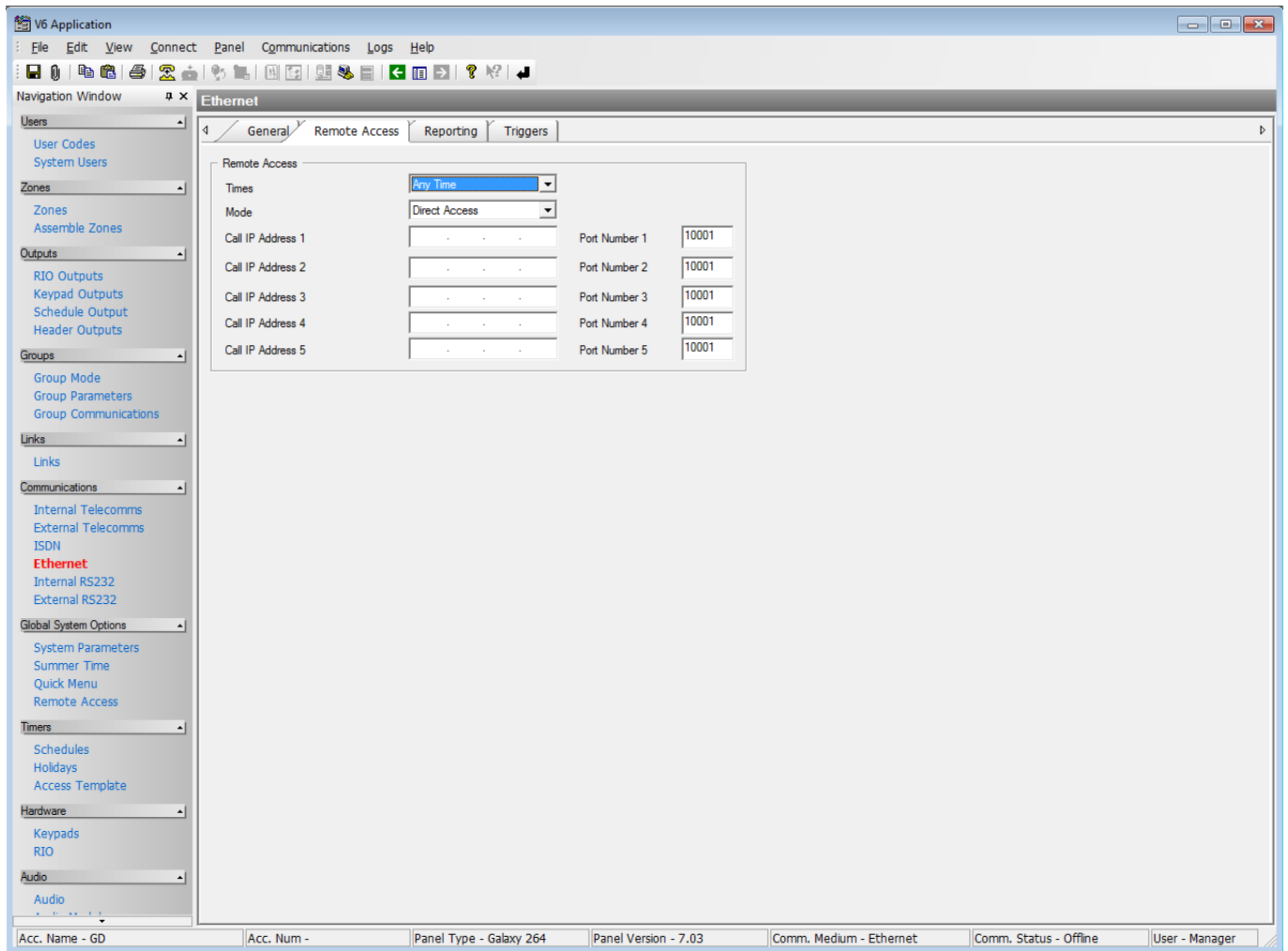


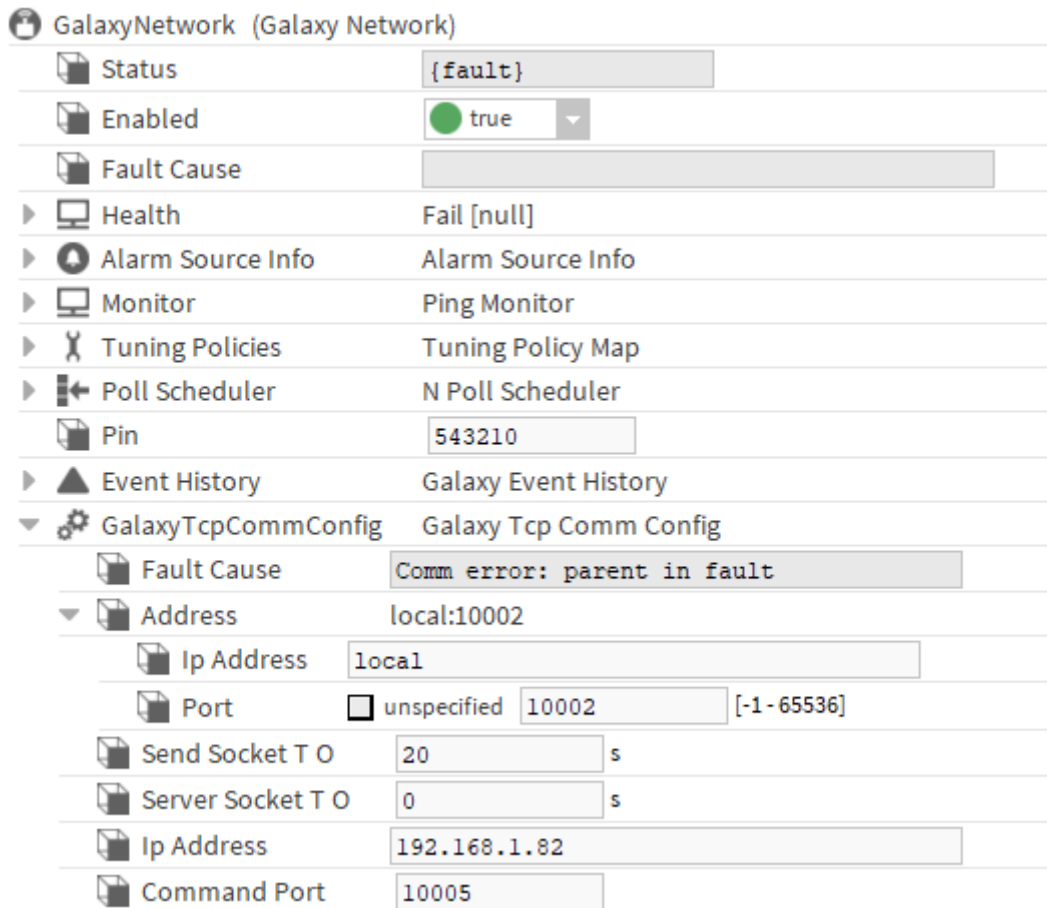
Figure 3: Galaxy panel mode configuration

Configuring connection

If your Galaxy Panel is connected to your JACE8000 via TCP connection, follow GalaxyTcpCommConfig setup section. If you are using direct connection to JACE8000 via RS232 cable, follow GalaxySerialCommConfig setup section.

GalaxyTcpCommConfig setup

1. Locate GalaxyTcpCommConfig in galaxy palette.
2. Click and drag GalaxyTcpCommConfig to GalaxyNetwork in the Drivers node.
3. Right click on GalaxyNetwork and select Property Sheet view.
4. Expand the GalaxyTcpCommConfig item by clicking small arrow on the left.
5. Enter the IP Address of the Galaxy Panel.
6. Click on the Save button.



The screenshot shows the configuration for GalaxyNetwork (Galaxy Network). The GalaxyTcpCommConfig sub-property is expanded, showing the following settings:

Status	{fault}
Enabled	<input checked="" type="checkbox"/> true
Fault Cause	
Health	Fail [null]
Alarm Source Info	Alarm Source Info
Monitor	Ping Monitor
Tuning Policies	Tuning Policy Map
Poll Scheduler	N Poll Scheduler
Pin	543210
Event History	Galaxy Event History
GalaxyTcpCommConfig	Galaxy Tcp Comm Config
Fault Cause	Comm error: parent in fault
Address	local:10002
Ip Address	local
Port	<input type="checkbox"/> unspecified 10002 [-1 - 65536]
Send Socket T O	20 s
Server Socket T O	0 s
Ip Address	192.168.1.82
Command Port	10005

Figure 4: GalaxyTcpCommConfig under GalaxyNetwork

GalaxySerialCommConfig setup

1. Locate GalaxySerialCommConfig in Communication folder in galaxy palette.
2. Drag and drop GalaxySerialCommConfig to GalaxyNetwork in the Drivers node.
3. Right click on GalaxyNetwork and select Property Sheet view.
4. Expand the GalaxySerialCommConfig item by clicking small arrow on the left.
5. Correctly config parameters:
 - Port Name: Usually COM1
 - Flow Control: Leave set to default
 - Baud Rate: Baud9600
 - Data Bits: Data Bits8
 - Parity: None
 - Stop Bits: Stop Bit1
6. Click on the Save button.

GalaxyNetwork (Galaxy Network)	
Status	{fault}
Enabled	<input checked="" type="checkbox"/> true
Fault Cause	
Health	Fail [null]
Alarm Source Info	Alarm Source Info
Monitor	Ping Monitor
Tuning Policies	Tuning Policy Map
Poll Scheduler	N Poll Scheduler
Pin	543210
Event History	Galaxy Event History
GalaxySerialCommConfig	Galaxy Serial Comm Config
Fault Cause	Comm error: parent in fault
Port Name	COM1
Baud Rate	Baud9600
Data Bits	Data Bits8
Stop Bits	Stop Bit1
Parity	None
Flow Control Mode	<input type="checkbox"/> RtsCtsOnInput <input type="checkbox"/> RtsCtsOnOutput <input type="checkbox"/> XonXoffOnInput <input type="checkbox"/> XonXoffOnOutput
Receive Timeout	0 ms [0 - 20000]
Inter Message Delay	00000h 00m 00.000s [0 ms - 1 second]

Figure 5: GalaxySerialComm under GalaxyNetwork

Adding new device

Open GalaxyDeviceManager and click New button. Proceed to add new GalaxyDevice. GalaxyDevice represents Galaxy control panel on GalaxyNetwork. It has four extensions – Groups, Zones, Outputs, Users.



Figure 6: Newly added GalaxyDevice

Groups extension

Groups extension contains Group Commands and Group Statuses. Commands and Statuses are all polled together at once. GroupsExtension uses normal poll frequency. You can create these points manually or by Create Groups action on GroupsExtension which will create all possible commands and statuses.

Group Command is Writable Enum point with 6 different states:

1. Unset
2. Set
3. Part Set
4. System Reset
5. Abort Set
6. Force Set

Group Status is Enum point with 3 possible values:

1. Normal
2. Alarm
3. Reset required

Database				64 objects
Name	Type	Out	Tuning Policy Name	
EZS_Group_Cmd_A1	Galaxy Group Command	Odstrežit [ok] @ def	defaultPolicy	
EZS_Group_Status_A1	Galaxy Group Status	Normal [ok]	defaultPolicy	
EZS_Group_Cmd_A2	Galaxy Group Command	Odstrežit [ok] @ def	defaultPolicy	
EZS_Group_Status_A2	Galaxy Group Status	Normal [ok]	defaultPolicy	
EZS_Group_Cmd_A3	Galaxy Group Command	Odstrežit [ok] @ def	defaultPolicy	
EZS_Group_Status_A3	Galaxy Group Status	Normal [ok]	defaultPolicy	
EZS_Group_Cmd_A4	Galaxy Group Command	Odstrežit [ok] @ def	defaultPolicy	
EZS_Group_Status_A4	Galaxy Group Status	Normal [ok]	defaultPolicy	
EZS_Group_Cmd_A5	Galaxy Group Command	Odstrežit [ok] @ def	defaultPolicy	
EZS_Group_Status_A5	Galaxy Group Status	Normal [ok]	defaultPolicy	
EZS_Group_Cmd_A6	Galaxy Group Command	Odstrežit [ok] @ def	defaultPolicy	
EZS_Group_Status_A6	Galaxy Group Status	Normal [ok]	defaultPolicy	
EZS_Group_Cmd_A7	Galaxy Group Command	Odstrežit [ok] @ def	defaultPolicy	
EZS_Group_Status_A7	Galaxy Group Status	Normal [ok]	defaultPolicy	
EZS_Group_Cmd_A8	Galaxy Group Command	Odstrežit [ok] @ def	defaultPolicy	
EZS_Group_Status_A8	Galaxy Group Status	Normal [ok]	defaultPolicy	
EZS_Group_Cmd_B1	Galaxy Group Command	Odstrežit [ok] @ def	defaultPolicy	
EZS_Group_Status_B1	Galaxy Group Status	Normal [ok]	defaultPolicy	
EZS_Group_Cmd_B2	Galaxy Group Command	Odstrežit [ok] @ def	defaultPolicy	
EZS_Group_Status_B2	Galaxy Group Status	Normal [ok]	defaultPolicy	
EZS_Group_Cmd_B3	Galaxy Group Command	Odstrežit [ok] @ def	defaultPolicy	
EZS_Group_Status_B3	Galaxy Group Status	Normal [ok]	defaultPolicy	
EZS_Group_Cmd_B4	Galaxy Group Command	Odstrežit [ok] @ def	defaultPolicy	
EZS_Group_Status_B4	Galaxy Group Status	Normal [ok]	defaultPolicy	
EZS_Group_Cmd_B5	Galaxy Group Command	Odstrežit [ok] @ def	defaultPolicy	

Figure 7: Group Commands and Statutes

Zones extension

Zone extension contains Zone Commands and Zone Statuses. Commands and Statuses are polled individually so it is important to keep only those points which you need for fast polling times. You can create these points manually or by Create Zones action on ZonesExtension which will create all possible commands and statuses.

Zone Command is Writable Enum point with 2 possible states:

1. Unomit
2. Omit

Zone Status is Enum point with 9 possible states:

1. Tamper SC
2. Low Resistance
3. Closed
4. High Resistance
5. Open
6. Tamper OC
7. Masked
8. Tamper CV
9. Fault

Database				472 objects
Name	Type	Out	Tuning Policy Name	
4141_K08035_MK_Cmd	Galaxy Zone Command	Aktivni [ok] @ def	defaultPolicy	
4141_K08035_MK_Status	Galaxy Zone Status	Zavreno [ok]	defaultPolicy	
4142_K08034_MK_Cmd	Galaxy Zone Command	Aktivni [ok] @ def	defaultPolicy	
4142_K08034_MK_Status	Galaxy Zone Status	Zavreno [ok]	defaultPolicy	
4143_K08033_MK_Cmd	Galaxy Zone Command	Aktivni [ok] @ def	defaultPolicy	
4143_K08033_MK_Status	Galaxy Zone Status	Zavreno [ok]	defaultPolicy	
4144_K08033_PIR_Cmd	Galaxy Zone Command	Aktivni [ok] @ def	defaultPolicy	
4144_K08033_PIR_Status	Galaxy Zone Status	Neaktivni [ok]	defaultPolicy	
4145_K08009_MK_Cmd	Galaxy Zone Command	Aktivni [ok] @ def	defaultPolicy	
4145_K08009_MK_Status	Galaxy Zone Status	Zavreno [ok]	defaultPolicy	
4146_K08003_MK_Cmd	Galaxy Zone Command	Aktivni [ok] @ def	defaultPolicy	
4146_K08003_MK_Status	Galaxy Zone Status	Zavreno [ok]	defaultPolicy	
4147_K08007_MK_Cmd	Galaxy Zone Command	Aktivni [ok] @ def	defaultPolicy	
4147_K08007_MK_Status	Galaxy Zone Status	Zavreno [ok]	defaultPolicy	
4148_K08004_MK_Cmd	Galaxy Zone Command	Aktivni [ok] @ def	defaultPolicy	
4148_K08004_MK_Status	Galaxy Zone Status	Zavreno [ok]	defaultPolicy	
4151_K09008_MK_Cmd	Galaxy Zone Command	Aktivni [ok] @ def	defaultPolicy	
4151_K09008_MK_Status	Galaxy Zone Status	Zavreno [ok]	defaultPolicy	
4152_K09006_MK_Cmd	Galaxy Zone Command	Aktivni [ok] @ def	defaultPolicy	
4152_K09006_MK_Status	Galaxy Zone Status	Zavreno [ok]	defaultPolicy	
4153_K09005_MK_Cmd	Galaxy Zone Command	Aktivni [ok] @ def	defaultPolicy	
4153_K09005_MK_Status	Galaxy Zone Status	Zavreno [ok]	defaultPolicy	
4154_K09003_MK_Cmd	Galaxy Zone Command	Aktivni [ok] @ def	defaultPolicy	
4154_K09003_MK_Status	Galaxy Zone Status	Zavreno [ok]	defaultPolicy	

Figure 8: Zone Commands and Statutes

Outputs extension

Output extension contains Output Statuses. Statuses are all polled at once. Outputs extension uses normal poll frequency. You can create this point manually or by Create Outputs action on Outputs extension.

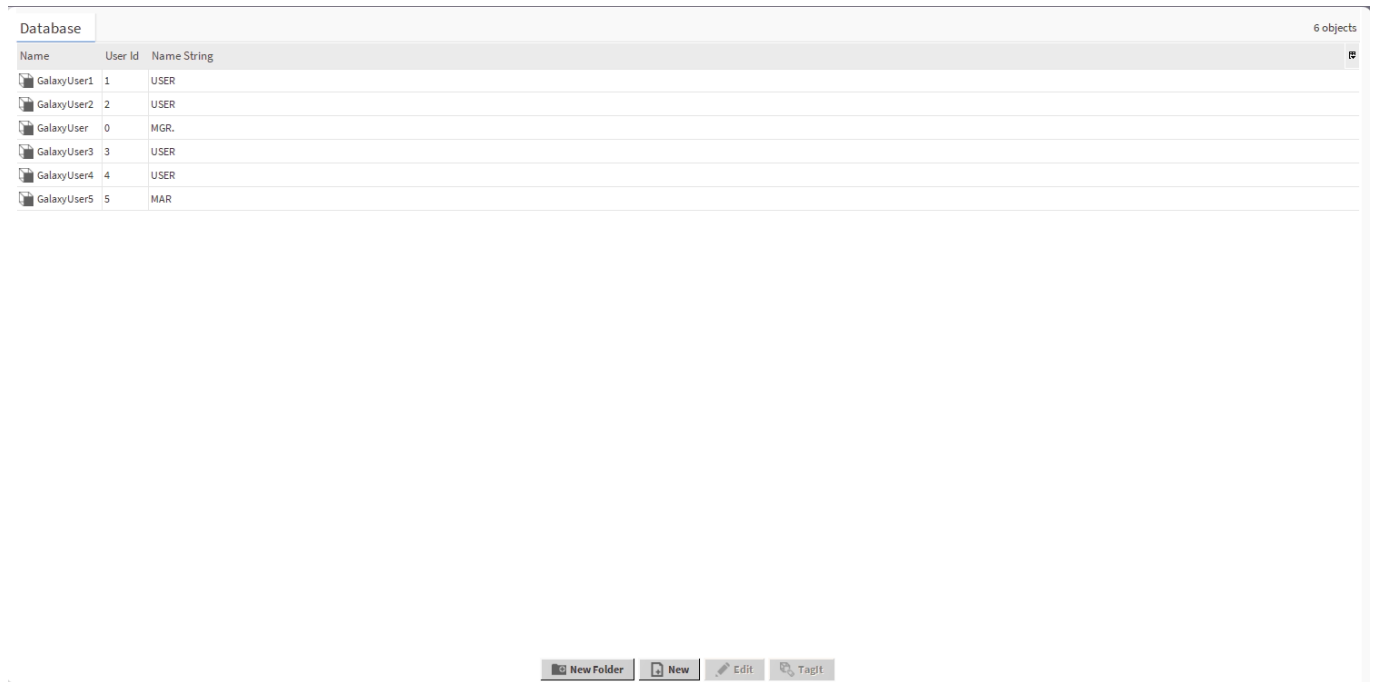
Output Status is Writable Boolean point with true or false value.

Database				256 objects
Name	Type	Out	Tuning Policy Name	
B Output_status_1	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_2	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_3	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_4	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_5	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_6	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_7	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_8	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_9	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_10	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_11	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_12	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_13	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_14	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_15	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_16	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_17	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_18	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_19	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_20	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_21	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_22	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_23	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_24	Galaxy Output Status	true {ok} @ def	defaultPolicy	
B Output_status_25	Galaxy Output Status	true {ok} @ def	defaultPolicy	

Figure 9: Output Statuses

Users extension

Users extension contains Users. To save bandwidth info about users is only polled when GalaxyUserManager is opened. You can create these points manually or by Create Users action on Users extension. User will be prompted to enter id of first user and count, desired amount of users from that id will be then created. To change User name or PIN Code you can call Set Code action on GalaxyUser point. User will be prompted to enter code string and name string. You can enter new code or new name or both. New code can't be same to code of other user in database and user will be alerted about that.



Name	User Id	Name String
GalaxyUser1	1	USER
GalaxyUser2	2	USER
GalaxyUser	0	MGR.
GalaxyUser3	3	USER
GalaxyUser4	4	USER
GalaxyUser5	5	MAR

Figure 10: Galaxy Users