EagleHawk NX HMI DRIVER

User Guide

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EAGLEHAWK NX HMI DRIVER 4.4.xx.x.x.x

USER GUIDE

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CONTENTS

SYSTEM REQUIREMENTS **7**

INTRODUCTION **7**

INSTALLATION **8**

CONFIGURING EAGLEHAWK HMI DRIVER **8**
Mandatory and Optional Steps 9
Adding HMI Driver to Service and Enabling Driver 9
Setting HMI PIN 13
Defining HMI User Rights 14
Enabling Alarming on HMI 16
Enabling Alarm LED 17
Filling Fast Access Lists 23
Filling Fast Access List via Drag&Drop 23
Filling Fast Access List via Dictionary Tagging 25
Adjusting Poll Rate for Optimum Performance 27
Setting Time Format on Home Screen 29
Local language HMI Menus – Translation 30

DEFINING OPERATING SEQUENCES **32**
Default Operating Sequence 32
Default Operating Sequence Components Descriptions 34
Basic Procedure 35
Fast Access Lists 37
Enhancing Default Operating Sequence 37
Schedules and Calendars 37

SYSTEM REQUIREMENTS

Niagara Version:

- Niagara 4.4.92.2.1.5 and higher

Controllers

Products and OS Numbers

For detailed information on the applicable controllers including their OS Numbers and licenses, please download the corresponding, product data, software release bulletin and/or the compatibility matrix at:

Product Data
http://products.centraline.com/en/

Software Release Bulletin

Compatibility Matrix
https://clfaq.ge51.honeywell.de/?action=artikel&cat=70&id=1616&artlang=en

Licenses and Point Handling

When having a license allowing only a limited number of points and you are deleting points, the free number points are not available instantly. To make the free number of points available again, please restart the station.

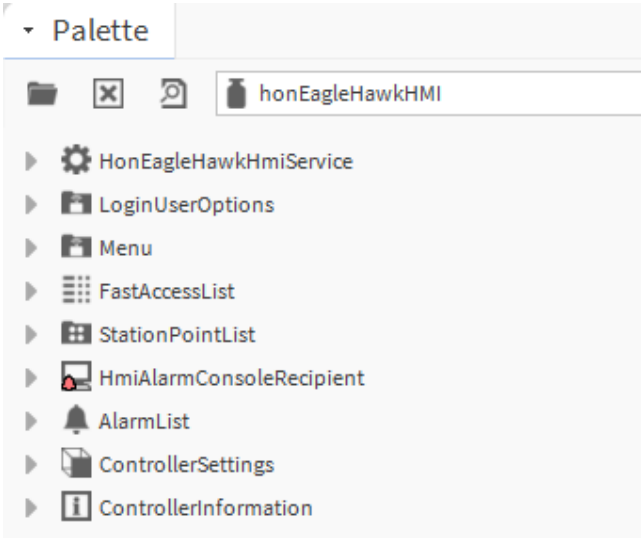
INTRODUCTION

The CentraLine NX EagleHawk HMI Driver allows defining individual operating sequences based on pre-defined operating components. Operating components can be any of the following:

- Fast access list
- Station point list
- Alarm list
- Login User options
- Controller settings
- Controller information
- Menu

Prior to the definition of operating sequences, the EagleHawk HMI Driver must be added to the Services folder and configured in 2 steps to provide its functionality (see “configuring EagleHawk HMI Driver“ section, p. 8).

After addition of the CentraLine NX EagleHawk HMI Driver to the Services folder, the operating components are provided in the *honEagleHawkHMI* palette:



While working on the creation of the operating sequence in the CentraLine NX workbench, the HMI of the connected EagleHawk controller will be updated dynamically with the extended/changed operating sequence.

INSTALLATION

The EagleHawk HMI Driver is part of the ARENA NX / COACH NX installation package, version 4.4.xx and higher.

CONFIGURING EAGLEHAWK HMI DRIVER

Prerequisites

Make sure that the following steps are done prior to the configuration of the EagleHawk HMI Driver in the CentraLine NX workbench.

- **Hardware**
  Connect the EagleHawk controller to the PC

- **Offline Engineering**
  If not already available in the current and appropriate CentraLine NX installation, copy the following files to the *Modules* folder

  – honEagleHawkHMI-rt.jar
  – honEagleHawkHMI-ux. jar
  – honEagleHawkHMI-wb. jar
  – honTagDictionary-rt. jar

- **Online Engineering**
  copy the following file to the controller:

  – honEagleHawkHMI-rt.jar

- **Common Steps**
  – Start CentraLine NX
  – Open the platform
  – Create the station
  – Start and connect to the station

For details on the hardware steps, please refer to the EagleHawk Installation & Commissioning Instructions, form no. EN1Z-1039GE51.

For details on the software steps, please refer to the corresponding sections in the “CentraLine NX Onboard I/O Driver“ user guide, form no. EN2Z-1044GE51.
The configuration of the HMI driver must include the following steps:

Mandatory and Optional Steps

Mandatory Steps

The following main steps must be done in order operate the controller via HMI:

- Adding the HMI driver to the service and enabling the driver
- Setting a PIN for HMI access
- Defining HMI user rights

Optional Steps

The following optional steps can be done in order to use some features such as fast access lists for a fast and simple operation of the controller via HMI:

- Enabling HMI alarming and alarm LED
- Configuring alarming
- Create fast access lists (FAL) containing points, schedules and reference points
- Creating custom HMI sequences

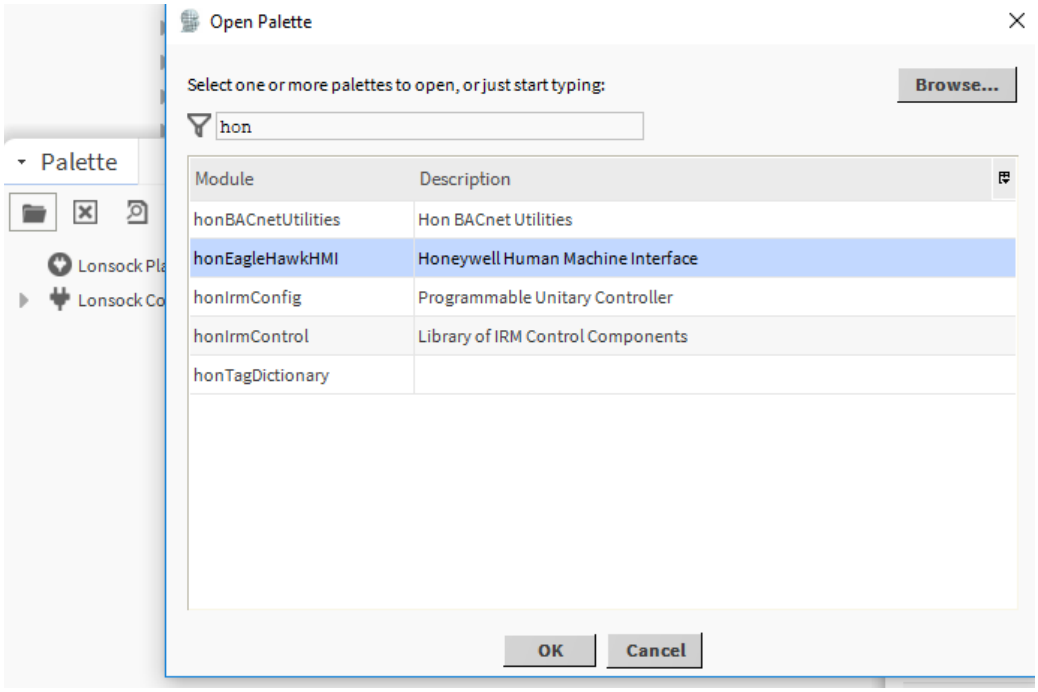
Adding HMI Driver to Service and Enabling Driver

This step is mandatory for HMI operation.

Procedure

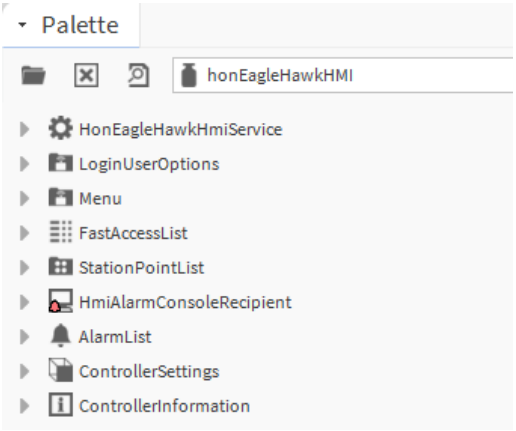
1. In the *Palette* side bar, click the **Open** icon.

   RESULT: The *Open Palette* dialog box displays.

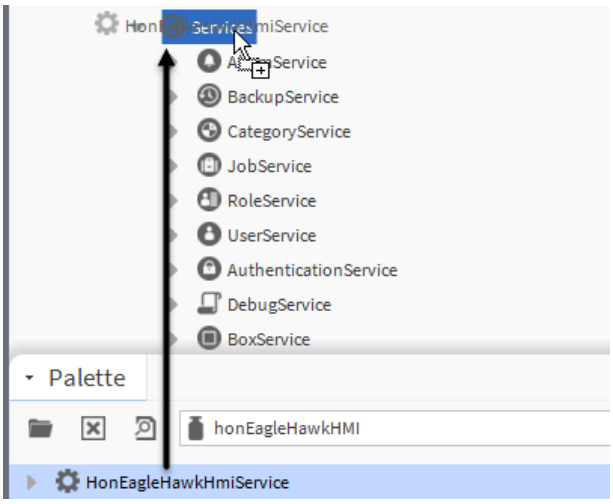


2. Enter ´hon`, and then select ´honEagleHawkHMI` in the list.
3. Click **OK**.

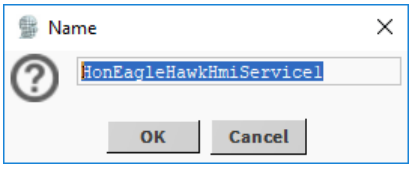
   RESULT: The ***honEagleHawkHMI*** palette is displayed.



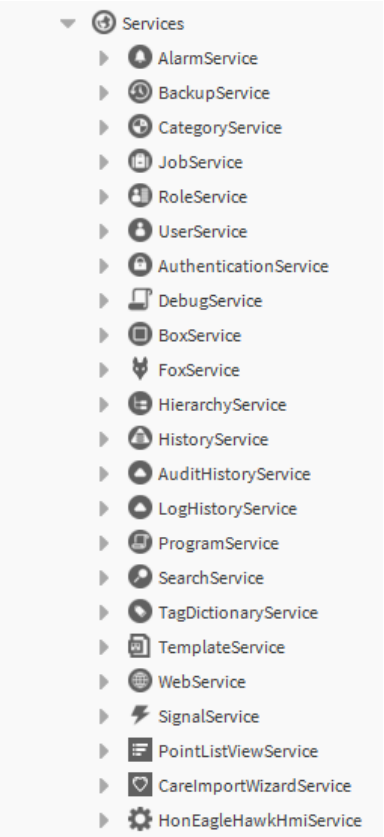
4. Drag&drop the **HonEagleHawkHmiService** from the palette to the *Services* folder.



RESULT: The *Name* dialog box is displayed.

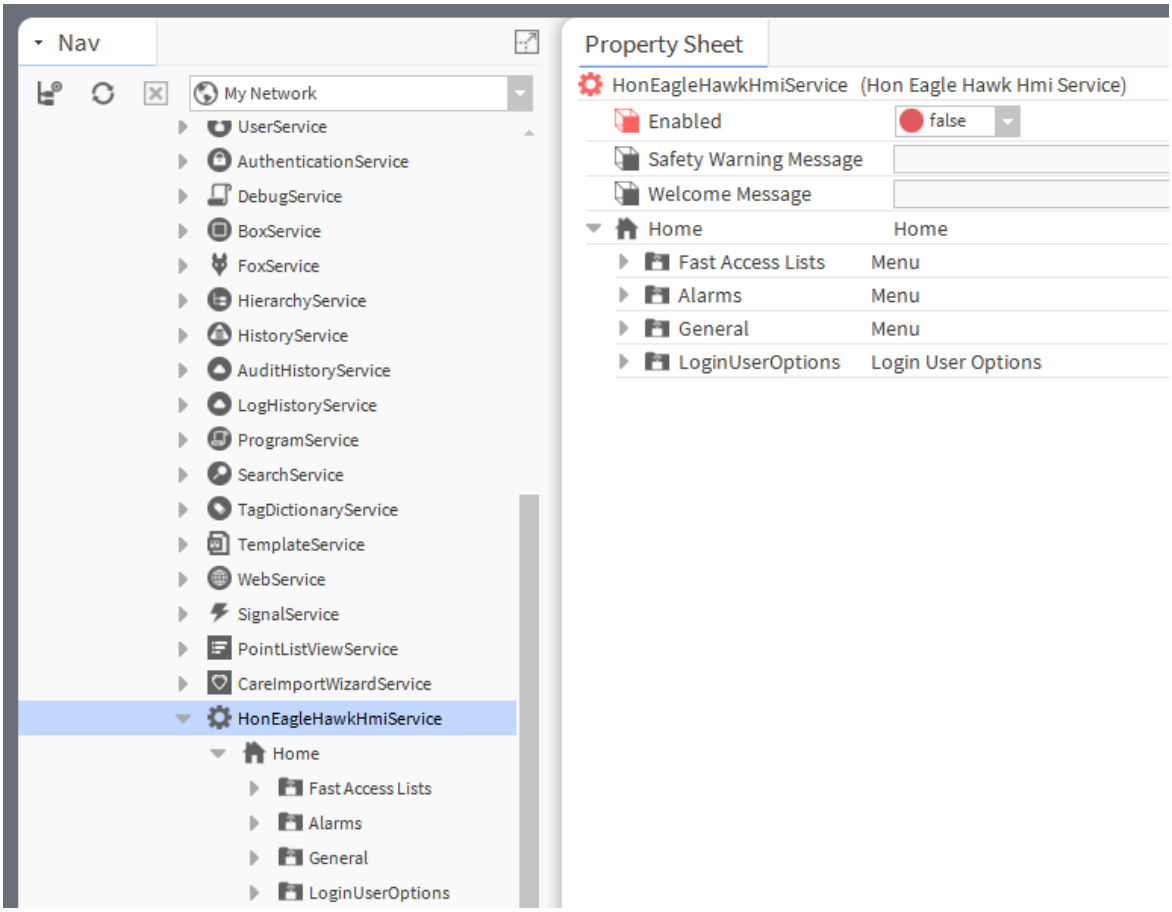


5. Change the name if desired, and then click **OK**.

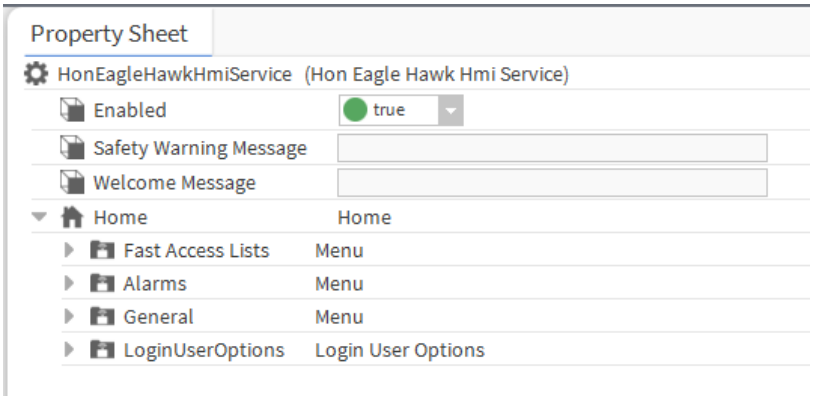


RESULT: The service is added to the *Services* folder.

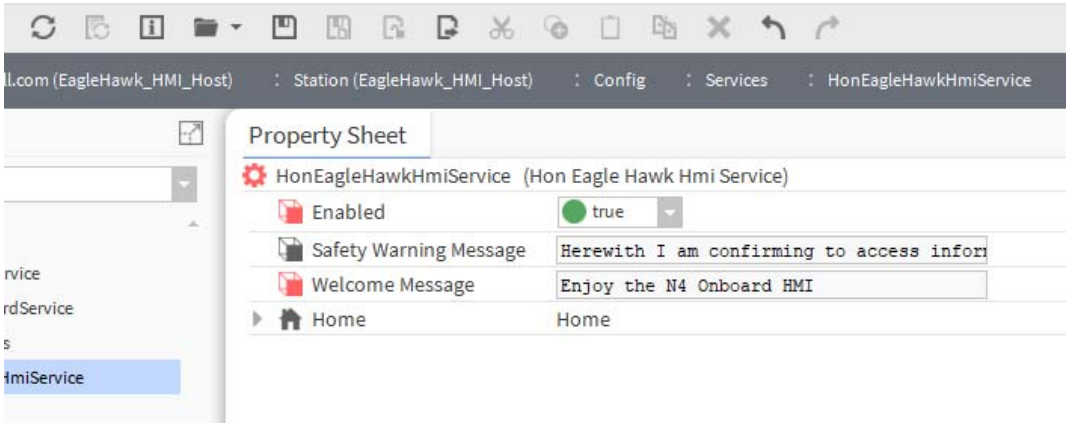
6. Double-click the service to display the *Property Sheet* on the right.



7. From the **Enabled** drop-down listbox, select ´True`.



8. For changing, deleting or translating the safety warning and/or welcome messages on the HMI, enter the desired text in the **Safety Warning Message** and **Welcome Message** fields.



For translating the “Safety Warning” and “Welcome” messages, you can also use the Lexicon tool as described in section “Local language HMI menus – translation”.

Both the “Safety Warning” and the “Welcome” message can be deleted if desired.

9. From the **Enabled** drop-down listbox, select ´True`, and click **Save** button on the bottom.

   RESULT: The service is enabled.

10. Continue with the next mandatory step described in the “Setting HMI PIN“ section, p. 13.

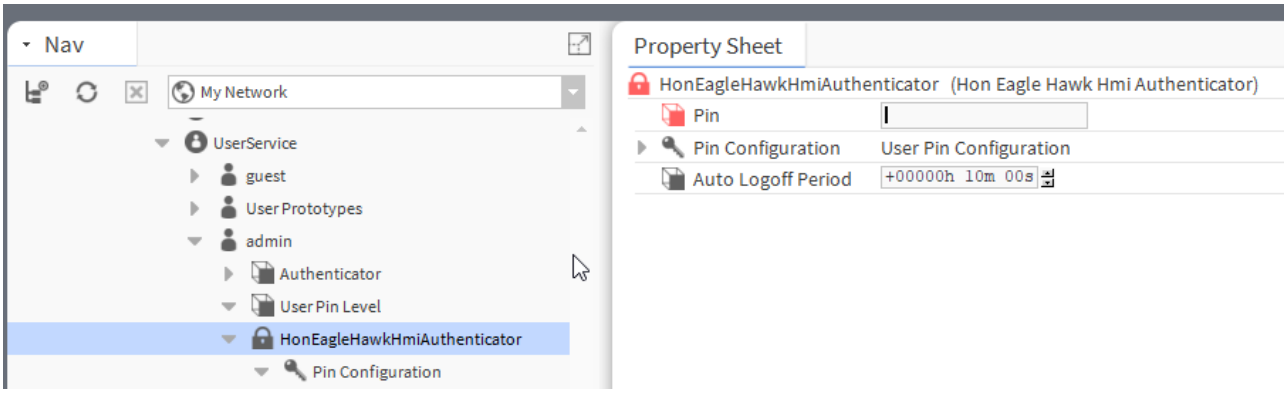
Setting HMI PIN

This step is mandatory for HMI operation.

Procedure

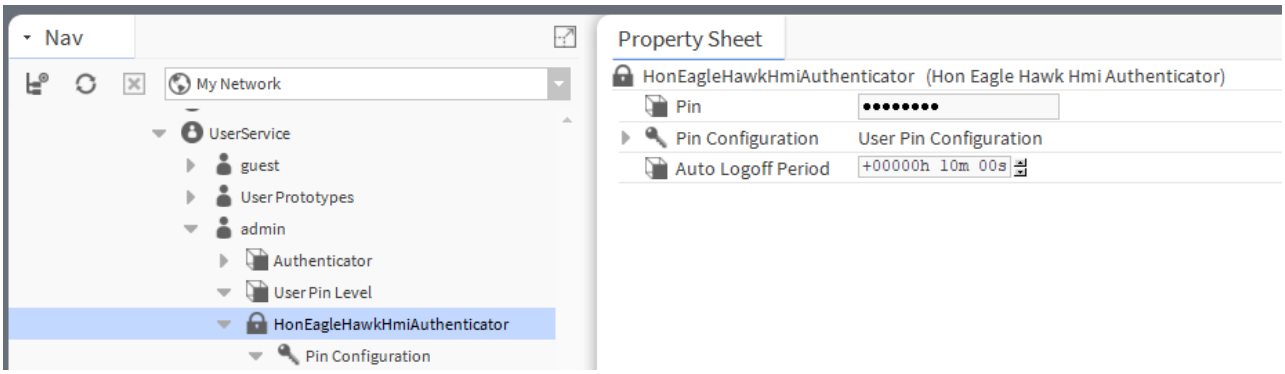
1. Expand the *UserService* folder and browse to every user which you want to give permission for operating the EagleHawk via HMI.

2. Double-click on **HonEagleHawkHMIAuthenticator** under the user name level.

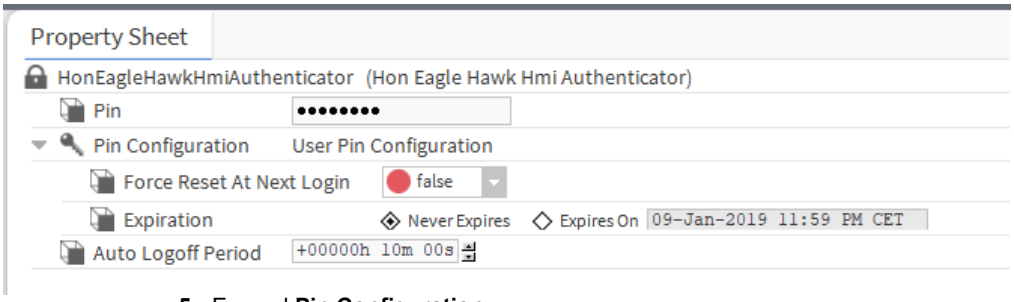


3. On the *Property Sheet* on the right, enter a 5-digit in **Pin**.

   NOTE: A PIN must be entered, otherwise a user cannot access the controller via HMI using the entered PIN. Due to security reasons, there is no default PIN provided.



4. As optional steps, you can apply any of the following configuration steps.



5. Expand **Pin Configuration**.

6. From the **Force Reset At Next Login** drop-down listbox, select whether the user must create a new Pin the next time he logs in (true), or not (false).

7. In **Expiration**, select the expiration for the pin input:

   – Never expires
   permits the user to always log in.
   – Expires On <date, time>
   allows the user to log in until the expiration date and time

8. In **Auto Logoff Period**, enter the period of a user´s inactivity may last before a a station connection is automatically disconnected.

9. Click **Save** button on the bottom.

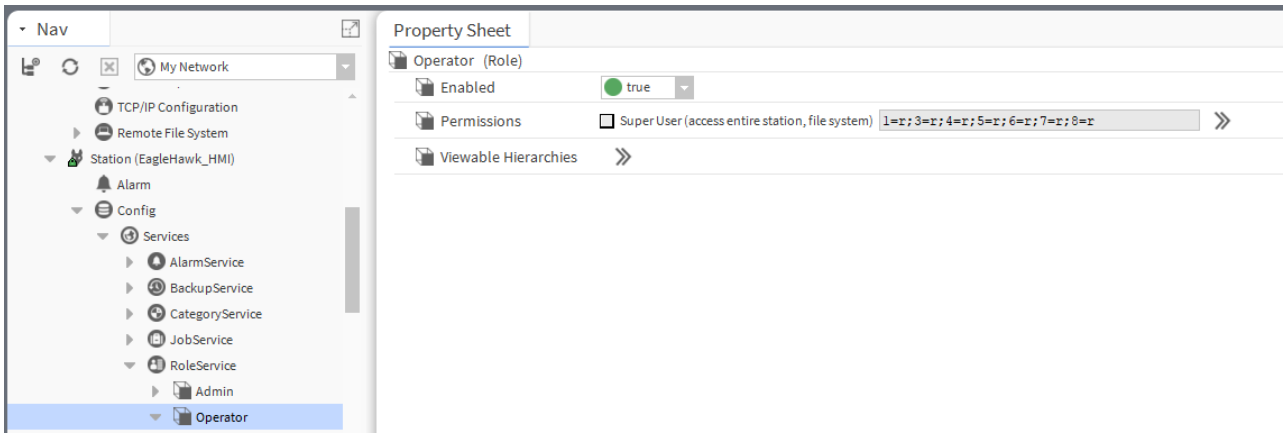
Defining HMI User Rights

This step is mandatory for HMI operation.

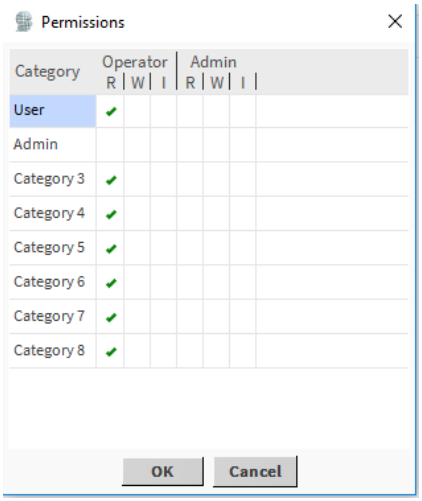
For defining specific user rights when operating the controller via HMI, the standard Niagara Role service is used.

1. Expand the *RoleService* folder and browse to the user for which you want to define the user rights.

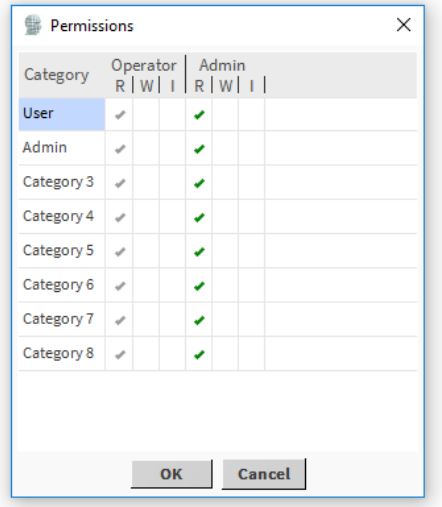
2. Double-click on the user to display the *Property Sheet.*



3. Click the right double-arrow at **Permissions**.



4. In the *Permissions* dialog box, select the read and write rights for the categories in the corresponding **R** and **W** columns. For the admin user at least read rights must be defined for the desired categories. Otherwise the user will have no access via HMI.



5. Click **OK**.

Enabling Alarming on HMI

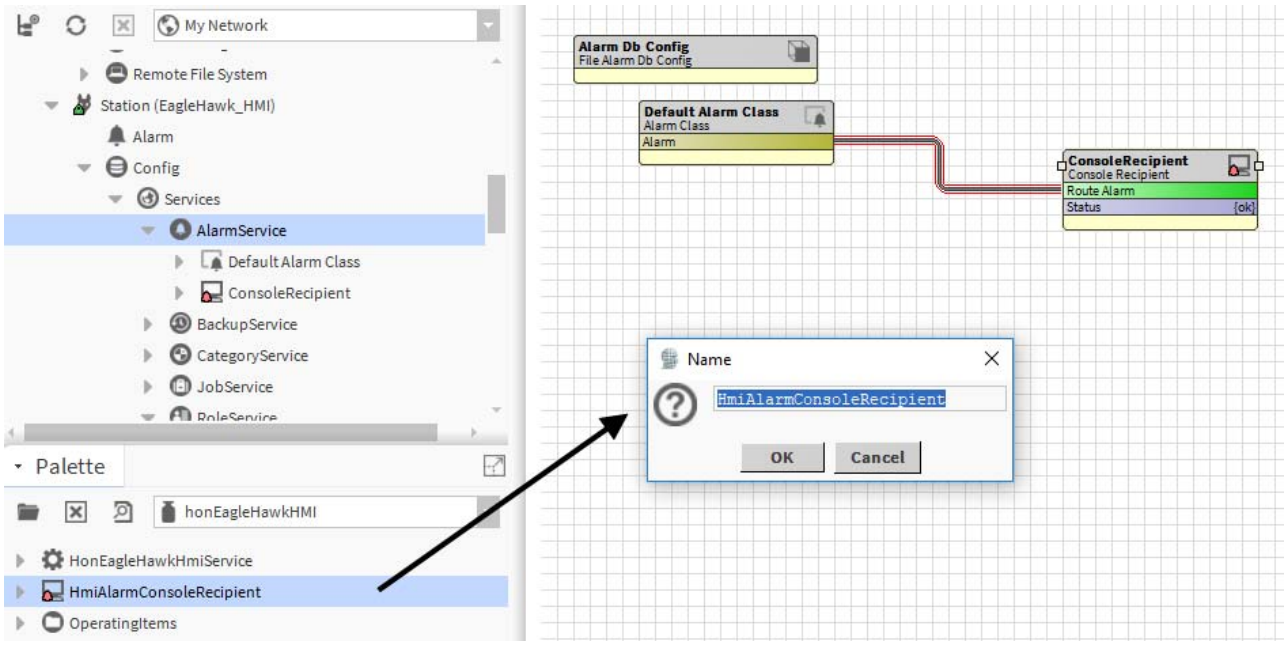
This step is optional for HMI operation.

Procedure

1. In the *Palette* pane, open the **honEagleHawkHMI** palette.
2. In the *Nav* tree, expand the *Services* folder, and then double-click **AlarmService**.

   RESULT: The *Enhanced Wire Sheet* displays.

3. Add the **HmiAlarmConsoleRecipient**. to the *Enhanced Wire Sheet.*

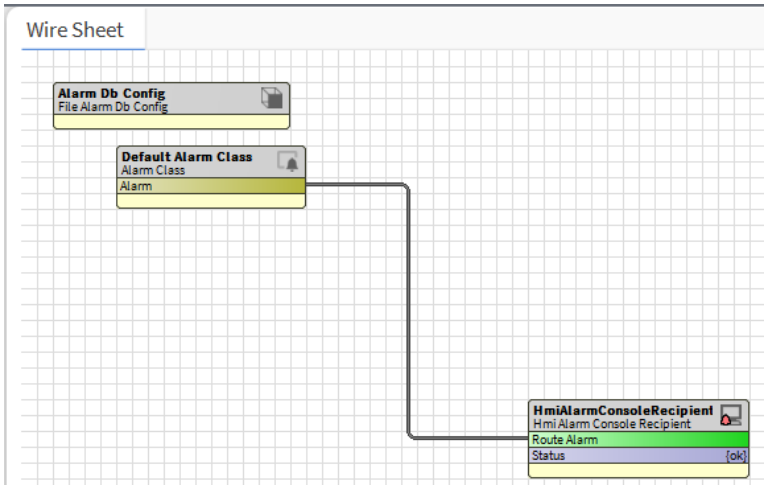


RESULT: The *Name* dialog box displays.

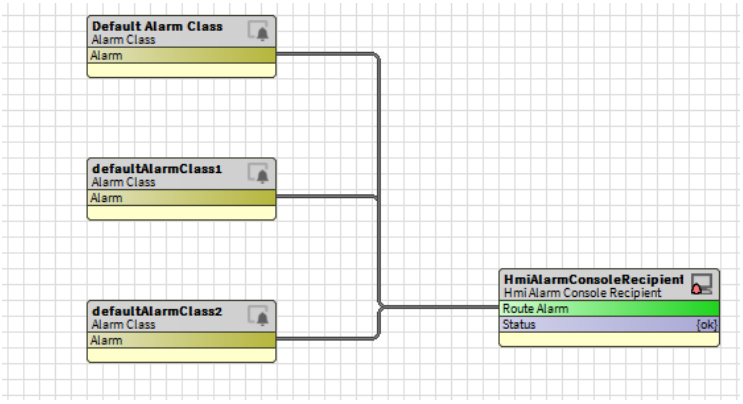
4. Change the name if desired.
5. Click the **OK** button.

   RESULT: The **HmiAlarmConsoleRecipient** is added to the *Enhanced Wire Sheet*.

6. Connect it to the **Alarm Class** that is assigned to the point(s) of which alarms you want to monitor on the HMI (alarm segregation).



7. If alarm segregation of multiple points is required, add additional alarm classes to the *Enhanced Wire Sheet* and assign each of them to the **HmiAlarmConsoleRecipient.**

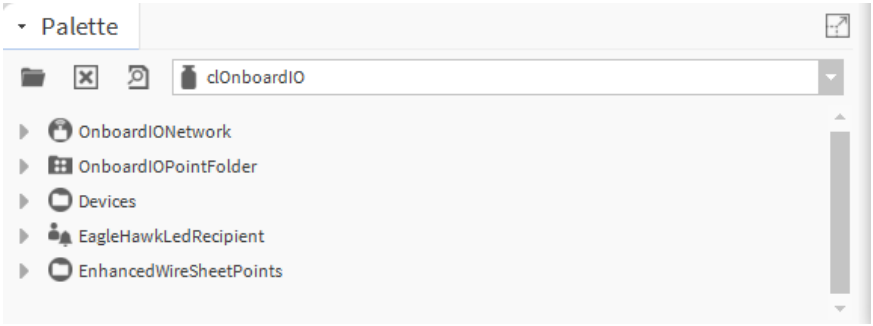


Enabling Alarm LED

This step is optional for HMI operation.

Procedure

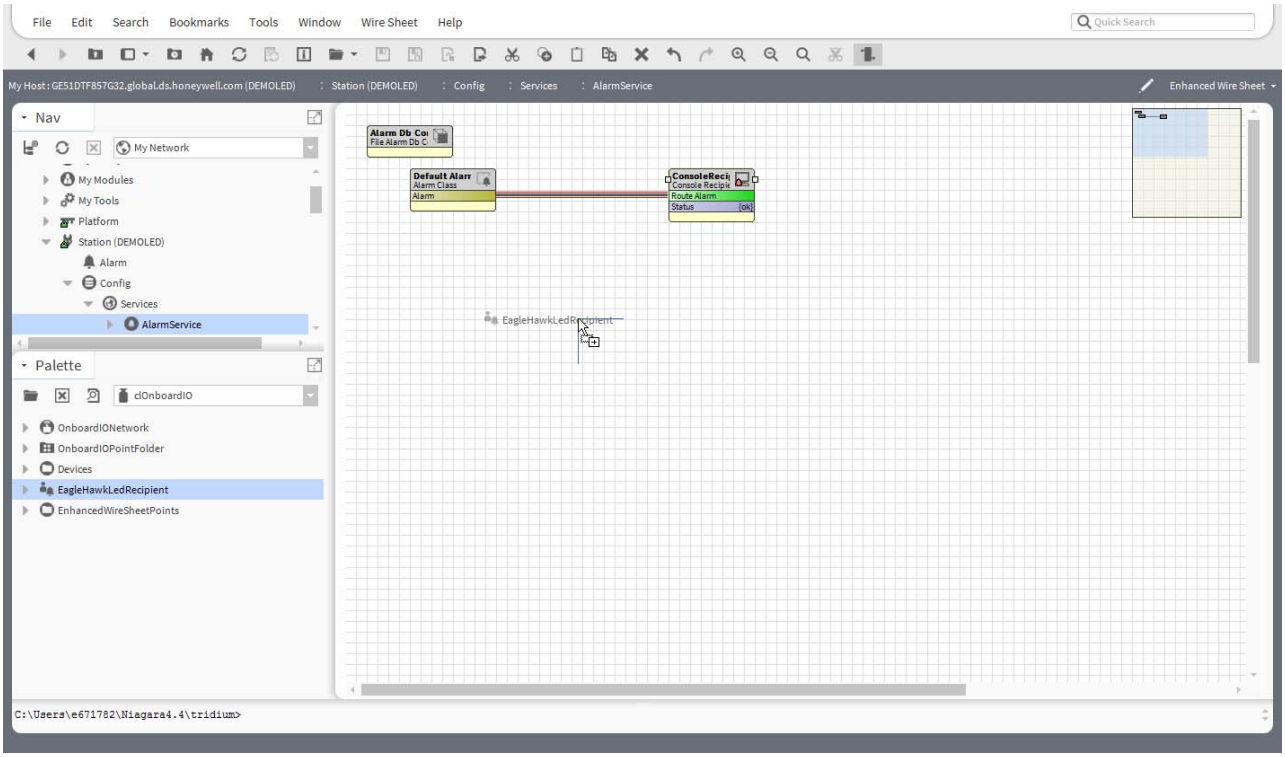
1. In the *Palette* pane, open the **clOnboardIO** palette.



2. In the *Nav* tree, expand the *Services* folder, and then double-click **AlarmService**.

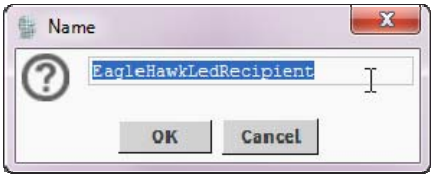
   RESULT: The *Enhanced Wire Sheet* displays.

3. On the *Enhanced Wire Sheet*, add an Alarm **ConsoleRecipient** and connect it to the **Alarm Class** component that is assigned to the datapoint(s) of which alarms you want to monitor.



4. From the *Palette* pane, drag&drop the **EagleHawkLedRecipient** to the *Enhanced Wire Sheet*.

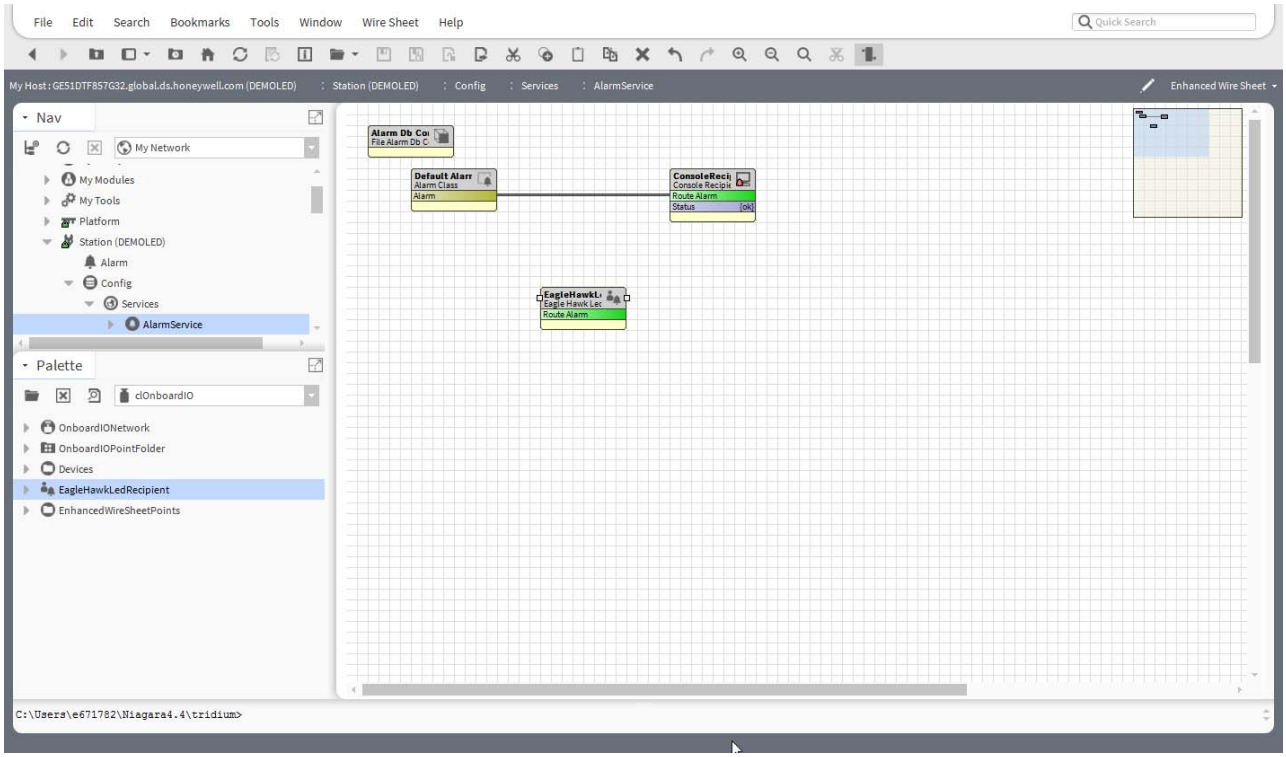
   RESULT: The *Name* dialog box displays.

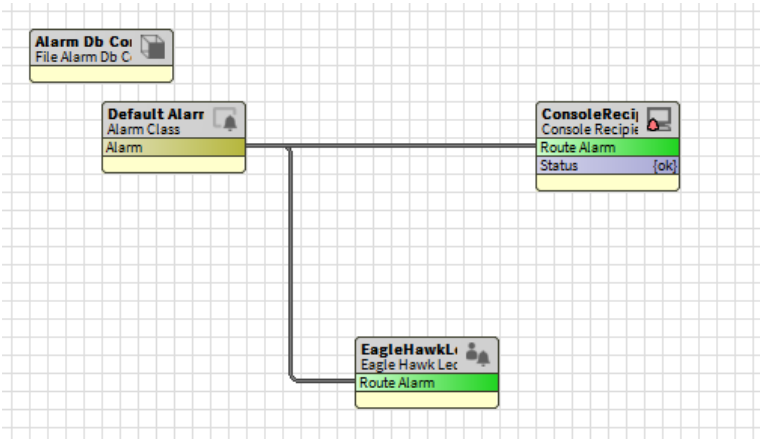


5. Change the name if desired.

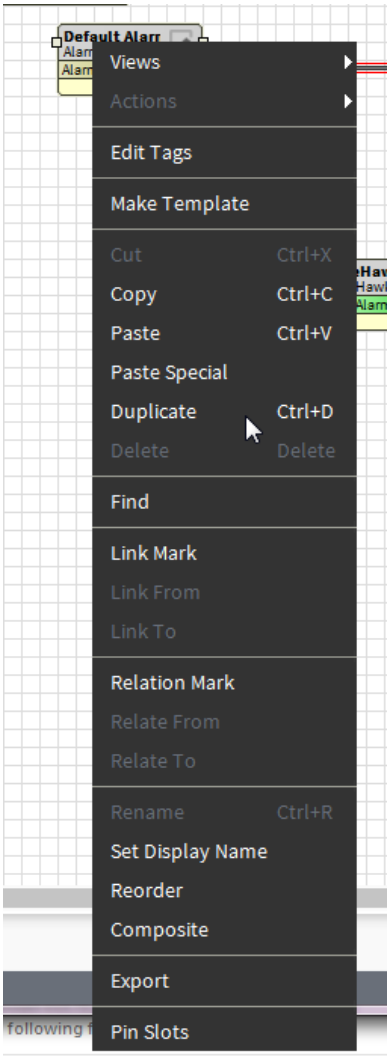
6. Click the **OK** button.

   RESULT: The **EagleHawkLedRecipient** is added to the *Enhanced Wire Sheet*.

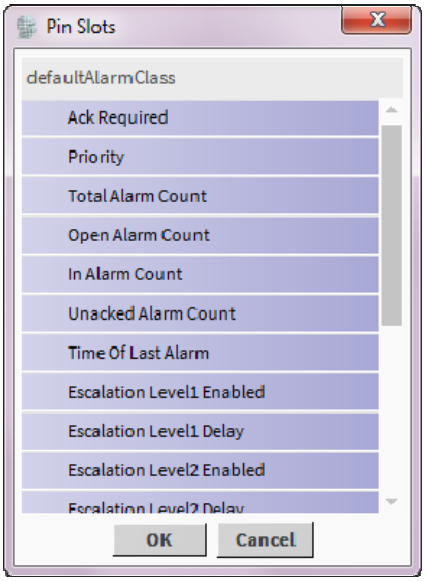




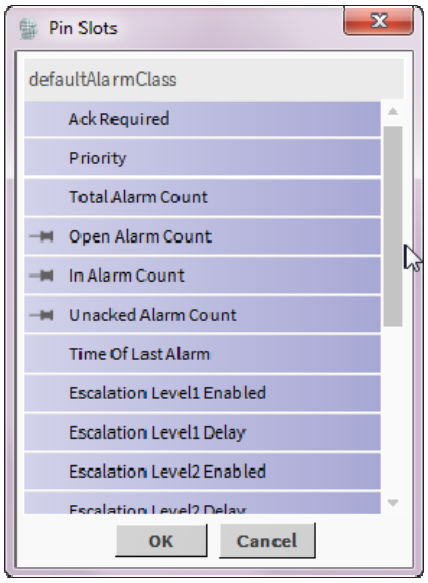
7. Connect the **EagleHawkLedRecipient** to the **AlarmClass**.
8. Right-click on the **Alarm Class**, and select **Pin Slots** in the context menu.



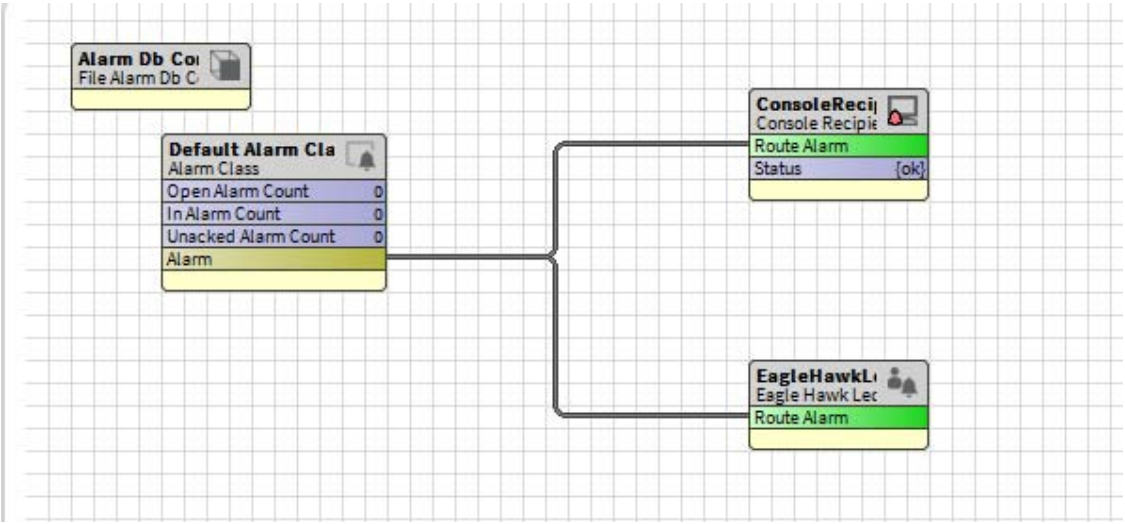
RESULT: The *Pin Slots* dialog box displays.



9. Click the **Alarm Count Types** you want to be shown in the **Alarm Class** component.

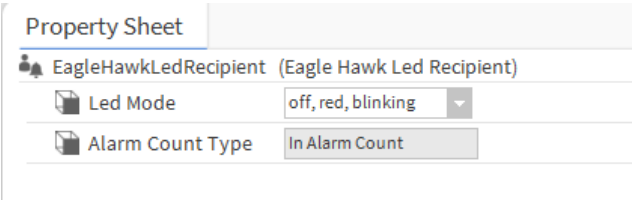


RESULT: The selected alarm count types are shown in the **Alarm Class** component. The counters are set to 0.

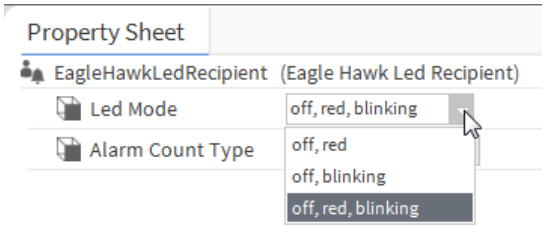


10. Double-click the **EagleHawkLedRecipient** in the *Enhanced Wire Sheet*.

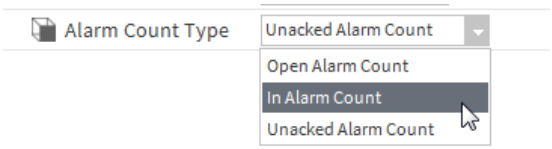
RESULT: The EagleHawkLedRecipient *Property Sheet* displays.



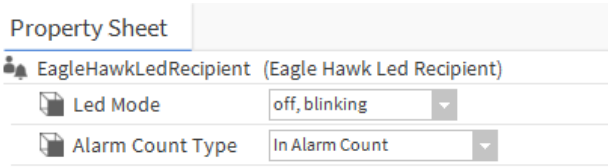
11. From the **Led Mode** drop-down listbox, select the mode.



12. From the **Alarm Count Type** drop-down listbox, select the alarm count type.



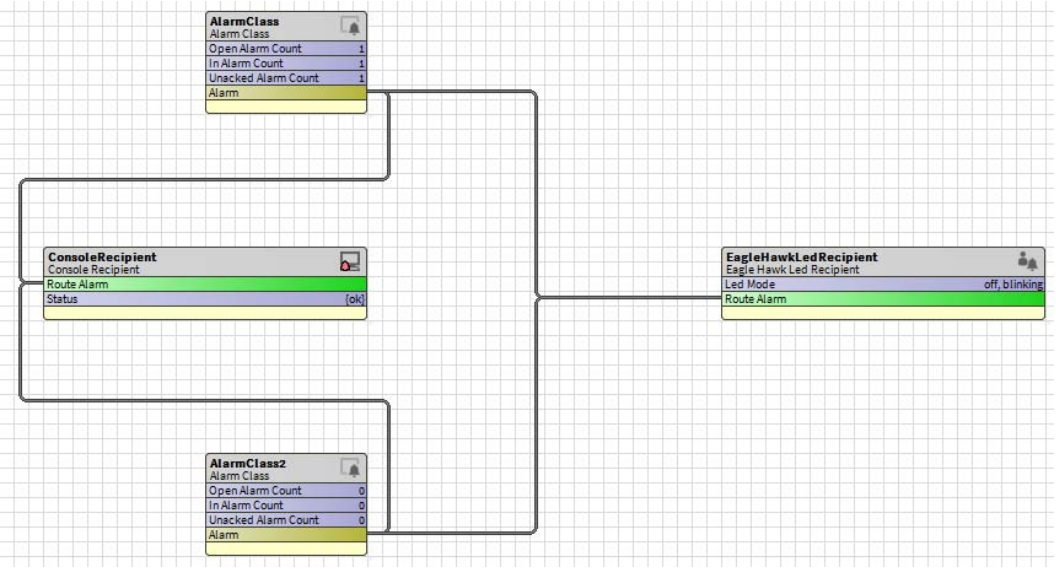
13. Click the **Save** button at the bottom.



14. If you want to monitor alarms of datapoints using different alarm classes, add the alarm class component(s) to the *Enhanced Wire Sheet*, and then assign the alarm class component to the **EagleHawkLedRecipient** and the Alarm **Console Recipient** (see previous steps).

15. To monitor alarms, reopen the *Enhanced Wire Sheet* and track the counters displayed in the **Alarm Class** component.

Example: The following screenshot shows 2 alarm classes used for alarm monitoring. Both are connected to the **Console Recipient** and the **EagleHawkLedRecipient**. The **AlarmClass** component on the top shows its 3 counters each indicating that currently one alarm has occurred. The LED on the controller will be blinking due to the Led Mode setting = ´off, blinking`. Depending on the selected alarm count type, the result of the counts displayed will be different when the alarm is acknowledged and/or is going back to normal.



16. For alarm acknowledgement, open the alarm console by clicking the **Alarm Class** component.

Filling Fast Access Lists

This step is optional for HMI operation.

By default, the EagleHawk HMI driver provides empty fast access lists which can be filled with points, schedules, and reference points.

To fill a fast access list (FAL) with points, schedules and reference points you have two options:

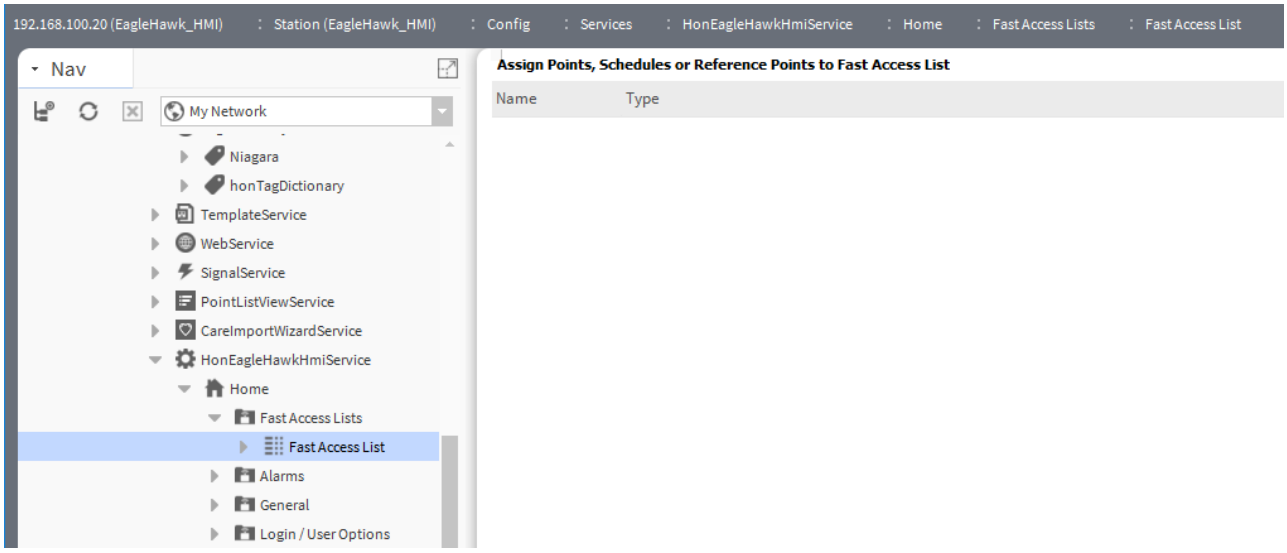
- Drag& Drop of points, schedules and reference points to the fast access list (see section “Filling Fast Access List via Drag&Drop“, p. 23)
- Dictionary Tagging by attaching a tag to points, schedules and reference points and then assigning the tag to individual fast access lists (see section “Filling Fast Access List via Dictionary Tagging “, p. 25)

Filling Fast Access List via Drag&Drop

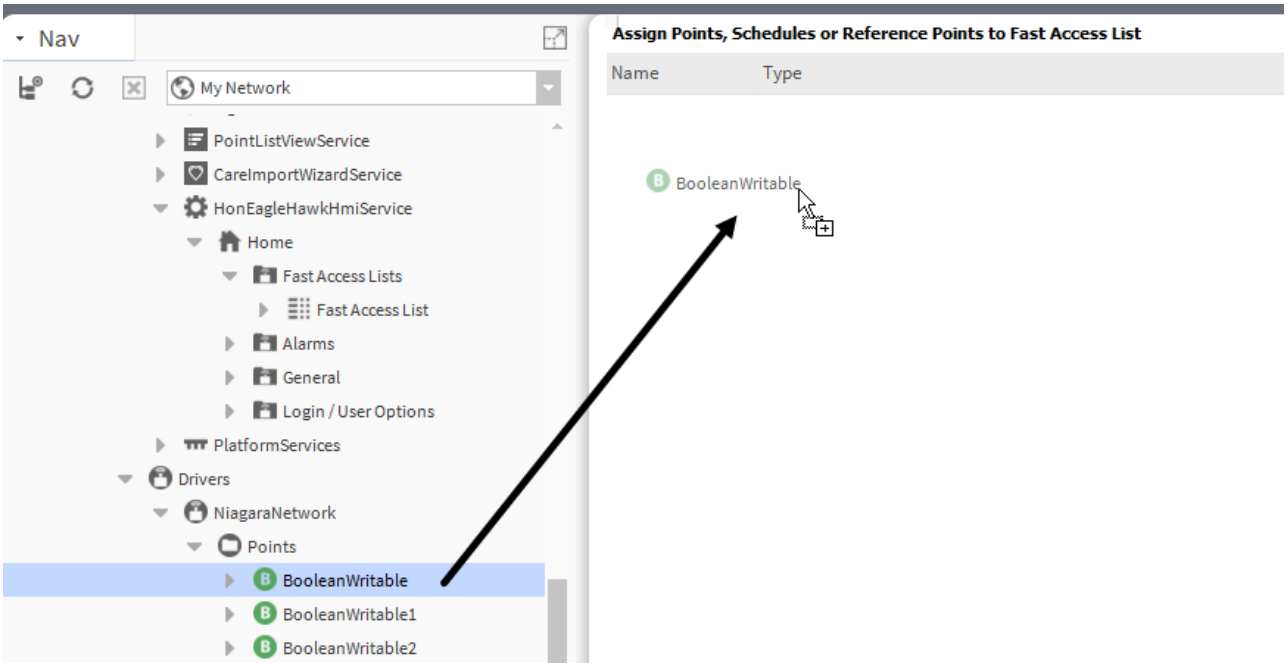
Procedure

1. In the *Nav* tree in the *Services* folder, expand the **HonEagleHawkHmiService** folder.
2. Double-click on the fast access list entry.

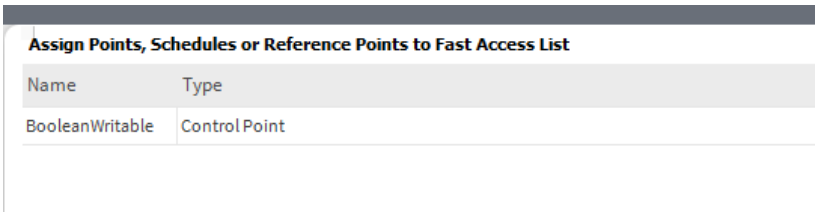
   RESULT: The *Fast Access List View* is enabled and the *Assign Points, Schedules or Reference Points to Fast Access List* pane is displayed.



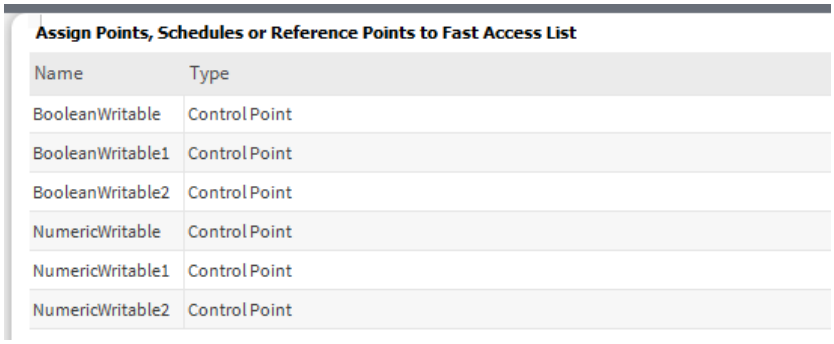
3. Expand the *Drivers* folder and navigate to the *Points* folder.



4. Select the point and add it to the fast access list by dragging&dropping it to the *Assign Points, Schedules or Reference Points to Fast Access List* pane.



5. Drag&drop all points to the *Assign Points, Schedules or Reference Points to Fast Access List* pane you want to be included in the fast access list.

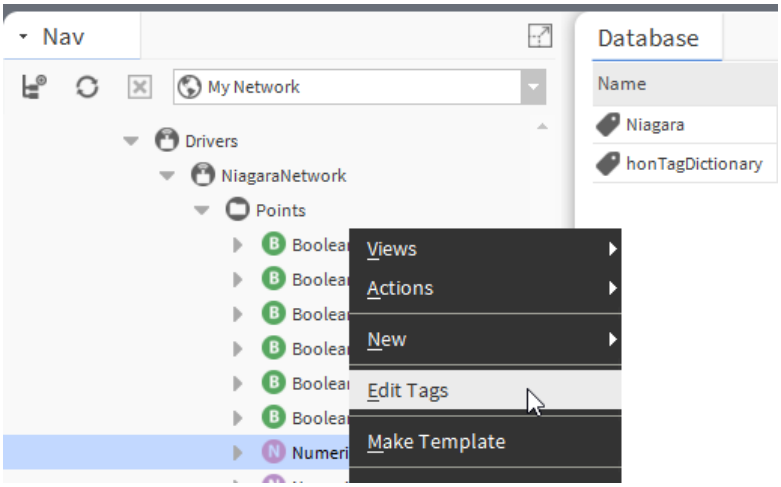


6. For creating multiple fast access lists including different point sets, add the fast access list component from the palette to the driver and rename it accordingly (see “Basic Procedure“ section, p. 35). Then assign the points to the different fast access lists as described in the previous steps.

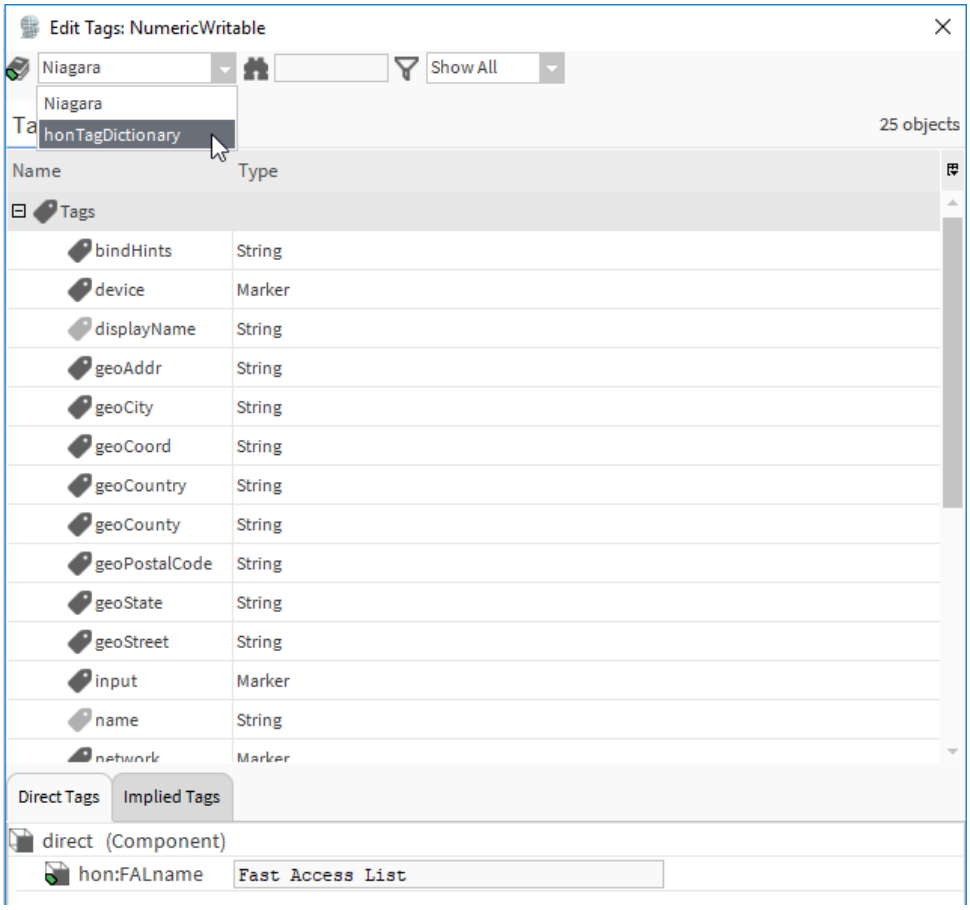
Filling Fast Access List via Dictionary Tagging

Procedure

1. In the *Nav* tree expand the *Drivers* folder, and then the *Points* folder.
2. Right-click the point you want to add to the fast access list, and then click **Edit Tags** in the context menu.



RESULT: The *Edit Tags:<point name>* dialog box is displayed.

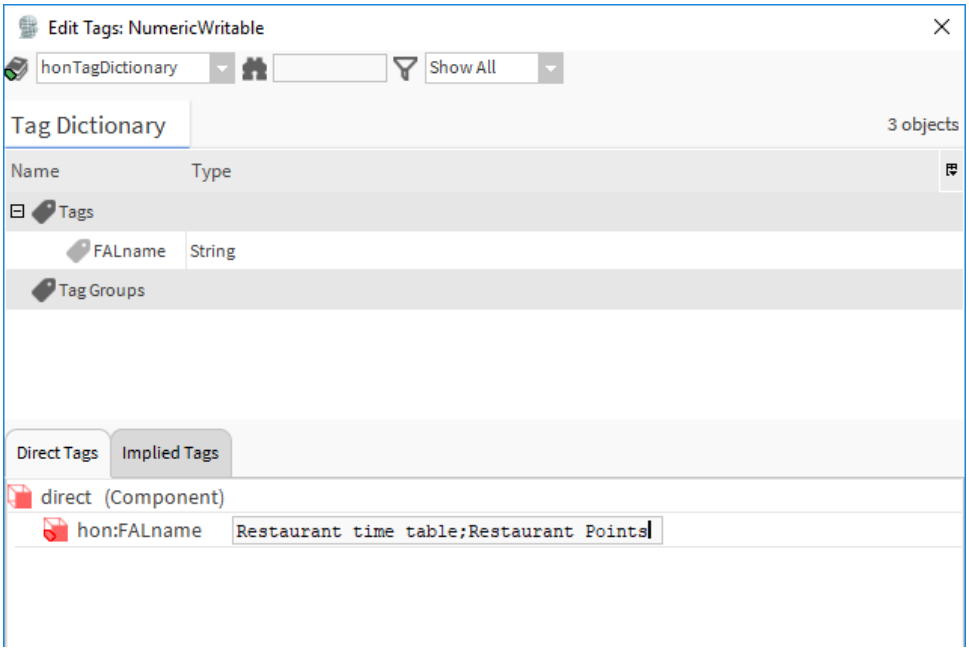


3. From the left upper drop-down listbox, select ´honTagDictionary`.

   RESULT: By default, the ´FALname` tag is displayed under **Tag Dictionary**.

4. Double-click the entry.

   RESULT: On the *Direct Tags* tab, the **hon:FALname** field is enabled.



5. Enter name of the fast access list(s) you want to have this point to be included. Separate multiple fast access lists by using a semicolon ";".

Adjusting Poll Rate for Optimum Performance

This step is optional for HMI operation.

The update rate (poll rate) for alarms and points on the HMI has a default setting, which can be adjusted to balance information needs with the CPU performance.

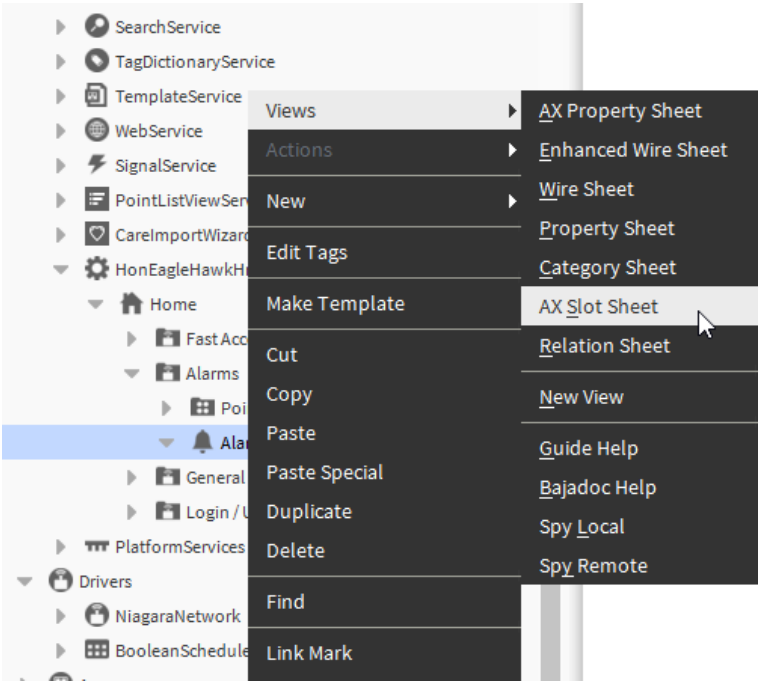
IMPORTANT!

The faster the alarm and point poll rate, the more impact it will have on the performance of the station. The default setting for alarm and point poll rate is 15 sec (15.000 msec). The adjustable range is from 5 to 120 sec (5.000…120.000 msec). By default, the poll rate setting is hidden and can be made visible in the Slot Sheet. When adjusting for faster polling, watch the CPU load of the station!

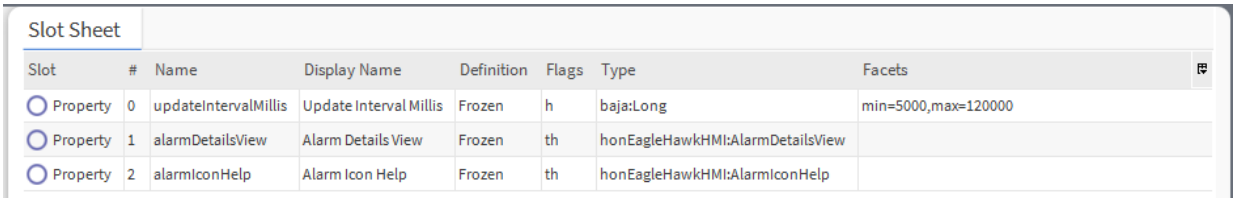
Procedure

1. In the *Nav* tree in the *Services* folder, expand the **HonEagleHawkHmiService** folder to display the menus.

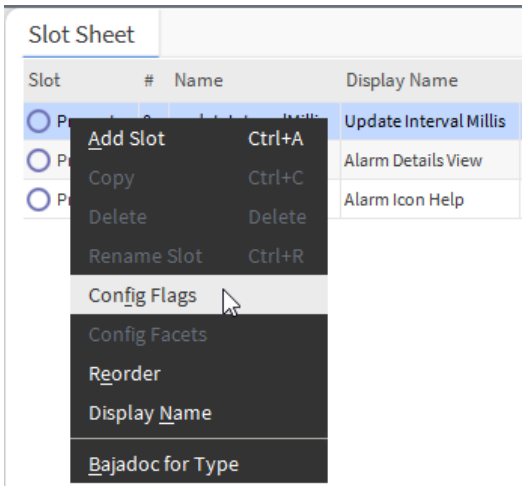
2. Right-click the alarm menu item in the **Alarms** menu you want to change the poll rate for, and then select **AX Slot Sheet** in the context menu.



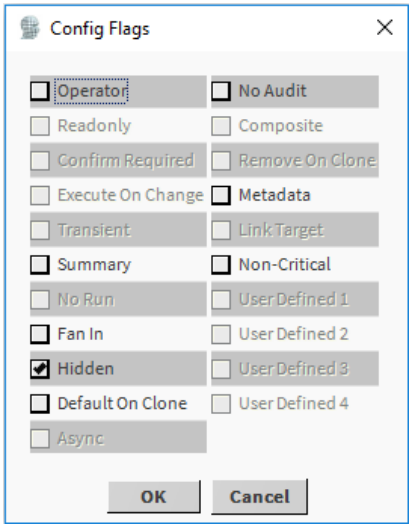
RESULT: The *Slot Sheet* pane is displayed. The **updateIntervalMillis** property is indicated as hidden = h in the **Flags** column.



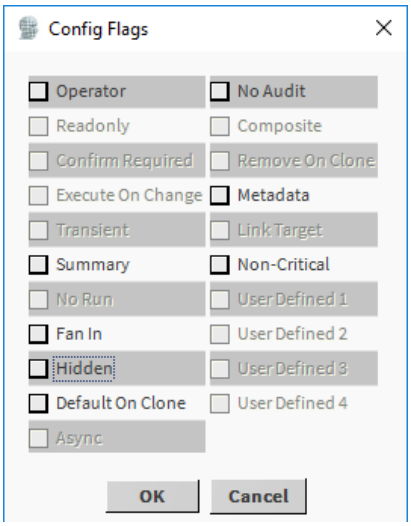
3. Right-click the **updateIntervalMillis** property, and then select **Config Flags** in the context menu.



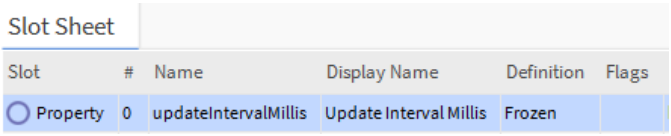
RESULT: The *Config Flags* dialog box is displayed.



4. Uncheck the **Hidden** check box.



5. Click **OK**.



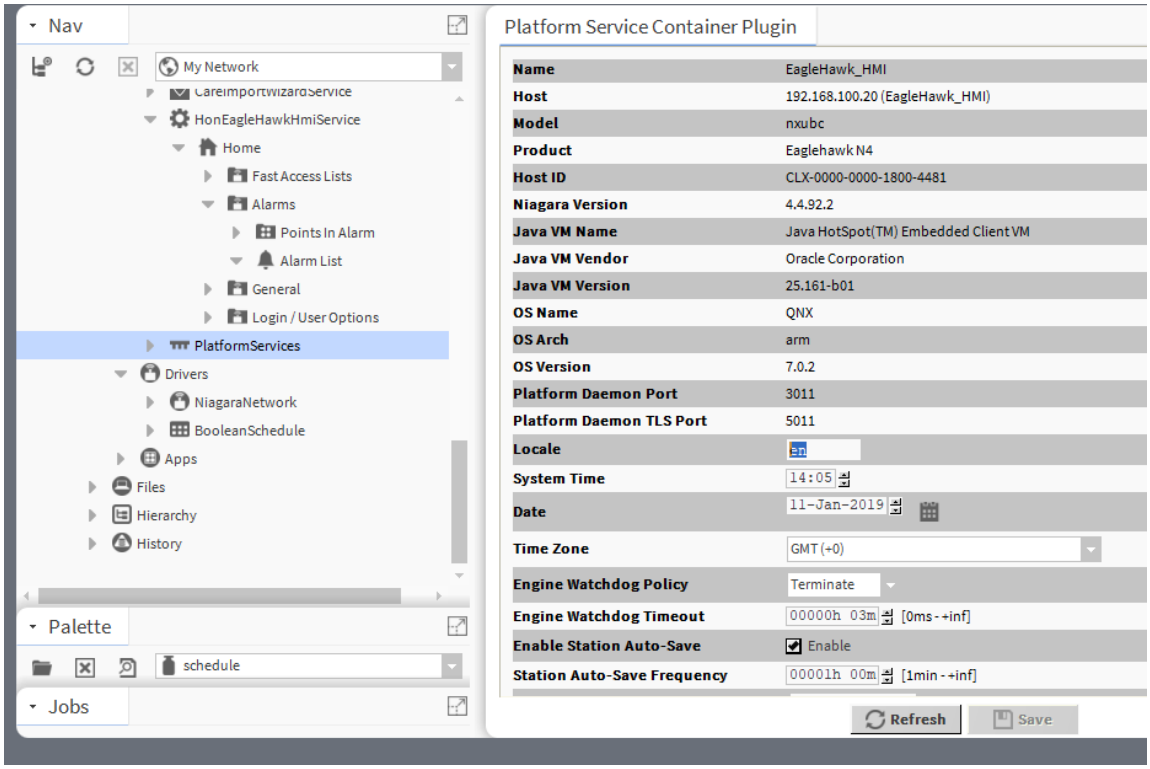
RESULT: The *Slot Sheet* pane redisplas. In the **updateIntervalMillis** property, the hidden flag is removed in the **Flags** column.

Setting Time Format on Home Screen

This step is optional for HMI operation.

Procedure

1. Make sure that the lexicon of the desired local language is installed. If not use the Lexicon Installer to install it.
2. In the *Nav* tree in the *Services* folder, double-click **PlatformServices**.



3. On the *Platform Service Container Plugin* pane, set the language in the **locale** field.

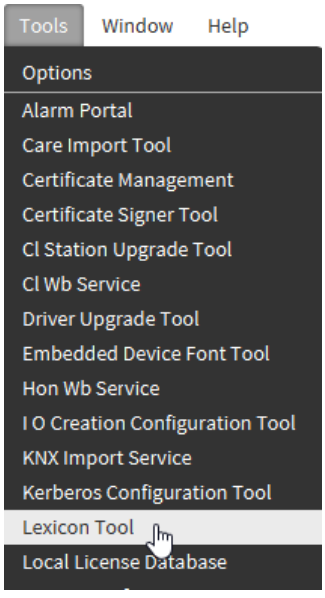
Local language HMI Menus – Translation

This step is optional for HMI operation.

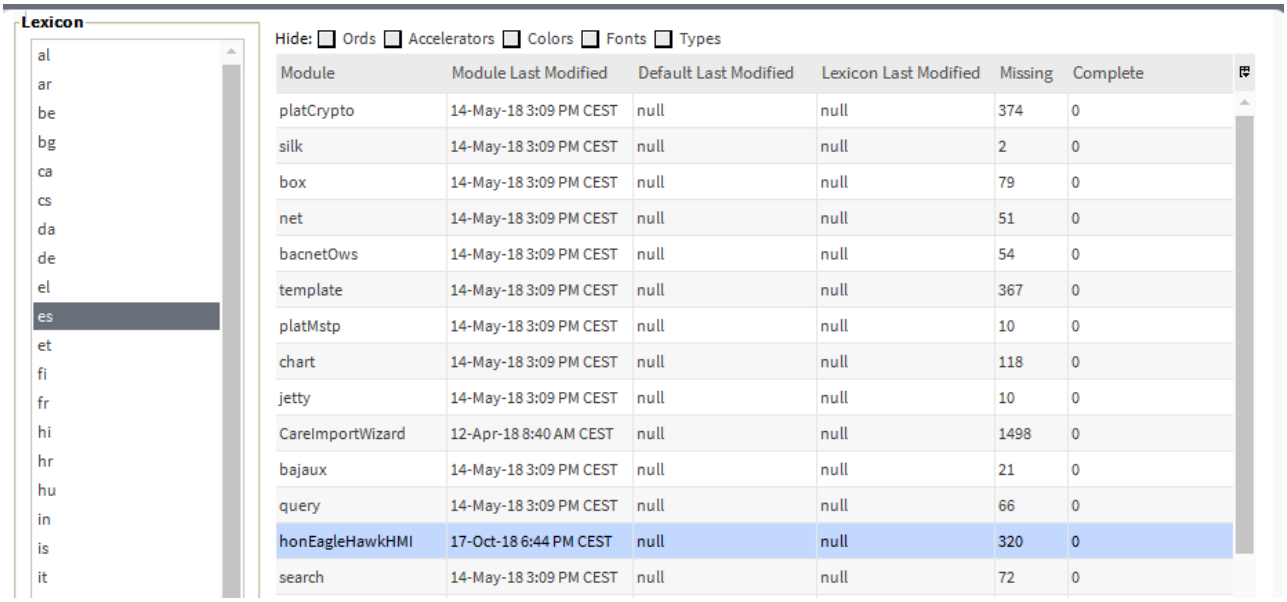
The HMI menus can be localized by using the standard Lexicon Tool of COACH NX.

Procedure

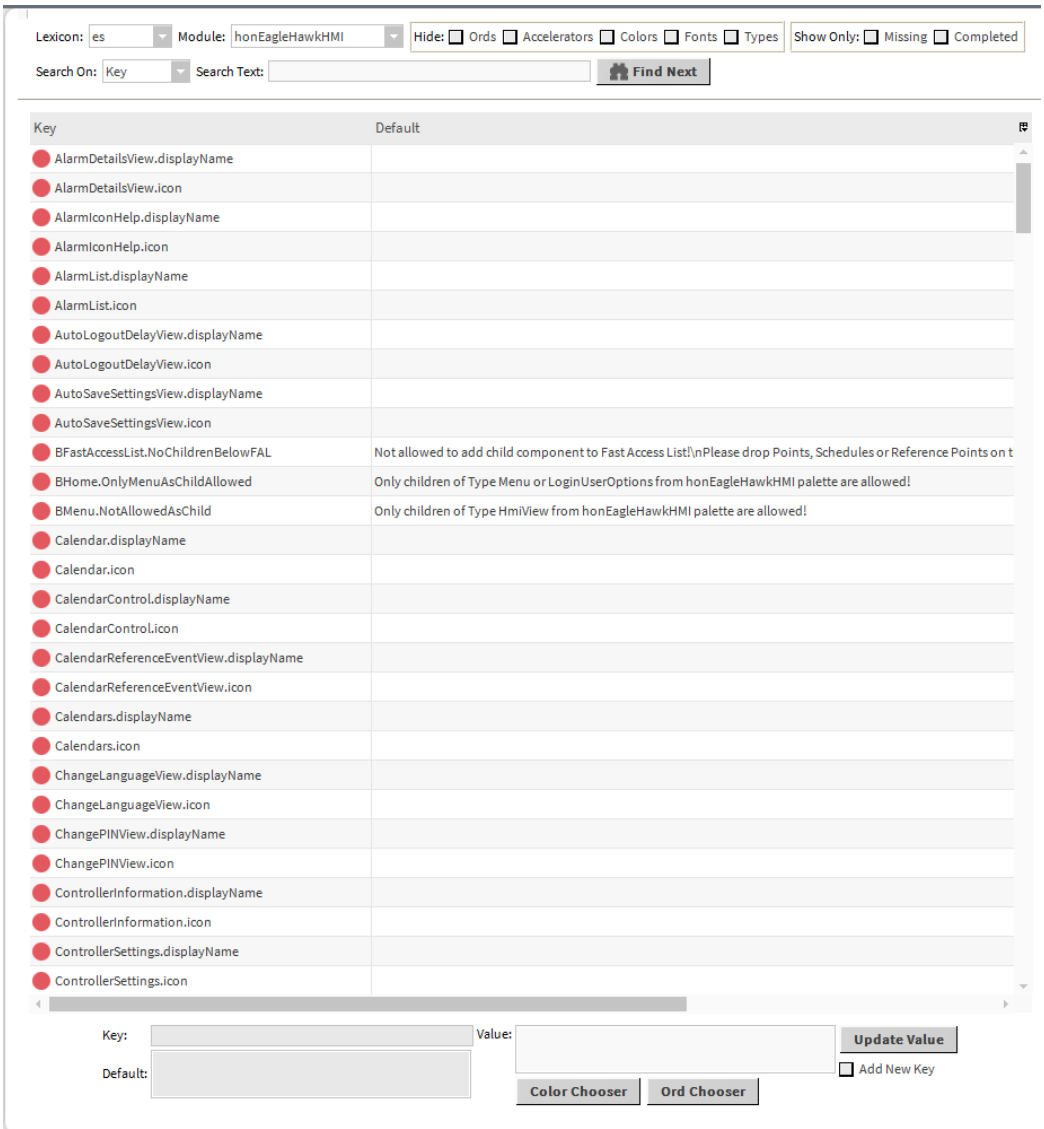
1. From the **Tools** menu, select **Lexicon Tool**.



2. In the *Lexicon Report* view, select the lexicon, e.g. ´es` and then double-click on **honEagleHawkHMI** module.



3. Do the translations.



4. Save the lexicon file.
5. Commission the lexicon file into the controller.
6. Generate a new user which uses the new language file.
7. Login as this user to the HMI and check the translation.

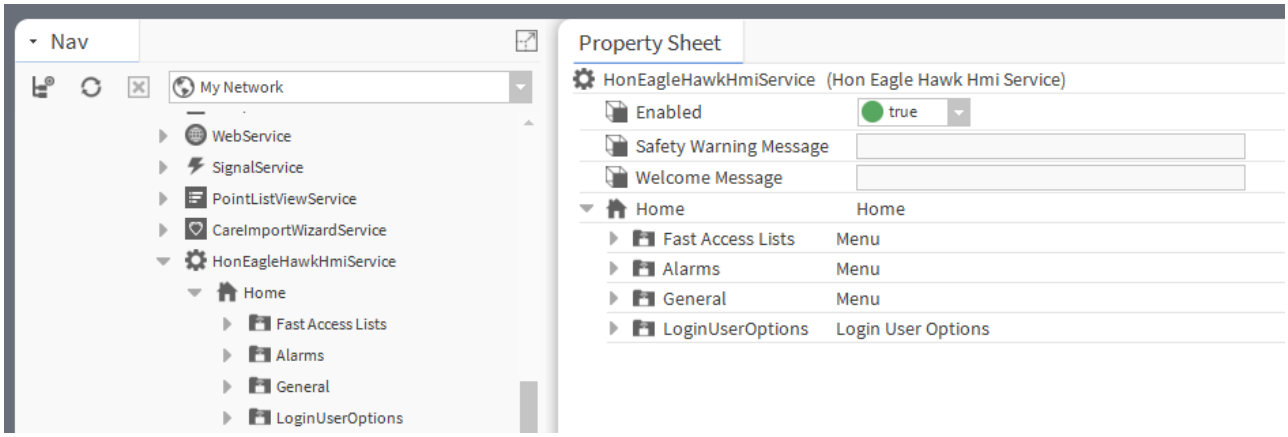
DEFINING OPERATING SEQUENCES

Default Operating Sequence

Niagara Workbench

The default operating sequence provided by the honEagleHawkHMI driver includes the following main menus in the *HonEagleHawkHMIService* folder:

- Home (screen) with four sub-menus:
- Fast access lists
- Alarms
- General
- LoginUserOptions



Controller HMI Result

This default operating sequence is represented on the *Home* screen of the HMI as follows:

NOTE: When highlighting a menu via turning the Rotate&Push button on the HMI, the icon appears larger, and the menu name is displayed at the bottom of the screen. When then pressing the Rotate&Push button displays the subjacent menu (for details, please refer to the HMI User Guide (EN2Z-1053GE51)

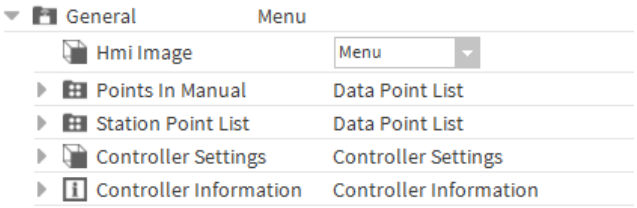
Niagara Workbench

Each menu has a specific HMI image assigned and is subdivided in further individual submenus dependent on the menu function.

Example:

The *General* menu has the ´Menu` icon assigned and includes the following sub menus:

- Points in Manual
- Station Point List
- Controller Settings
- Controller Information

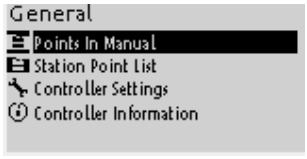


Controller HMI Result

Example (from above):

On the HMI, the submenus of the *General* main menu are displayed as follows:

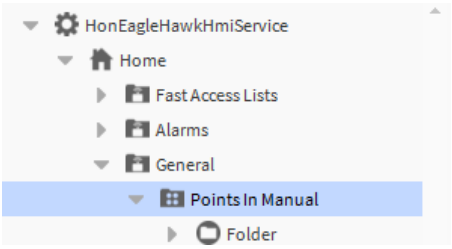
Menu ´General` displayed by HMI image ´Menu`



Submenus of ´General` menu

Each default operating sequence can be changed by adding appropriate operating items from the palette to the operating component (menu, submenu) of the *HonEagleHawkHMIService* or by deleting components. In this way, a consecutive hierarchical structure containing menus, submenus, and folders and can be created. Folders can be added to submenus via the standard Niagara command ´New Folder`.

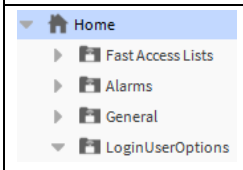
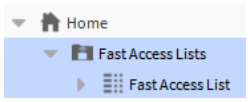
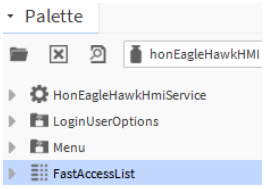
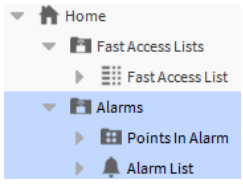
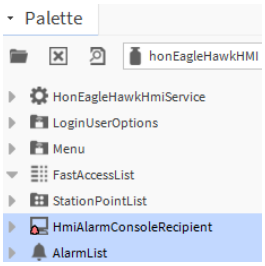
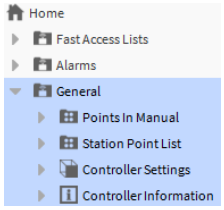
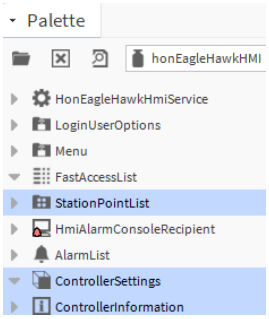
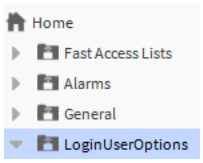
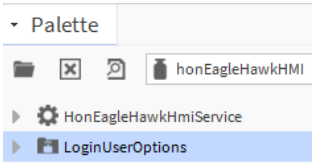
NOTE: The folder names and the structure defined by the folders will not be reflected on the controller HMI.

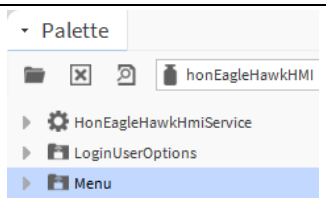


Folder added to ´Points in Manual` submenu

Default Operating Sequence Components Descriptions

The following table gives an overview of all operating components available by default in the *honEagleHawkHMI* palette and the *HonEagleHawkHMIService* and how they are represented on the controller HMI:

Service	Palette	Controller HMI	Description
to ← drag&drop ← from			
	n. a.		**Home (screen)** Provides access to subjacent menus such as fast access lists, alarms, etc. This component cannot be changed or deleted.
			**Fast Access Lists** Displays all fast access lists that allow quick access to pre-definable groups of datapoints, schedules and reference points.
			**Alarms** Displays points in alarm and alarm list.
			**General** Allows access to various sub menus: e.g. datapoints list, points in manual, controller settings and controller information.
			**Login / User Options** Context sensitive display for user login / logout Depending on the log status of the user, the first icon (user logged out) or the second icon (user logged in) is displayed. When logged in, the following functions are available: Logout, change PIN, auto logout delay.

Service	Palette	Controller HMI	Description
n. a.		as configured	**Menu** Inserts a new menu which can be configured by assigning an HMI image and adding operating components of any type (see above).

Basic Procedure

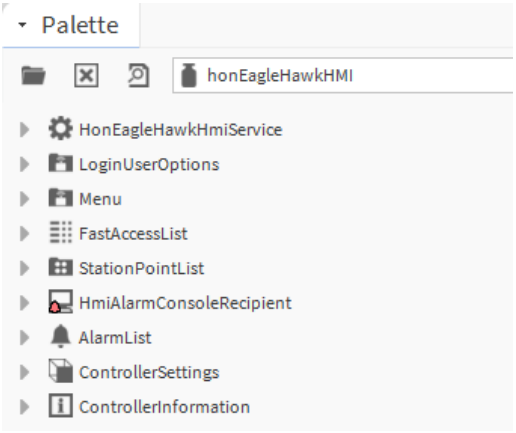
New operating sequences can be created by changing the default operating sequence. Changes can be done by applying any of the following procedures:

***honEagleHawkHMI* palette and *honEagleHawkHMI Service* folder**
- Adding operating items of the same type from the *honEagleHawkHMI* palette to the menus and/or submenus in the *honEagleHawkHMI Service* folder

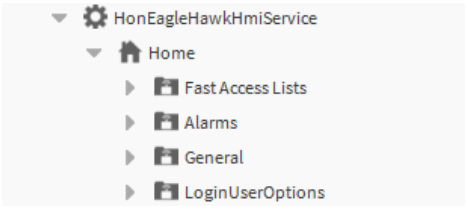
***honEagleHawkHMI Service* folder**
- Adding folders (submenu level only)
- Deleting menus, submenus, and entries
- Renaming menus, submenus, and folders

Procedure

1. Open the ***honEagleHawkHMI*** palette.



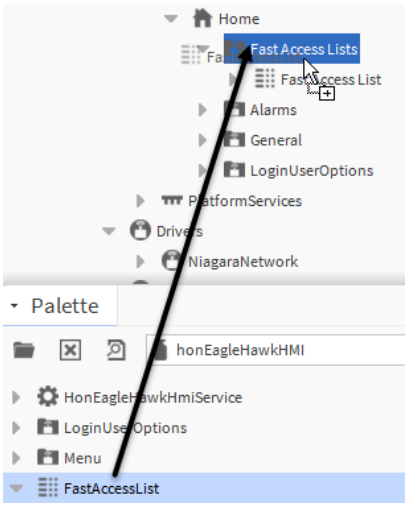
2. Open the **HonEagleHawkHmiService** in the *Services* folder.



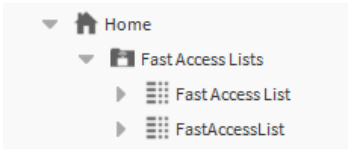
3. In the ***honEagleHawkHMI*** palette, select the operating item and drag&drop it to the menu / submenu of the same type in the **HonEagleHawkHmiService** folder.

   Examples:

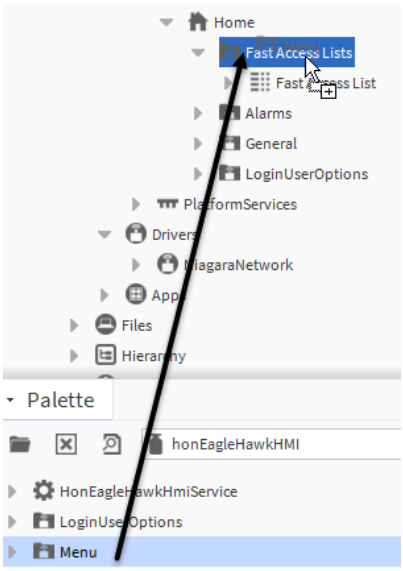
   Adding a fast access list operating item



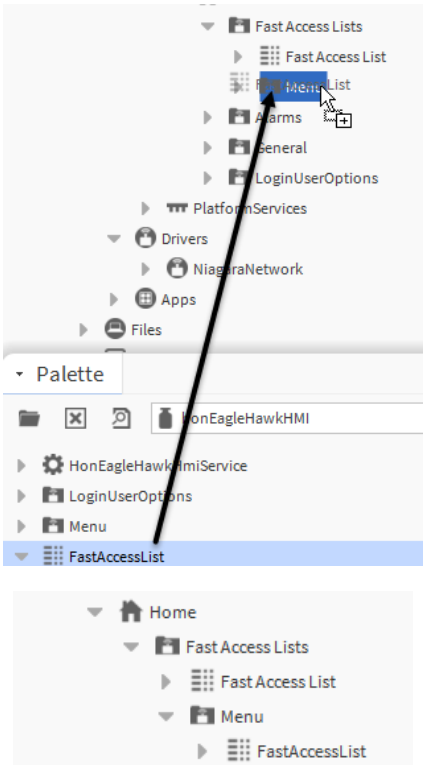
As a result, a second fast access list operating item is added to the default menu.



Adding a menu and a fast access list operating item



As a result, a menu is added to the default **Fast Access List** menu which then includes the second fast access list.



Fast Access Lists

Fast access lists can include points, reference points and schedules. The points and schedules will be added in the same way as operating items via drag&drop (see “Basic Procedure“ section, p. 35) from the corresponding Points and Schedules folders to the fast access list menu.

Enhancing Default Operating Sequence

The default operating sequence containing 4 standard menus can be enhanced by adding further menus on the main menu level. This results in a second row on the controller HMI containing the new menu(s). The menus can be configured by assigning them any of the default HMI images and adding a hierarchical structure using the same procedures as for the default operating sequence.

Schedules and Calendars

For the display of schedules and calendars on the HMI no datapoint assignment is necessary on the wire sheet. Schedules management is done according to the standard Niagara procedures.

Manufactured for and on behalf of the Environmental and Energy Solutions Division of Honeywell Technologies Sàrl, Rolle, Z.A. La Pièce 16, Switzerland by its Authorized Representative:

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