IQ®VISION Configuration Manual

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TABLE OF CONTENTS

1 ABOUT THIS MANUAL 7
1.1 Conventions Used in this Manual 8
1.2 Contacting Trend 8

2 ABOUT IQVISION 9
2.1 IQVISION Architecture 10
2.1.1 Platform 10
2.1.2 Station 10
2.1.3 Trend IP Driver 10
2.1.4 Other Drivers (open points) 10
2.2 User Interface 11
2.2.1 Application (Host PC) 11
2.2.2 Client Devices 12

3 SECURING IQVISION 13
3.1 Introduction 13
3.2 Disaster Recovery Planning 13
3.3 Physical and Environmental Considerations 13
3.4 Security Updates and Service Packs 13
3.5 Virus Protection 13
3.6 Network Planning and Security 14
3.7 Virtual Environments 14
3.8 Securing Wireless Devices 14
3.9 System Monitoring 14
3.10 Securing Access to the Operating System 14
3.11 Access Control 14
3.12 Securing IQVISION 14
3.12.1 Default Admin User 14
3.12.2 Passphrase 15
3.12.3 Set up Other Users 15
3.13 IQVISION Security Check List 15

4 ENGINEERING PROCEDURE 17

5 INSTALLING IQVISION 19
5.1 Installation Requirements 19
5.2 Obtaining the IQVISION Software 19
5.3 Installing the IQVISION Software 20
5.4 Installing the Platform Daemon 20
5.5 Configuring the Windows Firewall 21

6 LICENSING IQVISION 23
6.1 Obtain an IQVISION Licence and Certificate 23
6.2 Install the IQVISION Licence 23
6.2.1 Automatic Licencing 23
6.2.2 Manual Licencing 23
6.3 Updating a Licence 24

7 INITIAL SETUP 25
7.1 Launch the IQVISION Application 25
7.2 Open the Platform 26
7.3 Create a New Station 27
7.4 Open the Station 30

8 BUILDING A SITE 31
8.1 Using the IQVISION Migration Tool 31
8.2 Using Manual Site Discovery 31
8.2.1 Add a Trend Driver 31
8.2.2 Configure the Trend Driver(s) 33

8.2.3 Discover and Add Devices from the Trend Site 34
8.2.4 Add the Required Trend Points to the Database 36
8.2.5 Add User-defined Points 38
8.2.6 Add Time Schedules 39
8.2.7 Add Trend Plots (Histories) 41
8.2.8 Set History Update Rates for a Trend Site 43

9 CONNECT TO TONNS 45
9.1 Add the TONNs to the Niagara Network 45
9.2 Add TONN Points to the Database 46

10 CONNECT TO 3RD PARTY SYSTEMS 47
10.1 Add the Required 3rd Party Drivers 47
10.2 Configure 3rd Party Drivers 47
10.3 Add 3rd Party Points to the Database 47
10.4 Using the BACnet Driver 48
10.4.1 Add the BACnet Driver 48
10.4.2 Configure the BACnet Driver 48
10.4.3 Discover and Add BACnet Devices 49
10.4.4 Add the Required BACnet Points to the Database 50

11 CONTROLLING COMPLEX OCCUPATION TIMES 53
11.1 Control Occupation Times Centrally 53
11.1.1 Create a Folder for the Master Time Schedules 53
11.1.2 Add a BooleanSchedule 54
11.1.3 Break Link with Schedule Import 54
11.1.4 Link the Time Schedules to the BooleanSchedule 55
11.1.5 Set the Weekly Schedule 55
11.1.6 Set the Special Events (Exceptions) 56
11.2 Using a CalendarSchedule 58
11.2.1 Add a CalendarSchedule 58
11.2.2 Link a CalendarSchedule to a BooleanSchedule 58
11.2.3 Specify the Occupation Times 60
11.2.4 Specify the Dates 61

12 CONFIGURING ALARMS 63
12.1 Alarm Priorities 63
12.2 Setting up Alarm Handling 64
12.2.1 Changing the Alarm Listener Port Number 64
12.2.2 Configuring Site Alarm Information 64
12.2.3 Set up Controller Alarm Destination Modules 65
12.2.4 Adding Alarm Classes 65
12.2.5 Set the Alarm Class for an Alarm 66
12.2.6 Add an Alarm Recipient 67

13 CREATING SCHEMATICS (PX Pages) 69
13.1 Create a Folder for the PX Pages 69
13.2 Create a Folder for the Images 69
13.3 Prepare Images 69
13.4 Add Images to IQVISION 70
13.5 Specify the PX Template Page 70
13.6 Create a PX Page 71
13.7 Edit a PX Page 71
13.7.1 Create or Change PX Page Elements 71
13.8 Reuse PX Pages 79
13.8.1 Reuse a Generic PX Page 80
13.9 Dashboards 81
13.9.1 Add the Dashboard Service 81
13.9.2 Add a Dashboard to a PX Page 81

14 SET UP IQVISION USERS 83

14.1 Configure Categories 83
14.1.1 Add a Category 83
14.1.2 Set up the Categories 85
14.2 Configure Roles 86
14.3 Configure Users 88
14.3.1 Configure NAV Files 88
14.3.2 Create NAV Files 88
14.3.3 Add Users 89

15 BACKUP & RESTORE 91
15.1 Backup the Configuration 91
15.1.1 Using the Station Copier 91
15.1.2 Using the Backup Service 93
15.2 Restore the Configuration 94
15.2.1 Restore Using the Station Copier 94
15.2.2 Restore the Station Using the dist file 94

16 MIGRATION TOOL 95
16.1 Exporting Data from Other Tools 95
16.1.1 963 95
16.1.2 IQSET 95
16.2 Copying Exported Files into IQVISION 95
16.3 Using the Migration Tool 96
16.3.1 Migrated Devices - Next Step 100
16.3.2 Migrated Schematics - Next Steps 100

17 USING IQVISION 101
17.1 Access IQVISION 101
17.1.1 Access IQVISION from the IQVISION Application 101
17.1.2 Access IQVISION from a Web Browser 103
17.2 Use IQVISION 104
17.2.1 Using IQVISION via PX Pages 104
17.2.2 Using IQVISION via the Nav Tree 106
17.3 Start the IQVISION Station 119

APPENDICES 121

A1 USING THE EXTENDED SUPPORT OPTIONS 121

INDEX 123

Table of Contents

1 ABOUT THIS MANUAL

IQVISION is a supervisor tool for Trend Building & Energy Management Systems (BEMS). It is based on the powerful Niagara 4 (v4.2) software framework and uses the Trend IP Network Driver.

This manual describes how to install IQVISION and configure the Trend Driver to allow Trend system data to be made accessible to the Niagara framework.

It consists of the following main sections:

About IQVISION
This section gives an introduction to basic system principles and the IQVISION user interface.

Securing IQVISION
This section provides guidance on security issues to be considered when installing and using IQVISION.

Engineering Procedure
This section describes the process of engineering IQVISION.

Installing IQVISION
This section describes how to install IQVISION.

Licensing IQVISION
This section describes how to obtain and install IQVISION license files.

Initial Setup
This section covers the procedures that must be followed to get IQVISION ready for use.

Building a Site
This section describes how to configure IQVISION to read data from a Trend system/site.

Controlling Complex Occupation Times
This section describes how to configure IQVISION to control occupation times on the Trend system centrally.

Configuring Alarms
This section describes how to configure IQVISION to receive and process alarms.

Creating Schematics (PX Pages)
This section gives basic guidance on creating PX Pages that enable end users to navigate and access the system.

Set Up IQVISION Users
This section describes how to configure users in IQVISION to ensure each user only has access to the appropriate information.

Backup & Restore
This section describes how to backup/restore the IQVISION configuration.

Using IQVISION
This section covers general day-to-day operating procedures aimed at end users.

Migration Tool
This section describes how to use the Migration Tool to migrate data and schematics from other Trend tools (e.g. 963 and IQ®SET) into IQVISION.

It is assumed that you understand how to use Niagara 4. For further information you should refer to the Niagara documentation which is installed during the IQVISION installation. It can be accessed from the IQVISION Help menu.

1.1 Conventions Used in this Manual

There are numerous items and instructions in this manual, the conventions below are designed to make it quick and easy to find and understand the information.

- Menu commands are in **bold** type.
- Buttons, and options in dialogue box that you need to select are in **bold** type.
- The names of text boxes and dialogue boxes are in **bold** type.
- Key combinations that you should press appear in normal type. If joined with a plus sign (+), press and hold the first key while you press the remaining one(s). For example CTRL+S indicates holding down the control key while pressing S.
- Text you should enter is in *Italic* type.

1.2 Contacting Trend

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Details of regional offices can be found on our web site.

Internet

Our company web site (**www.trendcontrols.com**) provides information about our products and us. Accredited partners should contact our PNet support web site (**https://partners.trendcontrols.com**).

Technical Support

Our support department provides technical support during normal office hours. Before contacting our support department ensure that you have your Technical Support PIN number available, without this we will be unable to provide you with any support.

Tel: +44 (0) 1403 226600
Email: **trendts@trendcontrols.com**
Fax: +44 (0) 1403 226310

Note: Trend Technical Support are only able to provide support for IQVISION and the Trend driver features described in this manual. They are unable to provide support for 3rd party drivers and undocumented aspects of IQVISION's operation.

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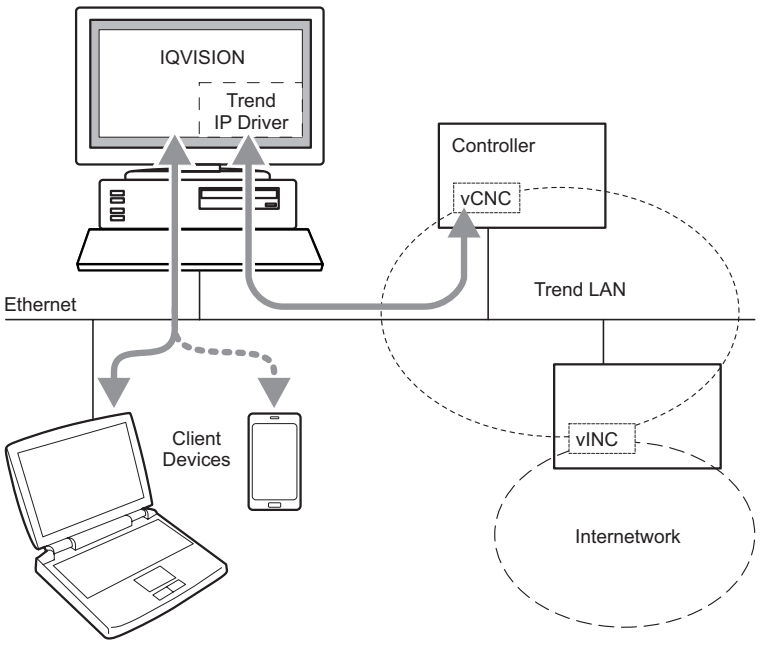
2 ABOUT IQVISION

IQVISION is a supervisor tool for Trend Building & Energy Management Systems (BEMS). It is based on the powerful Niagara 4 software framework. This section describes the key features of IQVISION and its user interface, and introduces some of the terminology used.

Using the supplied Trend IP Driver, IQVISION can connect to multiple Trend sites and access site data in order to monitor or adjust the site operation. System data is held within a database and is accessible in raw format or presented in specially-designed graphical pages known as schematic or PX Pages.

IQVISION connects to the Trend network over Ethernet using a vCNC in a Trend device. This gives access to the Trend devices on the associated (local) Trend LAN and, where a vINC (or INC) type node is also present, access to devices on the wider internetwork.



2.1 IQVISION Architecture

2.1.1 Platform

The Platform is the topmost level of configuration and may be compared to the control panel on a PC. It is in this area of IQVISION where you can set up:

- Communications
- Install licenses
- Fault find issues via the Application Director

Access to the Platform settings requires the user to login using the same credentials required to login to the PC.

2.1.2 Station

The Station manages communications with the Trend system(s) and acts as a 'container' for all other configuration settings and functions. These include:

- Services - such as alarm listening and monitoring and the IQVISION Migration Tool.
- Drivers - for managing access to data in the Trend system(s) and other systems.
- Files - schematic/PX Pages used to present system information on remote client devices.

Access to the Station settings requires the user to login. Initial system configuration is achieved using a default admin/engineering user account which is set up when the Station is created. Once configuration is complete further accounts can be added that grant different users specific access rights according their role (see **"Set Up IQVISION Users" on page 83**).

2.1.3 Trend IP Driver

The Trend IP driver defines the communication settings to a Trend system and provides access to data held in its controllers and devices, including:

- **Points** - input values from Sensor, Knob, Switch and Digital Input modules, and output values for Driver modules. IQVISION also supports read/write access to any other strategy module parameter that is accessible via text comms.
- **Schedules** - for viewing and adjusting occupancy times (Time Schedule modules).
- **Histories** - values logged in Plot modules.
- **Alarms** - for monitoring alarm messages generated within the Trend system.

A separate Trend driver is required for each Trend Network (or Site) that you wish to supervise within IQVISION.

2.1.4 Other Drivers (open points)

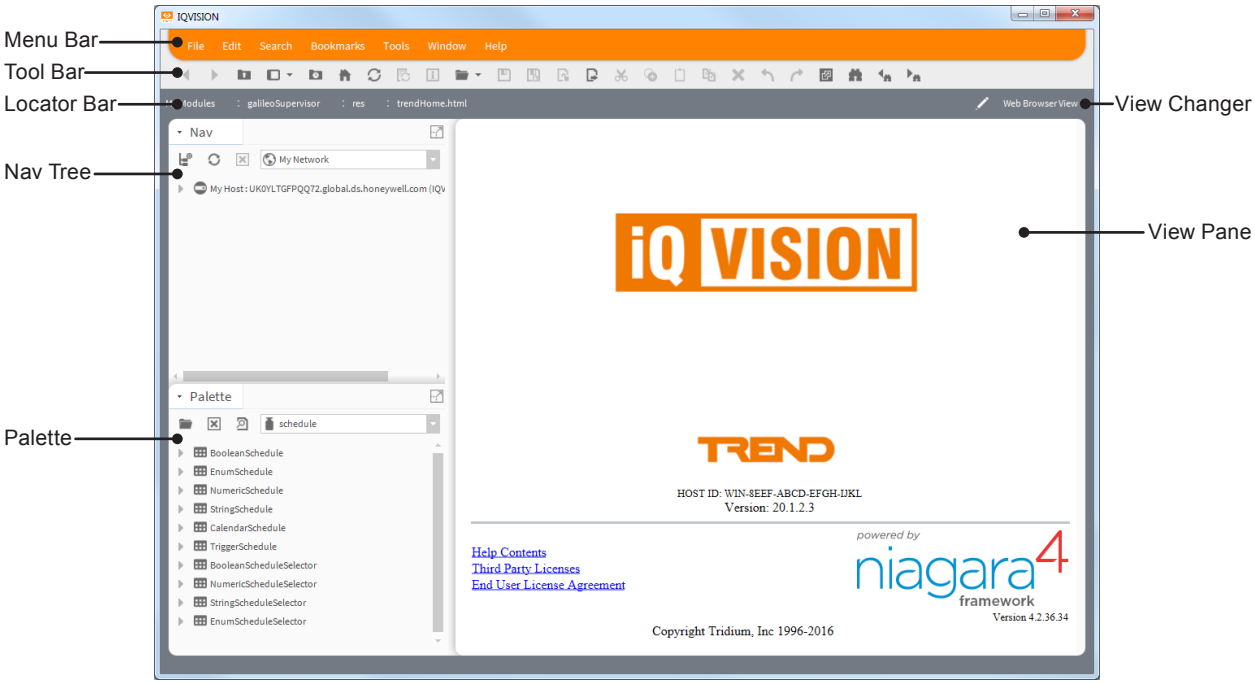
The Niagara framework supports a wide range of additional drivers, suitable for interfacing with other manufacturer's building automation systems and products. This enables the monitoring and control of these systems to be fully integrated with the management of a Trend system within a common supervisor.

Support for other drivers requires one or more additional open driver packs. For details of order codes and point counts refer to the IQVISION Data Sheet (TA201381).

2.2 User Interface

2.2.1 Application (Host PC)

This section introduces the main features of the IQVISION user interface.



2.2.1.1 Nav Tree (navigation panel)

The Nav tree (or navigation panel) provides the principle means of navigating around the elements, folders and files in IQVISION. Once configured it is here that you can view devices and points in a Trend system.

For help on using the Nav tree, refer to **page 106**.

2.2.1.2 Palettes

Palettes are useful when configuring certain elements in the system. There are many Palettes available, but the most commonly used in IQVISION are:

- Alarm Palette for configuring Alarm handling
- Schedule Palette for configuring Time Schedules
- History Palette for configuring Histories (Plots)
- KitPX Palette for configuring Graphics and accessing default images.

For help on opening and closing Palettes, refer to **page 106**.

2.2.1.3 Locator Bar

The locator bar provides similar functionality to the Nav tree. As you navigate around the file system the locator bar will update to show the current location and view.

For help on using the locator bar, refer to **page 106**.

2.2.1.4 View Pane & View Changer

The view pane is the principle work space for IQVISION. When you first run IQVISION it will display the home page (shown above). As you navigate through the system and select different items in the Nav tree, the view pane will change to show different information or configuration pages.

Some elements may provide more than one type of view. For help on selecting the required view, refer to **page 106**.

2.2.2 Client Devices

IQVISION can be accessed via web clients providing that an IP connection is possible between the client device and the PC running IQVISION.

Once accessed IQVISION provides a similar user experience to the user as when it is accessed on the main PC depending on the device being used to access.

3 SECURING IQVISION

3.1 Introduction

The purpose of this section is to provide the information necessary for those involved in the installation and maintenance of a product or system to understand the requirements for configuring and managing the security of the product or system.

Additional information may be obtained from:

- General Security Best Practice for Trend IP Based Products Information Sheet (TP201331)
- NiagaraAX Hardening Guide.

Both documents are available from the Trend PNet web site (**https://partners.trendcontrols.com**).

3.2 Disaster Recovery Planning

When developing the disaster recovery plan ensure that it includes ALL data required to restore system operation, including:

- Configuration files for platform(s) and station(s);
- Database objects;
- Licence and certificate files;
- Station Backup;
- Station Copies;

See **"Backup the Configuration" on page 91** for details.

3.3 Physical and Environmental Considerations

The PC running IQVISION should, where possible, be secured against unauthorised physical access.

3.4 Security Updates and Service Packs

Ensure the PC running IQVISION and any client devices have the latest operating system updates installed, and the latest version of IQVISION is being used.

Trend software is tested against the latest service packs and updates applicable at the time of release. For significant operating system and Java updates / service packs, please check the Trend PNet web site (**https://partners.trendcontrols.com**) for any compatibility issues.

3.5 Virus Protection

Ensure the PC running IQVISION and any client devices are running virus protection software, and the virus definitions are kept up-to-date.

Some virus protection software may have an adverse impact on the performance of IQVISION. In such cases request that the IQVISION directory be excluded from on-access scan.

Further details can be found on the Trend Partners web site (**https://partners.trendcontrols.com**).

3.6 Network Planning and Security

It is recommended that the Ethernet network used by the BEMS system is separated from the normal office network using an air gap, or virtual private network. Physical access to the Ethernet network infrastructure must be restricted. You must also ensure that the installation complies with your company's IT policy.

The use of a Firewall and Intrusion Detection System (IDS) from a reputable provider of security products is recommended for any IQVISION installation. Follow best practice for the products chosen as well as any corporate IT policy where the installation is made. Lock down the products to the particular port you've configured for IQVISION HTTPS and HTTP.

Always follow the guidelines in the 'General Security Best Practice for Trend IP Based Products Information Sheet' (TP201331).

You must also take steps to ensure the security of any other networks connected to IQVISION (e.g. BACnet).

3.7 Virtual Environments

Follow best practice for the products chosen as well as any corporate IT policy where the installation is made.

3.8 Securing Wireless Devices

If a wireless network is being used it must be secured according to your company's IT policy.

3.9 System Monitoring

For any IQVISION installation, especially when connected to the internet, Trend recommends the use of an Intrusion Detection System (IDS) from a reputable provider of security products. Follow best practice for the products chosen as well as any corporate IT policy where the installation is made.

IQVISION logs changes made to its own configuration and adjustments to the Trend control system. Many IDS and firewall products offer a complete solution for recording all the traffic coming in and out of the IQVISION PC, providing users with the ability to record all activity at the lowest level.

3.10 Securing Access to the Operating System

Ensure the PC running the IQVISION and any PCs used for IQVISION clients are secured according to your company's IT policy.

3.11 Access Control

All IQVISION files should be protected from read and write access by people and software not authorized. Trend recommends following best practice for securing system objects, such as files, and using access control appropriately.

If Windows users are granted access to the filing system location of the IQVISION project then it is possible for them to inadvertently (or deliberately) open, delete or edit any of the configuration and data files of independently of their IQVISION workgroup settings.

3.12 Securing IQVISION

The IQVISION software should be configured during installation and operation following best practice. Follow the installation procedure as described in this manual. In addition, refer to the Niagara 4 help system and Niagara 4 security guidelines.

3.12.1 Default Admin User

Initial system configuration is achieved using a default admin/engineering user account which is set up with a strong password when a Station is created.

3.12.2 Passphrase

The passphrase, specified during the IQVISION installation process, protects sensitive data on any station that you create and will be required if the IQVISION station is to be moved to another PC e.g. moved to the site PC, or restored after a PC failure.

3.12.3 Set up Other Users

Once configuration is complete (using the default admin user) further user accounts must be added that grant different users specific access rights according their role. IQVISION enforces the use of strong passwords.

For further details, see **"Set Up IQVISION Users" on page 83**.

3.13 IQVISION Security Check List

- ❑ Latest version of IQVISION is being used.
- ❑ IQVISION installation files, configuration files (including station backup), certificates and licences are included in disaster recovery plan.
- ❑ The PC running IQVISION should, where possible, be secured against unauthorised physical access.
- ❑ The Ethernet network (and any other networks) that the PC is connected to is secured, e.g. by the use of firewalls and intrusion detection systems.
- ❑ The PC is running the latest version of the Windows operating system, with all updates and service packs.
- ❑ The PC is running virus protection software.
- ❑ Appropriate user accounts are set up on PC and access to files is restricted to only those who are authorized.
- ❑ IQVISION is configured to use HTTPS using a certificate from a trusted Certificate Authority.
- ❑ IQVISION users are configured as required.
- ❑ Ensure IQVISION is configured to backup data regularly to a secure location as per your company's backup policy.

4 ENGINEERING PROCEDURE

Before IQVISION can be used it must be engineered to communicate with the required devices and to present the information to the user. The following steps are recommended:

- Installing IQVISION
- Licensing IQVISION
- Initial Setup
- Building a Site
- Connect to TONNs
- Connect to 3rd Party Systems
- Controlling Complex Occupation Times
- Configuring Alarms
- Creating Schematics (PX Pages)
- Set Up IQVISION Users
- Backup the Configuration

5 INSTALLING IQVISION

This section describes how IQVISION should be installed to ensure that it operates correctly. The following steps are required to install IQVISION:

- Check installation requirements - see **'Installation Requirements'**.
- Obtain the software - see **'Obtaining the IQVISION Software'**.
- Install the software - see **"Installing the IQVISION Software" on page 20**.
- Install the Platform Daemon (if required) - see **"Installing the Platform Daemon" on page 20**
- Configure the Windows Firewall - see **"Configuring the Windows Firewall" on page 21**

5.1 Installation Requirements

Before installing, or upgrading, ensure that the PC meets the system requirements. Refer to the IQVISION Data Sheet (TA201381).

The PC on which IQVISION is to be installed must have TCP/IP access to a virtual CNC within the Trend network.

5.2 Obtaining the IQVISION Software

1. Log in to the Trend Approved Partners site (PNet) at **https://partners.trendcontrols.com**

   Note: A username and password is required to access the site.

2. Go to the **Downloads** area and click the **IQVISION v2.0.zip** file and save it to an empty folder on the PC.

5.3 Installing the IQVISION Software

1. Unzip the **IQVISION v2.0.zip** file into an empty folder.
2. Log in to the PC as someone with Administrator rights.

   Note: It is recommended that you close all other programs before installing IQVISION. However, do not close any virus protection software.

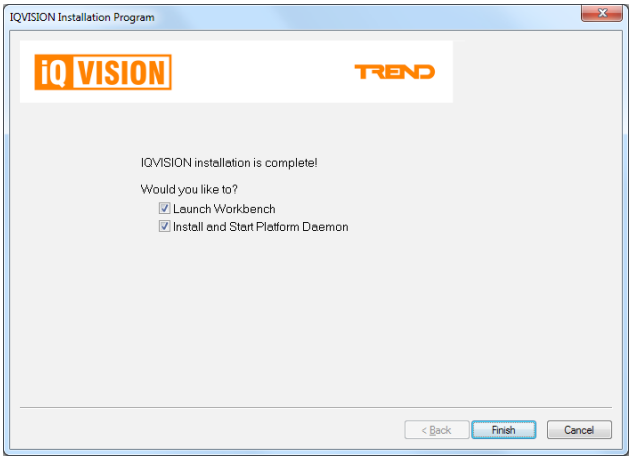
3. Run 'Installer_x86.exe' (for 32-bit operating systems) or 'Installer_x64.exe' (for 64-bit operating systems), and wait for the first installation screen to appear.
4. Follow the on-screen instructions to:

   - Read and accept the license agreement.
   - Change the destination folder (if required). The default path is 'C:\TrendControlSystems\IQVISION'.

     Note: If you enter a new path it must not contain spaces.

   - Add shortcuts to the Start Menu and Desktop.

   Once the installation is complete the following screen is displayed.



   Note: During the installation you will be prompted to create a passphrase which ensures sensitive data on any station that you create is protected. Ensure that you remember it and keep it safe as it will be required to move the configured IQVISION to another PC.

5. Leave both options selected and click the **Finish** button.

5.4 Installing the Platform Daemon

If there are other instances of Niagara (or IQVISION) on the same PC then the Platform Daemon must be installed. This will typically be set up during the installation process. It can also be installed and run manually.

1. Click **Start** and choose **All Programs**.
2. Navigate to the **Trend Control Systems** > **IQVISION** folder.
3. Click **Install Platform Daemon**.

   After a few seconds a command window should briefly appear with the following message:

   ```
   installdaemon: Niagara service successfully installed.
   ```

5.5 Configuring the Windows Firewall

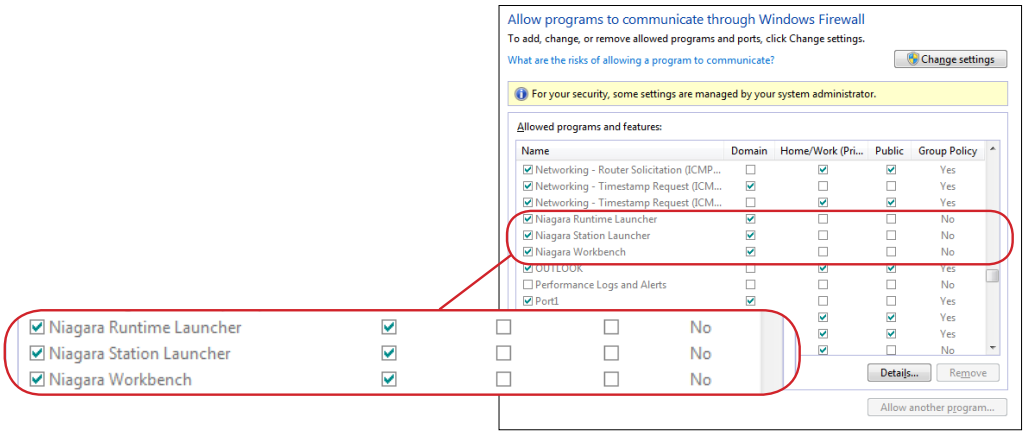
You may need to configure the Windows Firewall to allow IQVISION to communicate correctly.

To configure the Windows Firewall:

1. Open the Windows Firewall.

   - In Windows 10 or 8, type 'Windows Firewall' in the **Search** box;
   - In Windows 7, click the Windows Start button, type 'Windows Firewall' in the **Search** box.
   - Click **Windows Firewall** from the list of search results.

2. Click **Allow a program or feature through Windows Firewall**. The **Allowed programs and features list** is displayed.



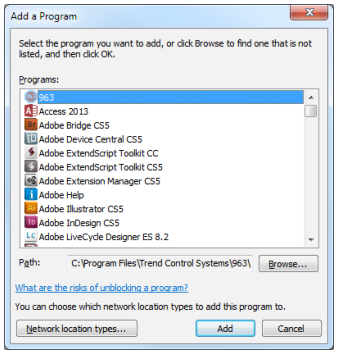
3. Scroll down the list and check that entries exist for Niagara Runtime Launcher, Niagara Station Launcher, and Niagara Workbench for your IQVISION installation folder. **If these programs do not appear in the list you will need to add them** (see procedure below).

   Note: Each installed instance of Niagara requires its own entries in the Firewall settings.

4. If you need to change any settings click **Change settings** and edit the checkboxes as required.

To add programs to the firewall:

1. Open the **Allowed programs and features list** as described above.
2. Click **Change settings**.
3. Click **Allow another program**. The **Add a Program** dialogue box is displayed.



4. Click **Browse** and navigate to the **Trend Control Systems | IQVISION | bin** folder.
5. Double click the program to be added.

   To add Niagara Runtime Launcher select **nre.exe**
   To add Niagara Station Launcher select **station.exe**
   To add Niagara Workbench select **wb_w.exe**

6. The program will appear highlighted in the **Add a Program** dialogue box. Click **Add** to add the program to the firewall list. The dialogue box will close.

7. Repeat steps 3 through 6 to add the other programs.

6 LICENSING IQVISION

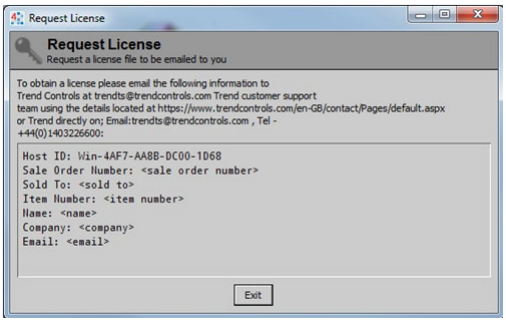
Before IQVISION can be used, it must be licensed. The licence will allow you to run the application on a single PC.

6.1 Obtain an IQVISION Licence and Certificate

When an unlicenced installation of IQVISION is run you will be prompted to email certain details to Trend in order for them to provide the relevant licence and certificate files.

To obtain a licence:

1. Launch the IQVISION application, e.g. from the **Start** menu point to **All Programs > Trend Control Systems > IQVISION and** then click **IQVISION**. The **Request License** dialogue box is displayed.



2. Email the requested information to **trendts@trendcontrols.com** including the email address you would like the licence files sent to.
3. Click **Exit** to close the dialogue box.

The customer services department will process your request, and email the licence and certificate files to the specified email address.

6.2 Install the IQVISION Licence

Your IQVISION licence is emailed to you as a ZIP file containing a number of licence and certificate files which need to be installed on the PC containing IQVISION, this can be done in two ways:

- Automatically
- Manually

6.2.1 Automatic Licencing

IQVISION can be licenced automatically via the global license server providing the PC has internet access. If this is the case when IQVISION is run after your licence request has been processed it will automatically be licenced and the files copied to the required folder.

6.2.2 Manual Licencing

To install the licence and certificate files:

1. Copy the ‘Licences.zip’ file to the PC hard disc.
1. Extract all the files from ‘Licences.zip’ to an empty folder. The folder should now contain six files.
2. Copy the three ‘.licence’ files to the ‘C:\TrendControlSystems\IQVISION ...\security\licenses’ folder.
3. Copy the three ‘.certificate’ files to the ‘C:\TrendControlSystems\IQVISION ...\security\certificates’ folder.
4. You will now be able to launch the IQVISION application.

6.3 Updating a Licence

If you purchase a licence upgrade, e.g. for additional points, you will be emailed the updated licence files as a ZIP file containing a number of licence and certificate files and it will be necessary to upgrade the IQVISION licence. If the IQVISION PC is connected to the internet this should happen automatically - see **"Automatic Licencing" on page 23**, alternatively the files can be copied manually - see **"Manual Licencing" on page 23**.

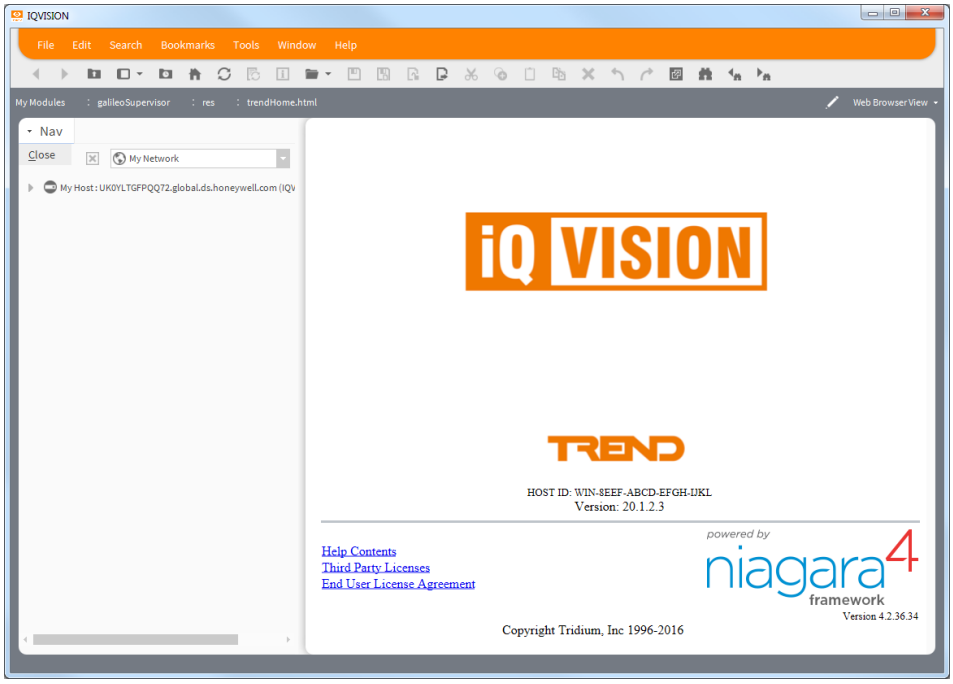
7 INITIAL SETUP

When IQVISION is run for the first time you will need to work through an initial setup procedure which involves the following steps:

- Launch the IQVISION Application
- Open the Platform
- Create a New Station
- Open the Station

7.1 Launch the IQVISION Application

1. Click **Start** and choose **All Programs**.
2. Navigate to the **Trend Control Systems** > **IQVISION** folder.
3. Click **IQVISION**. The IQVISION application window will open:

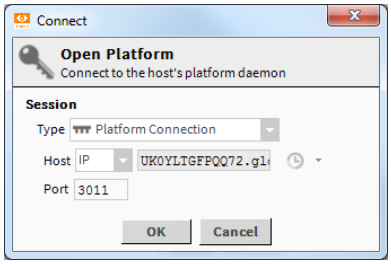


Note: For an overview of the IQVISION user interface, see **page 11**.

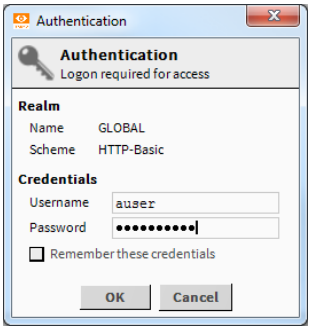
4. Proceed to **"Open the Platform" on page 26**.

7.2 Open the Platform

1. In the **Nav** tree right-click on **MyHost** and choose **Open Platform**. The **Connect** dialogue box is displayed.



2. In the **Type** box select **Platform Connection**. Leave other settings at their default values.
3. Click **OK**. The **Authentication** dialogue box is displayed.

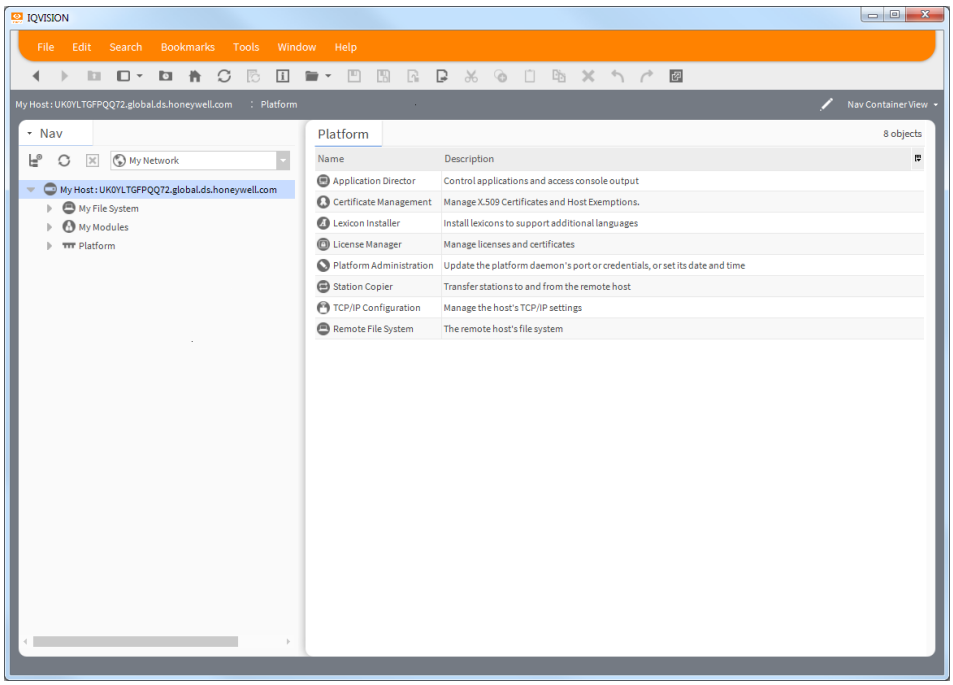


Note: If a 'Cannot display page' error appears, ensure that the Platform Daemon has been installed - see **"Installing the Platform Daemon" on page 20**.

4. Enter the **Username** and **Password** that you would normally use to login to the PC.

   *Note: For security it is recommended that the **Remember these credentials** box is left unchecked.*

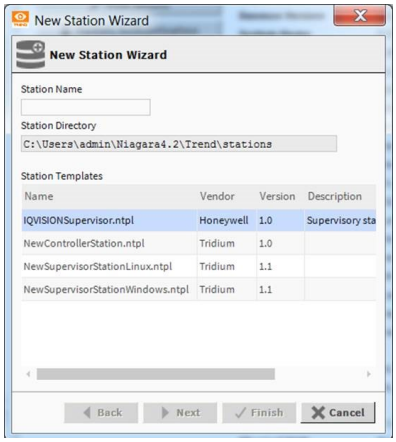
5. Click **OK**. A 'Platform' item will now appear in the **Nav** tree and various platform objects will appear in the view pane.



6. Proceed to **"Create a New Station" on page 27**.

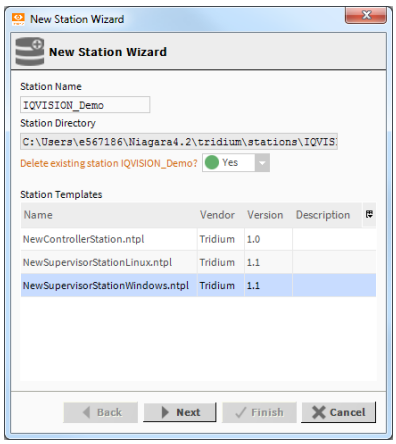
7.3 Create a New Station

1. From the **Tools** menu select **New Station**. The **New Station Wizard** is displayed.

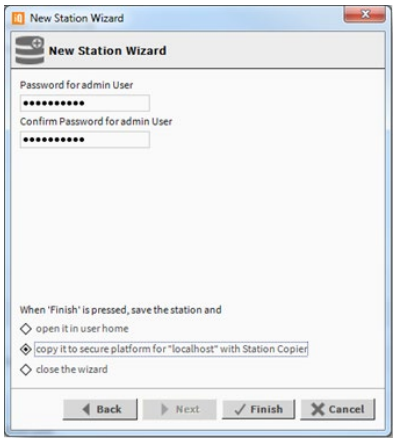


2. Under **Station Templates** click **IQVISIONSupervisor.ntpl** to highlight it.
3. Type a suitable name in the **Station Name** box.

   *Note: If a station already exists with that name you will be prompted to delete the existing station. You must select **Yes** to proceed.*



4. Click **Next**.



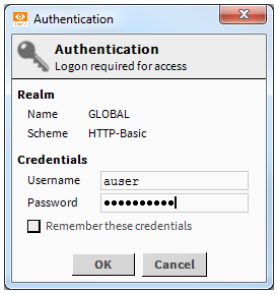
5. Type a password in the **Password for admin User** box.

   Note: The password must have a minimum of 10 characters and include at least one capital letter, one lowercase letter and one numeral (digit).

6. Retype the password in the **Confirm Password for admin User** box.

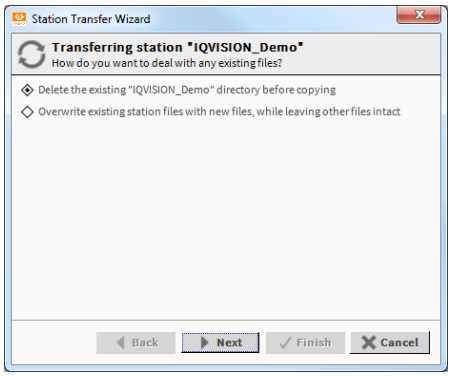
   Note: This password is for the 'admin' and should be reserved for engineers.

7. Select the **copy it to secure platform for "localhost" with Station Copier** option.
8. Click **Finish**.
9. If you have not already logged in to the Platform the **Authentication** dialogue box is displayed, go to step **10**.

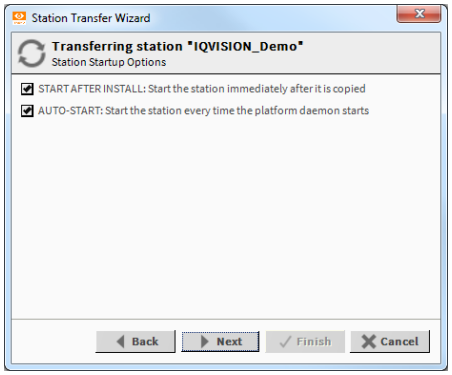


If you have already logged into the Platform, go to step **11**.

10. Enter your **Username** and **Password** (login credentials of the PC) and click **OK**.
11. If a station with the same name already exists, you will first be prompted how to proceed.



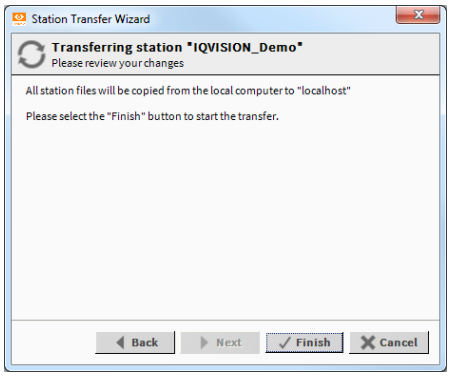
12. Specify the required option.
13. Click **Next**. A dialogue box enabling you to specify the start-up options is displayed.



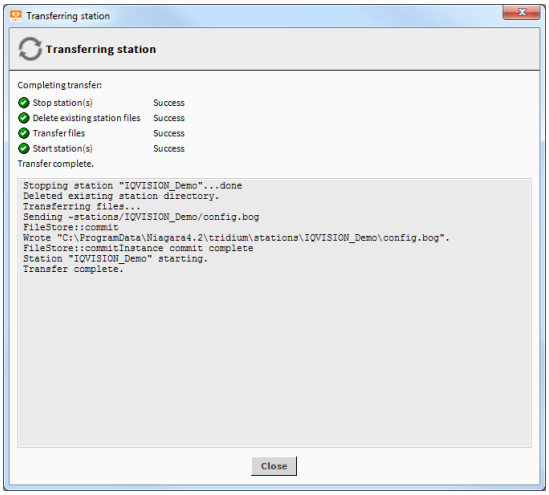
14. Select the required start-up options.

Option	*Description*
START AFTER INSTALL	Select this option if you want to start the station as soon as it has copied (recommended). *Note: When developing several Supervisors other stations will need to be stopped.*
AUTO-START	Select this option if you want the station to be started when the PC is restarted (recommended).

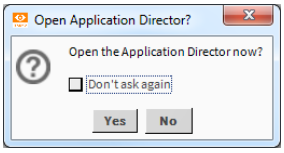
15. Click **Next**.



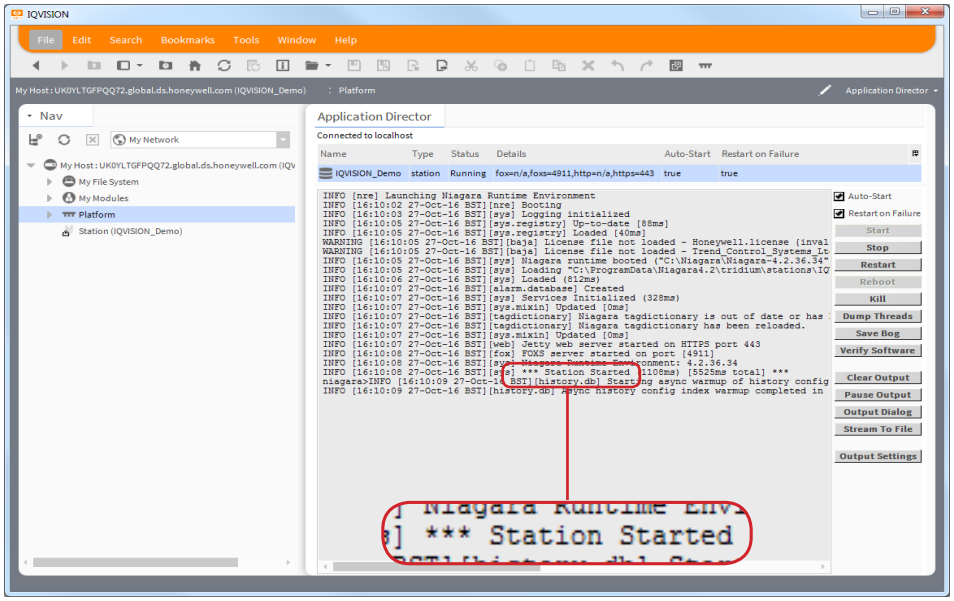
16. Click **Finish**. A progress update is displayed.



17. When the process is complete, click **Close**. The **Open Application Director** dialogue box is displayed.



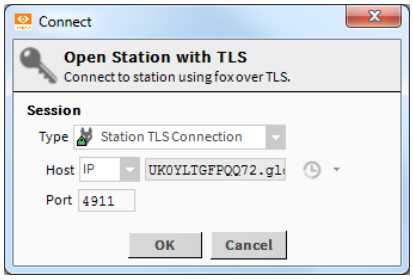
18. Click **Yes**. The **Application Director** is displayed. Check that a 'Station Started' message is shown.



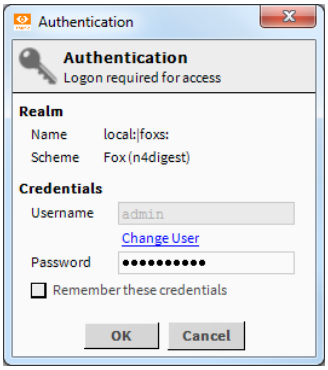
19. Proceed to **"Open the Station" on page 30**.

7.4 Open the Station

1. In the **Nav** tree right-click on **MyHost** and select **Open Station**. The **Connect** dialogue box is displayed.



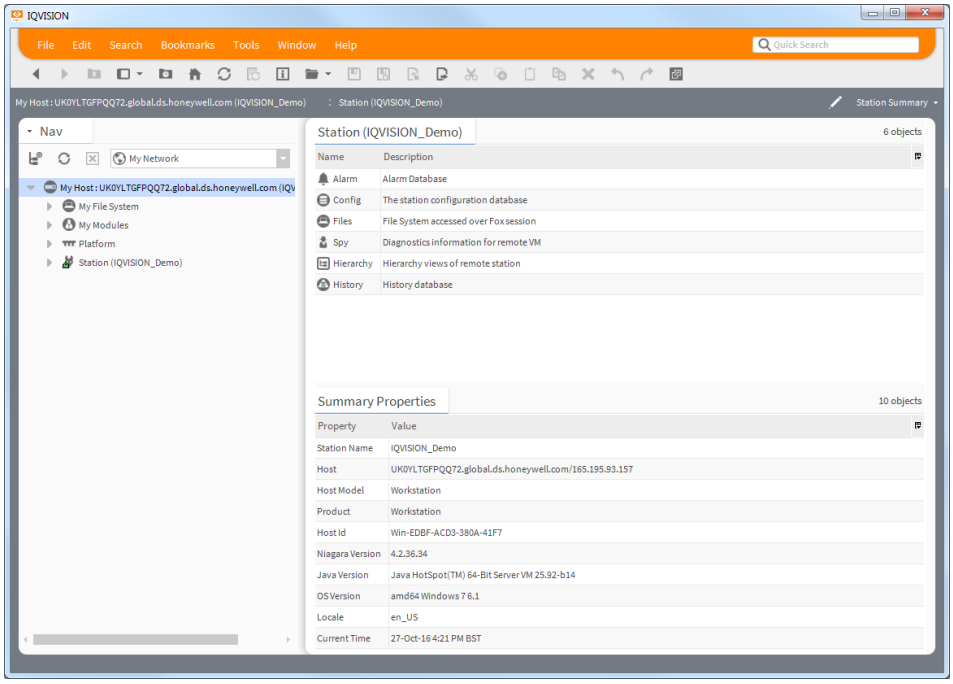
2. In the **Type** box select **Station TLS Connection**. Leave other settings unchanged.
3. Click **OK**. The **Authentication** dialogue box is displayed with the default 'admin' user selected.



4. Type the appropriate password in the **Password** box (i.e. the password specified when the Station was created).

   *Note: For security it is recommended that the **Remember these credentials** box is left unchecked.*

5. Click **OK**.
6. After a short delay, the chosen station name will appear in the **Nav** tree and the view pane will show a summary of Station parameters (Station Summary view):



7. Proceed to **"Building a Site" on page 31**.

8 BUILDING A SITE

Building a site within IQVISION involves creating a database that reflects the structure, devices and points within the associated Trend system. A point represents the value or state of an item in the system, e.g. the value of a temperature sensor.

There are two methods of building a site within IQVISION:

- Using the Migration Tool (recommended)
- Using Manual Site Discovery

You can use either or both methods to build your site, according to your requirements.

IMPORTANT: *It is best practice to only add the points required for use in IQVISION. Adding unwanted points will increase memory usage and affect the remaining licence count.*

8.1 Using the IQVISION Migration Tool

The Migration Tool allows you to import device data from other Trend tools like 963 and IQSET for use in IQVISION. Schematic files from 963 can also be imported and converted in to PX Pages in IQVISION. This is useful for quickly setting up IQVISION for use with existing sites or where site designers wish to reuse previously designed interface components when setting up a new site.

The Migration Tool can be used whether or not IQVISION is connected to the actual site. For further details refer to **"Migration Tool" on page 95**.

8.2 Using Manual Site Discovery

IQVISION allows you to read device data in directly from a site and manually add the required points to the database. This can only be achieved while IQVISION is connected to the site and involves the following steps:

- **Add a Trend Driver**
- **Configure the Trend Driver(s)**
- **Discover and Add Devices from the Trend Site**
- **Add the Required Trend Points to the Database**
- **Add User-defined Points**
- **Add Time Schedules**
- **Add Trend Plots (Histories)**
- **Set History Update Rates for a Trend Site**

If you have purchased an OPEN licence and want to use values from non-Trend systems it is necessary to connect to the 3rd-party systems and add the required points to IQVISION - see **"10 Connect to 3rd Party Systems" on page 47**.

8.2.1 Add a Trend Driver

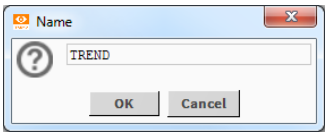
A Trend Driver is required for each Trend Network (or Site) that you wish to supervise with IQVISION. These must be added and copied to a specific folder. The Trend driver controls the communications and flow of data to and from the site.

Note: On larger sites it may speed up data transfer to utilise two separate Trend drivers – one that is used for points and Time Schedules, and one that is dedicated to histories.

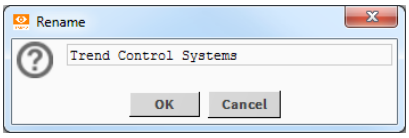
8.2.1.1 Create a folder for Trend Drivers

1. In the **Nav** tree open the **Station** folder.
2. Open the **Config** folder.

3. Right-click on **Drivers** and select **New > Folder**. The **Name** dialogue box is displayed.



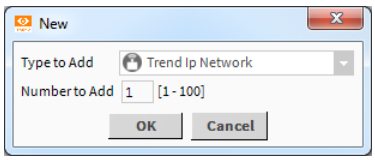
4. Type *TREND* and click **OK**. The new folder will appear in the **Nav** tree.
5. Right-click the **TREND** folder and select **Rename**. The **Rename** dialogue box is displayed.



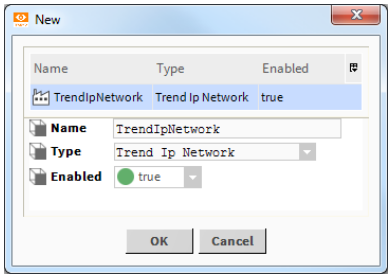
6. Type *Trend Control Systems* and click **OK**.

8.2.1.2 Add the Trend Driver

1. In the **Nav** tree open the **Station** folder.
2. Open the **Config** folder.
3. Double click on **Drivers**. The view pane will show a list of installed Drivers (Driver Manager).
4. Click on the **New** button. The **New** dialogue box is displayed.



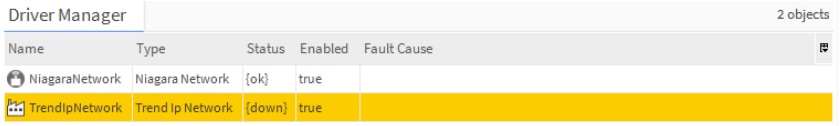
5. In the **Type to Add** box select 'Trend Ip Network'.
6. Click **OK**. The following dialogue box is displayed.



7. Change the default network **Name** to be a meaningful name for the site.

   Note: This can be renamed later by right-clicking the driver in the Nav tree and selecting Rename.

8. Click **OK**. The **Driver Manager** will now show the Trend driver.



   Note: The Status indicator will show '{down}' as it is not yet configured/connected to the site.

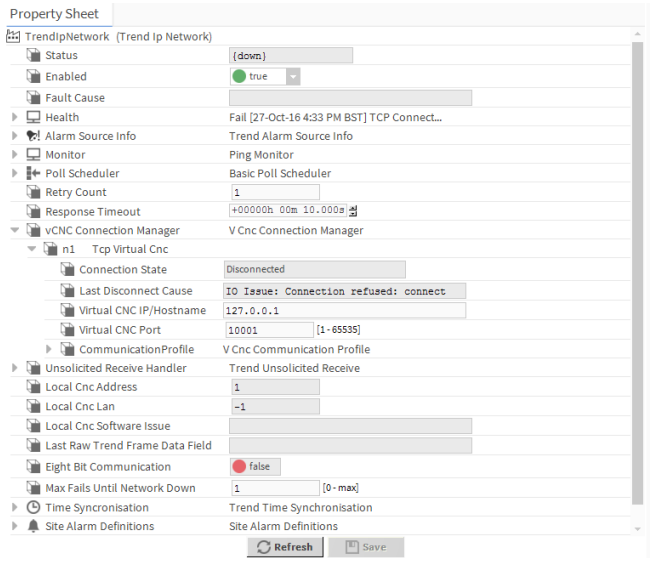
9. Right-click the driver and select **Cut**.
10. In the **Nav** tree, right-click the **Trend Control Systems** folder (created in section 8.2.1.1 on page 31) and select **Paste**.
11. Repeat this process for each Trend site.
12. You now need to configure the communications for each Trend driver - see **"Configure the Trend Driver(s)" on page 33**.

8.2.2 Configure the Trend Driver(s)

IQVISION connects to the Trend network using a vCNC in a Trend device. It is necessary to configure IQVISION with the IP Address (or hostname) of the device with the vCNC and the port number of the vCNC. You may also need to change some connection settings.

Before performing this step it is recommend that you set up the vCNC in the Trend device in order that the connection can be tested. Refer to the relevant device documentation for details.

1. In the **Nav** tree right-click on the Trend driver (e.g. **TrendIpNetwork**) and choose **Views** > **Property Sheet**. The view pane will show a list of driver properties:



2. Expand the **vCNC Connection Manager** and **n1** items.
3. Enter the details of the vCNC that IQVISION is to use to connect to the Trend system:

   - Type the IP Address (or hostname) of the vCNC device in the **Virtual CNC IP/Hostname** box, e.g. *165.195.93.158*.
   - Type the port number of the vCNC in the **Virtual CNC Port** box, e.g. *10024*.

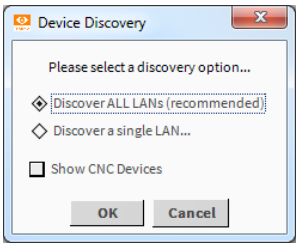
4. If the vCNC is located on a site containing an IQeco, IQ1 or IQ2 controller you may need to increase the **Response Timeout** from the default of 10 s, due to the slower response times of these controllers.
5. Expand the **Communication Profile** item and change the default parameter settings if required.

Parameter	*Default*	*Setting*
Permanent Connection	true	true = permanent connection. Select if alarms are to be sent to the vCNC connecting IQVISION to the Trend network. false = temporary connection.
Connection Timeout	10 s	The time period before a connection attempt is considered to have failed. This may need to be increased when making remote connections over VPN.
Connection Reconnect Delay	10 s	The time period before a reconnection is attempted after a connection timeout.
Retrys Per Connection Attempt	3	The number of reconnection attempts. This may need to be increased when making remote connections over VPN.
Linger Pre Disconnect	1 m	On a temporary connection this sets how long the connection remains open after the last comms message.

6. Click  .
7. Check that the **Connection State** changes from ‘Disconnected’ to ‘Connected’. If not, check that the IP Address (or hostname) and port number have been entered correctly and that the vCNC is enabled.
8. Repeat this process for each Trend driver.
9. Proceed to **“Discover and Add Devices from the Trend Site” on page 34**.

8.2.3 Discover and Add Devices from the Trend Site

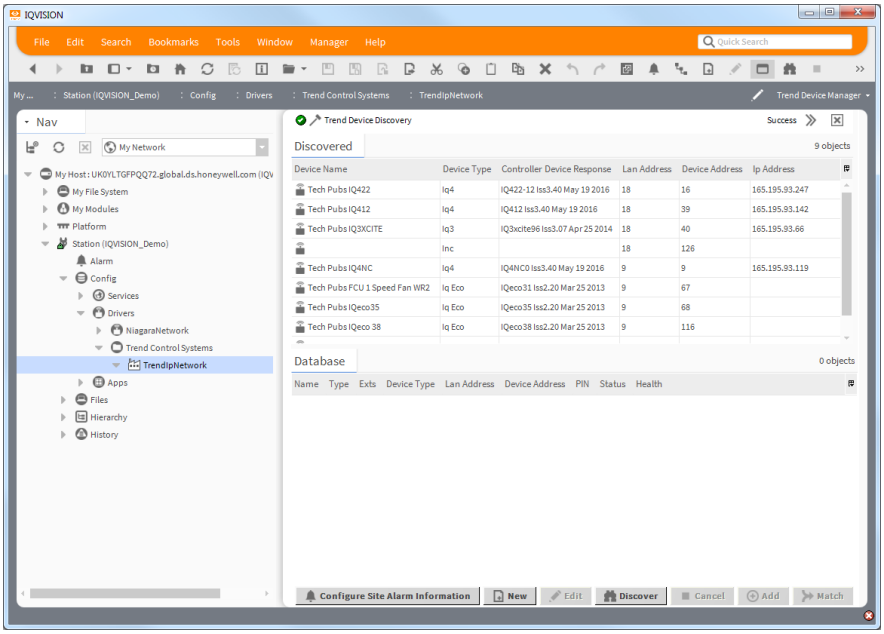
1. In the **Nav** tree, open the **Drivers** folder and double click the Trend Driver/Site. The view pane will display the **Trend Device Manager**.
2. Click the **Discover** button. The **Device Discovery** dialogue box is displayed.



3. Choose the required option discovery option:

Choose...	*To Discover...*
Discover ALL LANs	All devices on all LANs accessible via the vCNC.
Discover a single LAN...	Devices on a single specified LAN. After selecting this option a dialogue box is displayed requesting a valid LAN number.

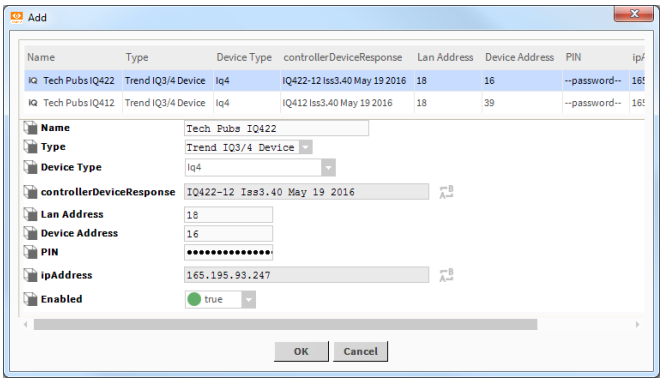
4. To include CNC devices in the discovery, select **Show CNC Devices**.
5. Click **OK**. The discovery process starts. A progress bar at the top of the pane indicates the status of the discovery. Once the discovery is complete the devices that have been discovered are displayed in the **Discovered** list.



Hint: During the discovery process you can click on the » button at the top right to display a Job Log giving details about the discovery process so far.

6. In the **Discovered** list select the device(s) from which values are required. To select more than one device hold down the CTRL key and click on the required devices.

7. Click **Add** or drag the selected device(s) to the **Database** list. The **Add** dialogue box is displayed.

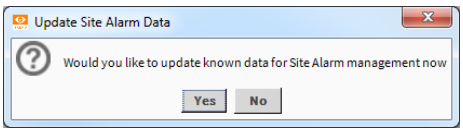


8. Review the settings for each device:

   - If required, change the device name in the **Name** box.
   - If a controller has security enabled, enter a suitable PIN in the **PIN** box. The PIN must correspond to a User Module (in the controller's strategy) with a user level of at least 99.

   If multiple devices are listed, click on the device in the list (to highlight it) to view its settings.

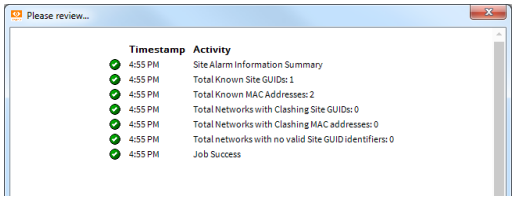
9. Click **OK**. You will now be asked if you want to update site alarm data:



10. Click **Yes** to start the process of learning GUIDs from IQ3 and IQ4 controllers, and MAC addresses from all Ethernet devices. This information is used by the alarm listener service. Scanning may take a while.

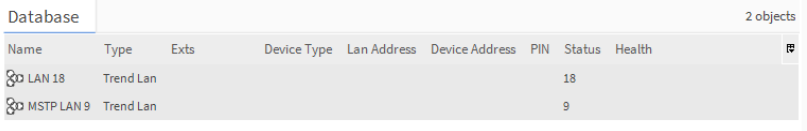
    Click **No** to perform this process later, and go to 12 - see **"Configuring Site Alarm Information" on page 64**.

    If you select **Yes**, scanning will start. Once completed a results dialogue box is displayed goto 11. For example:

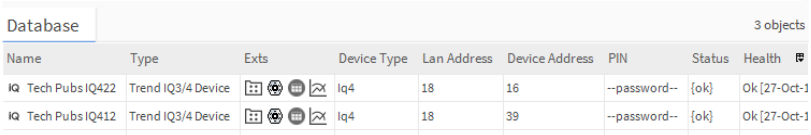


    Check the results for any problems found, such as having more than one GUID or duplicate MAC addresses.

11. Close the dialogue box (click X). The device(s) is added to the **Database** and sorted in to LAN groups:



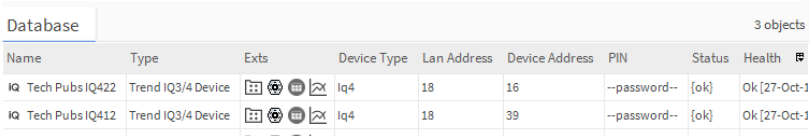
12. Check that the required devices have been added. Double click on a LAN to display the devices found on that LAN.



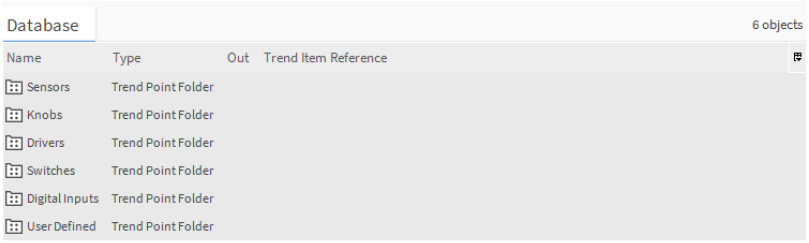
8.2.4 Add the Required Trend Points to the Database

This process allows you to add point values for Sensors, Knobs, Drivers, Switches and Digital Inputs from previously discovered devices. To add points for other Trend modules or parameters refer to **"Add User-defined Points" on page 38**.

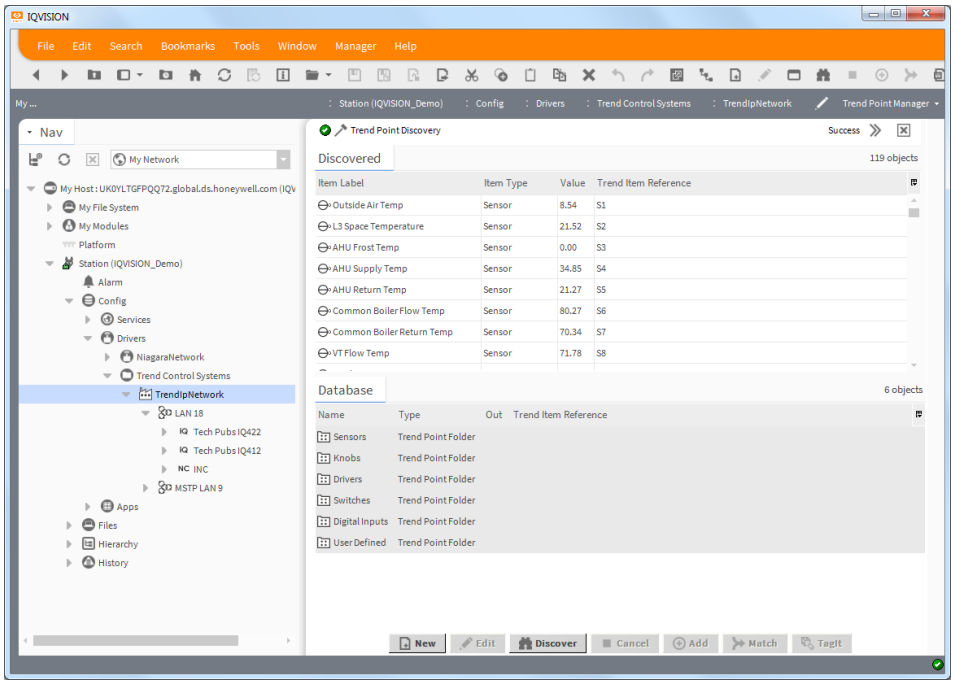
1. In the **Nav** tree double click the Trend Driver/Site to open the **Trend Device Manager**.
2. Double click the required LAN. The **Database** list will show the previously discovered devices:



3. In the **Exts** column of the **Database** list double click the icon for the required controller. The **Trend Point Manager** is displayed.



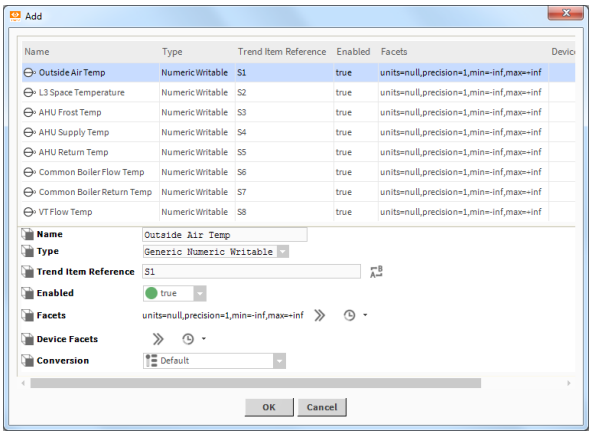
4. To discover only points of one type, double click the required point type (e.g. Sensors). Otherwise, to discover all available points, go to step 5.
5. Click **Discover**. The discovery process starts. A progress bar at the top to the pane indicates the status of the discovery. Once the discovery is complete, module details are displayed in the **Discovered** list:



6. In the **Discovered** list select the required points (values). To select more than one point hold down the CTRL key and click on the required points.

Note: Remember that IQVISION is licensed for use up to a specific number of points. It is good practice, therefore, to only add points that are actually required. Adding points that won't be used by IQVISION will not only waste resources but also generate unnecessary extra network traffic.

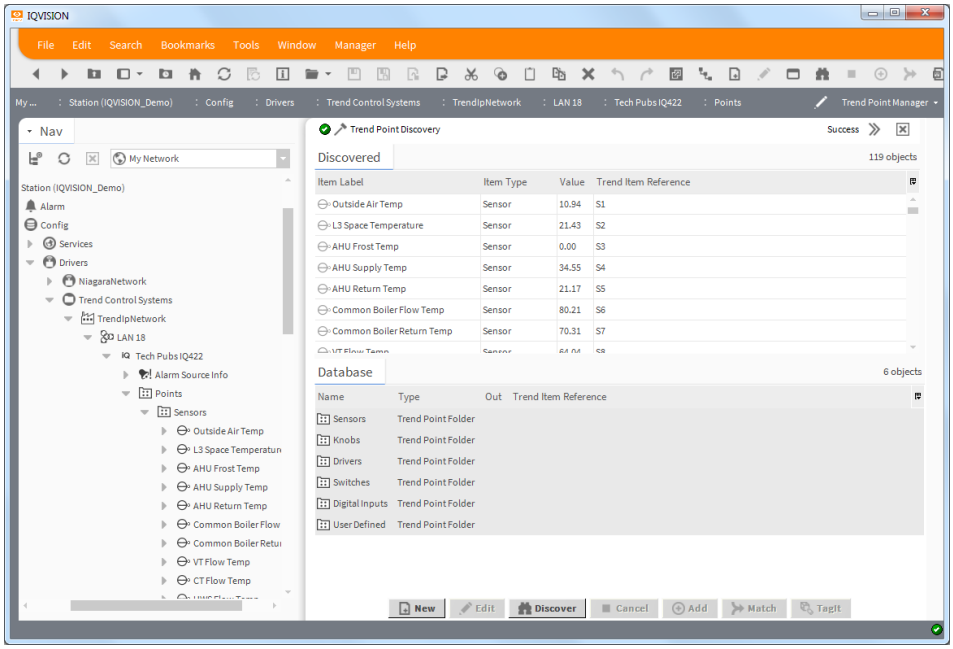
7. Click **Add** or drag the selected point(s) to the **Database** pane. The **Add** dialogue box is displayed.



Note: IQVISION automatically chooses the most suitable writable point type. However, this can be manually changed by selecting a point in the list and choosing a different Item Type:

Item Type	***Point Usage***
Generic Numeric Point	Numeric values, readable only
Generic Numeric Writable	Numeric values, readable and writable
Generic Boolean Point	Binary (on/off) values, readable only
Generic Boolean Writable	Binary (on/off) values, readable and writable

8. Click **OK**. The selected point(s) is added to the **Database** and sorted into folders in the **Nav** tree.

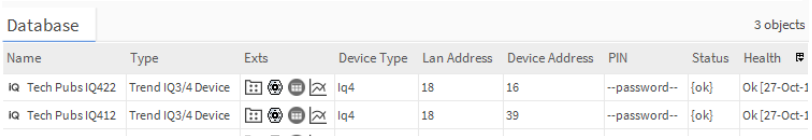


9. Repeat the above process to add points for each controller.

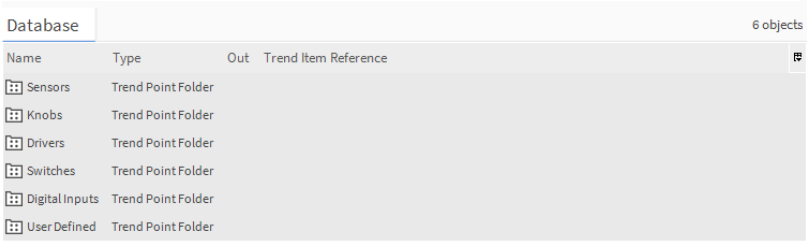
8.2.5 Add User-defined Points

Points can be added to IQVISION for any Trend module parameter that can be accessed through Trend text comms as long as you know the reference for the parameter. For example, you may want to expose the high alarm value for a sensor. For further details on text comms codes refer to the configuration manual for the appropriate controller(s).

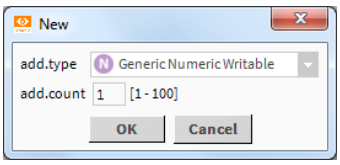
1. In the **Nav** tree right-click on the Trend driver and select **Views > Trend Device Manager.**
2. Double click the LAN for the required controller. The **Database** list will show previously discovered devices:



3. In the **Exts** column of the **Database** pane double click the icon for the required controller in the list. The **Trend Point Manager** is displayed.



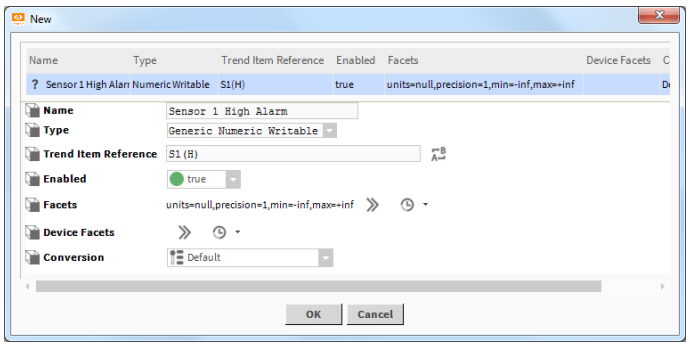
4. Double click the **User Defined** point type.
5. Click **New**. The following dialogue box is displayed.



6. In the **add.type** box select the option that best suits the point type:

Item Type	*Point Usage*
Generic Numeric Point	Numeric values, readable only
Generic Numeric Writable	Numeric values, readable and writable
Generic Boolean Point	Binary (on/off) values, readable only
Generic Boolean Writable	Binary (on/off) values, readable and writable

8. Click **OK**. The following dialogue box is displayed.



9. In the **Name** box type a suitable name for the point (e.g. *Sensor 1 High Alarm*).
10. In the **Trend Item Reference** box type the text comms code for the required parameter (e.g. *S1(H)*).

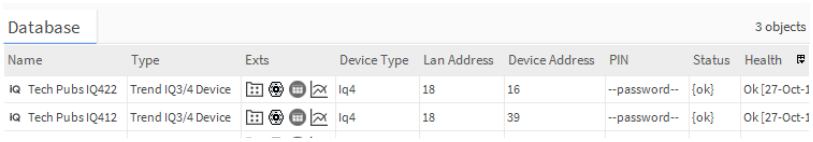
    Note: IQVISION does not check that the text comms reference is valid.

11. Click **OK**. The point is added to the database.

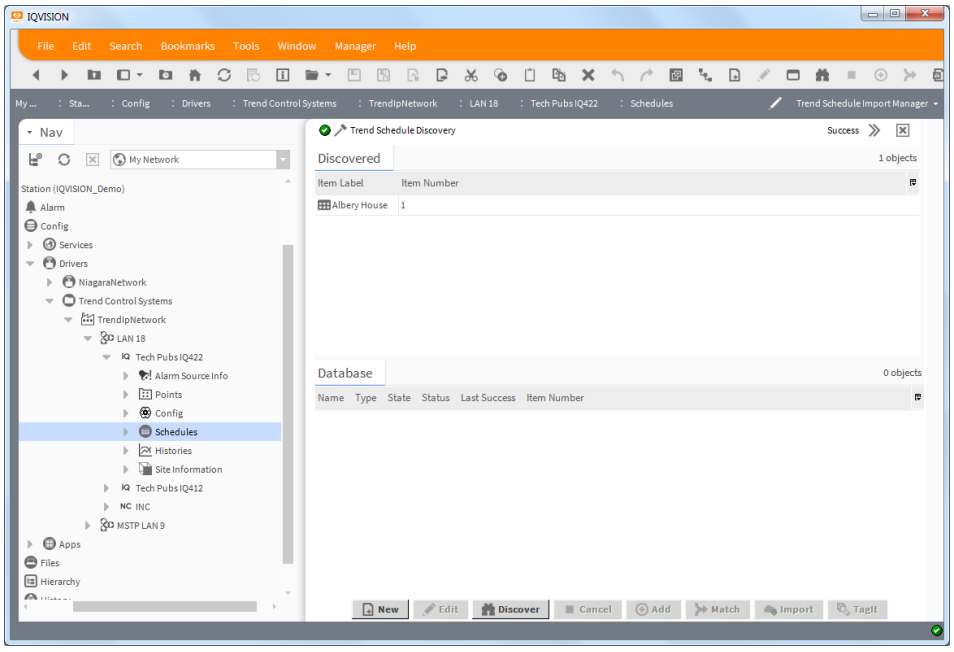
8.2.6 Add Time Schedules

IQVISION manages the reading and writing of Time Schedules separately. A read only 'import' version of the time schedule is used to obtain data from the controller. If times or exceptions (Special Events) only need to be viewed in IQVISION then this is all that is needed. However, to be able to change times or add/change exceptions (Special Events) a second editable 'export' version of the time schedule must be created.

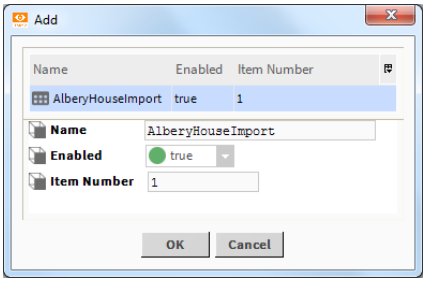
1. In the **Nav** tree double click the Trend Driver/Site to open the **Trend Device Manager**.
2. Double click the required LAN. The **Database** list will show the previously discovered devices:



3. In the **Exts** column of the **Database** list double click the icon for the required controller. The **Trend Schedule Import Manager** is displayed.
4. Click **Discover**. Any Time Schedules in the controller will appear in the **Discovered** list:

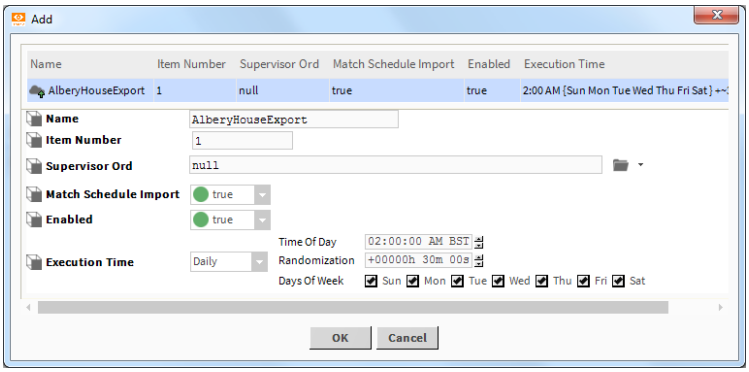


5. Select the required time schedule(s) and click **Add**. The **Add** dialogue box is displayed.

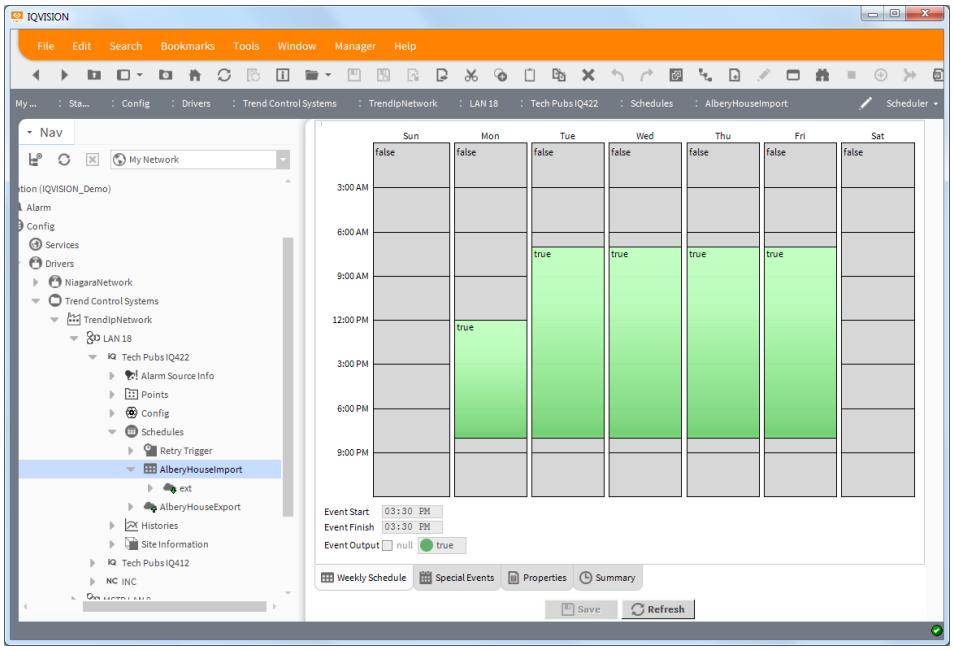


6. Click **OK**.
7. In the **Nav** tree right-click **Schedules** and choose **Views** > **Trend Schedule Export Manager**.
8. Click **Discover**. Any Time Schedules in the controller will appear in the **Discovered** list.

9. Select the required time schedule(s) and click **Add**. The **Add** dialogue box is displayed.



10. Click **OK**.
11. Open the **Schedules** folder. You will see both an 'Import' and 'Export' version of the time schedule.
12. Double click the read-only 'Import' schedule view to check times have been collected from the controller:



For simple systems the export version of the time schedule can be used to make changes to controller's occupation times or set up Special Events (exceptions). See **"Viewing and Changing Occupation Times (Time Schedules)" on page 110**.

For more complex occupation requirements see **"Controlling Complex Occupation Times" on page 53**.

8.2.7 Add Trend Plots (Histories)

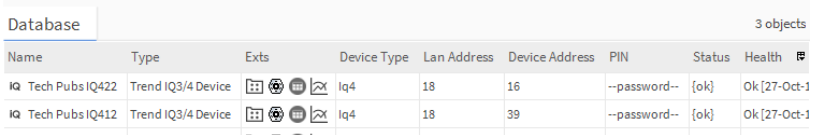
Plot records held in Trend controllers can be downloaded into an IQVISION history and used for displaying graphs of measured values.

By default, data is collected from a plot module once daily at 02:00:00 AM GMT. This can be altered as required for each history, and must be altered for plots with intervals of 1 second or 1 minute to prevent data being lost. For example, assuming a plot module maintains a maximum of 1000 plot records, 1 second plots must be collected at least once every 16 minutes, and 1 minute plots must be collected at least once every 16 hours.

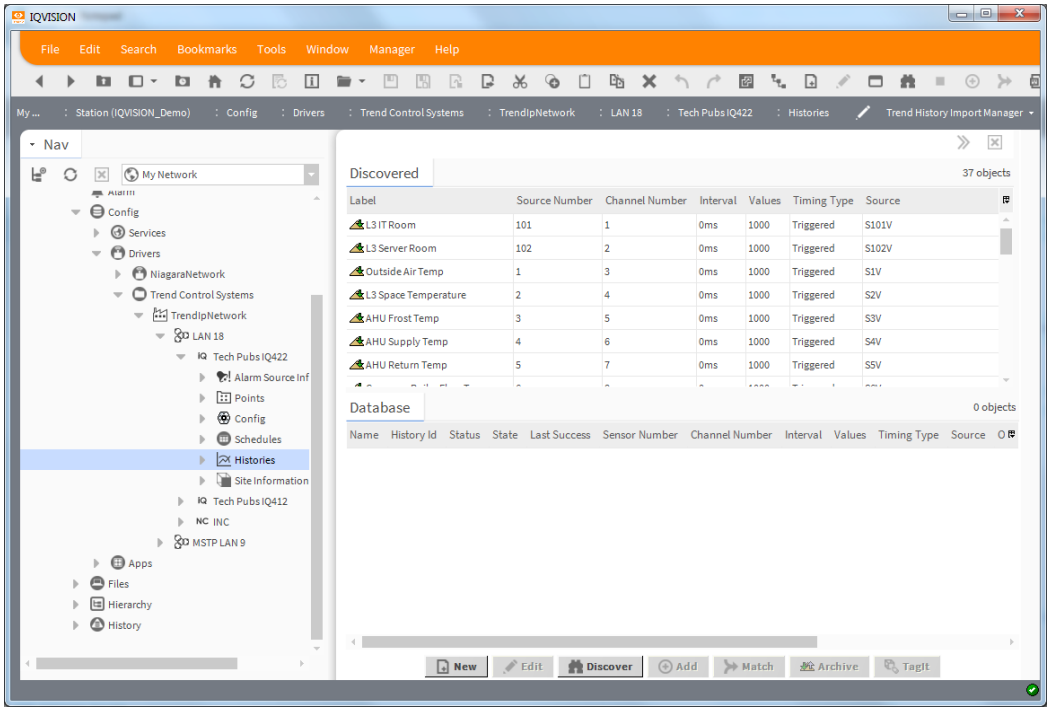
1. In the **Nav** tree double click the Trend Driver/Site to open the **Trend Device Manager**.

   Note: To speed up data transfer larger sites may utilise two separate Trend drivers – one that is used for points and Time Schedules, and one that is dedicated to histories. Ensure that the correct driver is selected.

2. Double click the required LAN. The **Database** list will show the previously discovered devices:

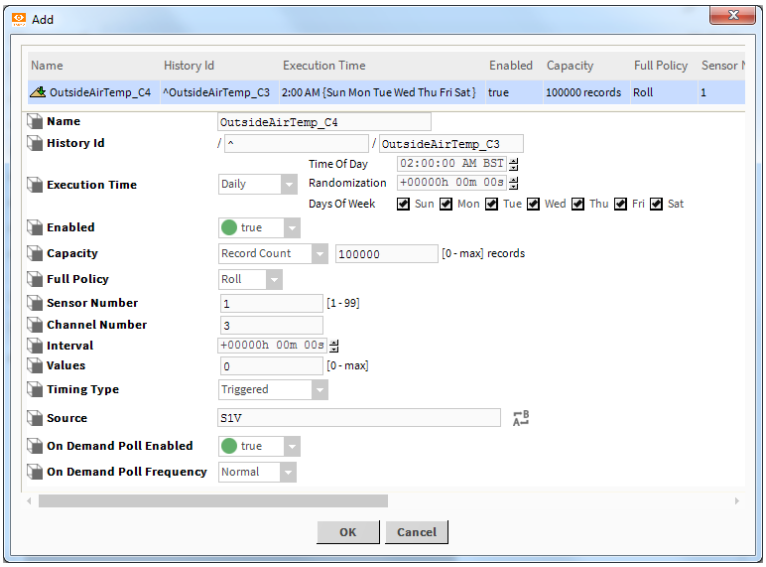


3. In the **Exts** column of the **Database** list double click the icon for the required controller. The **Trend History Import Manager** is displayed.
4. Click **Discover**. Any plot modules in the controller will appear in the **Discovered** pane:



5. In the **Discovered** pane select the required plots. To select more than one plot hold down the CTRL key and click on the required plots.

6. Click **Add** or drag the selected plot(s) to the **Database** pane. The **Add** dialogue box is displayed.



*IMPORTANT: The **Execution Time** (i.e. the time when data is collected from the plot module) defaults to once daily at 02:00:00 AM GMT.*

7. Select a plot module from the list and check its **Interval** time.
8. Change the settings for **Execution Time** to ensure that data is collected at a suitable interval, to prevent data loss. For example, 1 second plots must be collected at least once every 16 minutes, and 1 minute plots must be collected at least once every 16 hours.
9. Specify the capacity of the plot. The capacity specifies the number of values recorded before the first is overridden and defaults to 100,000.

   Note: Ensure the plot data is backed up before it is overridden.

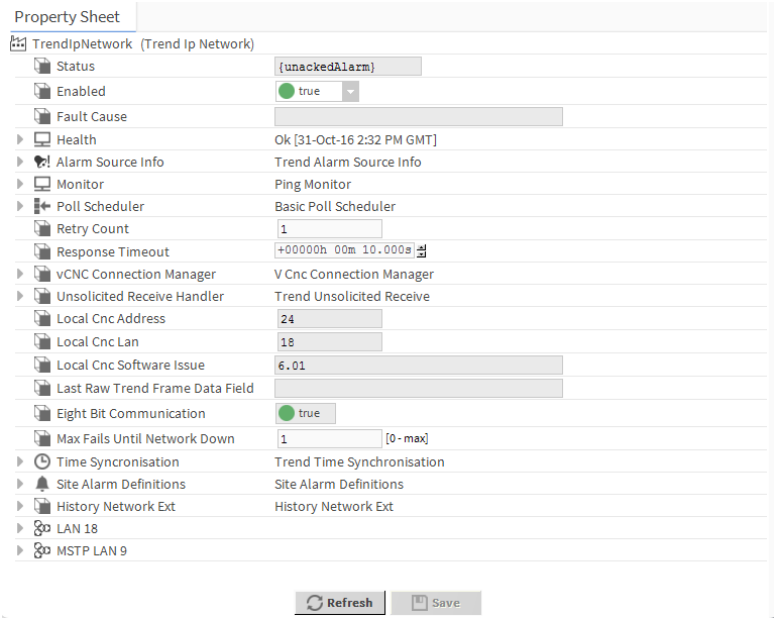
10. Repeat steps 7, 8 and 9 for each plot in the list.
11. Click **OK**. The selected plot(s) is added to the **Database** pane.
12. If required, repeat the above process to add plots for each of the other controllers.

    Note: After adding a history, data will not be collected from the controller until its next scheduled execution time, You can force data collection by using the Archive function - see **"Using the Archive Function" on page 44**.

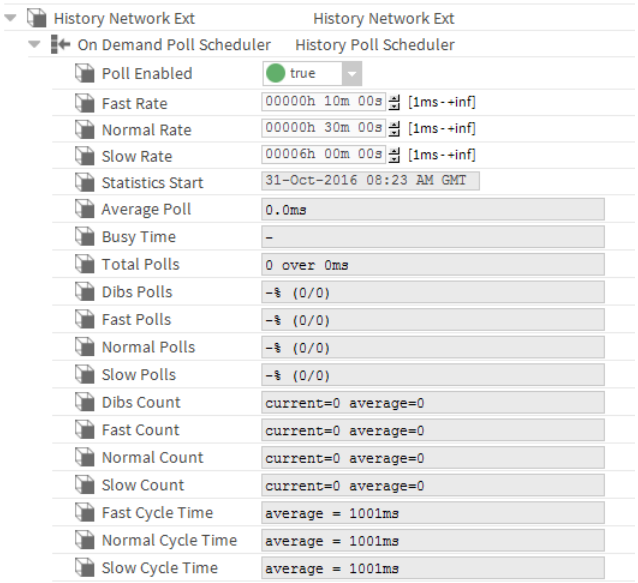
8.2.8 Set History Update Rates for a Trend Site

In order to minimise network traffic and, therefore, reduce potential latency, it is important to correctly configure histories for viewing live updates. This may required adjustment of the various history update rates for each Trend network.

1. In the **Nav** tree right-click the Trend driver and select **Views** > **Property Sheet**. The driver's properties is displayed in the view pane.



2. Expand the **History Network Ext** item and then expand the **On Demand Poll Scheduler** item.



3. Adjust the values for **Fast Rate**, **Normal Rate** and **Slow Rate** to a minimum of 15 minutes, in order to avoid network communications saturation.
4. Click **Save** at the bottom of the screen.

IMPORTANT: Repeat this procedure for each Trend network.

8.2.8.1 Using the Archive Function

Histories only collect new data from a controller at their scheduled execution time. You can force data collection at any time by using the Archive function.

1. Open the **Trend History Import Manager** - see **"Add Trend Plots (Histories)" on page 41**.
2. Click **Archive** to force a download to all histories in the database.

9 CONNECT TO TONNS

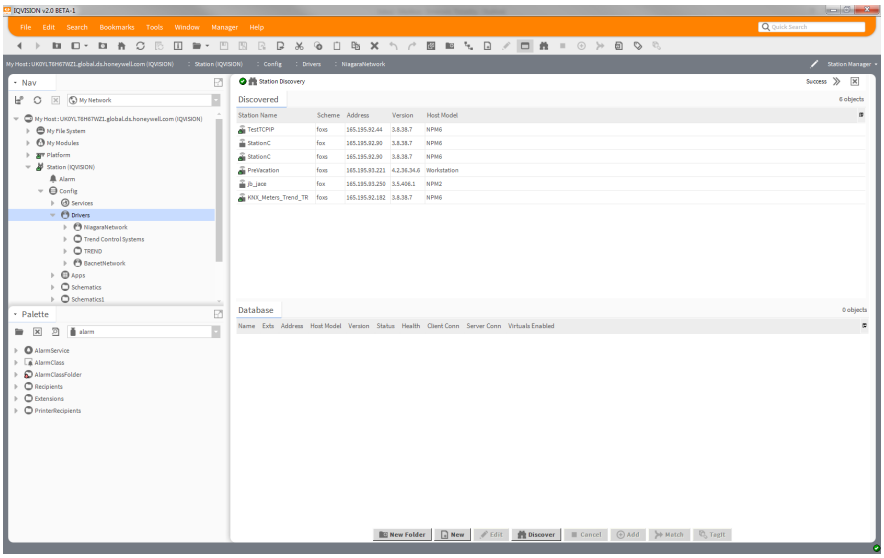
If you have purchased a licence that enables you to use points from a TONN it is necessary to add the TONN to the Niagara network, and then add the required points to the IQVISION database.

The following steps are required to connect to a TONN:

- Licence with an N licence - see **"Licensing IQVISION" on page 23**.
- **Add the TONNs to the Niagara Network**
- **Add TONN Points to the Database**

9.1 Add the TONNs to the Niagara Network

1. In the **Nav** tree, open the **Drivers** folder and double click **NiagaraNetwork**. The view pane will display the **Station Manager**.
2. Click the **Discover** button. The discovery process starts. A progress bar at the top of the pane indicates the status of the discovery. Once the discovery is complete the devices that have been discovered are displayed in the Discovered list.

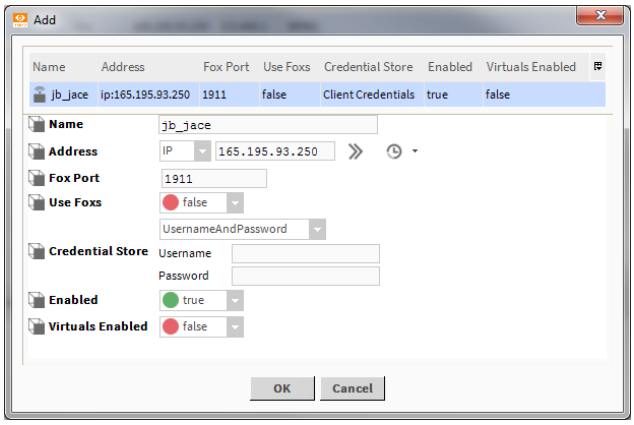


Hint: During the discovery process you can click on the » button at the top right to display a Job Log giving details about the discovery process so far.

3. In the **Discovered** list select the TONN(s) from which values are required. To select more than one device hold down the CTRL key and click on the required devices.

   Note: The licence will restrict the number of TONNs that can be used.

4. Click **Add** or drag the selected device(s) to the **Database** list. The **Add** dialogue box is displayed.



5. Review the settings for each device:

   - If required, change the device name in the **Name** box.

   If multiple devices are listed, click on the device in the list (to highlight it) to view its settings.

6. Click **OK**.

9.2 Add TONN Points to the Database

This process allows you to add points from previously discovered TONNs.

1. In the **Nav** tree, open the **Drivers** folder and double click **NiagaraNetwork** The view pane will display the **Station Manager**.
2. In the **Exts** column of the **Database** list double click the required icon for the required TONN. The **Niagara Points Manager** is displayed.
3. In the **Discovered** list select the required points (values). To select more than one point hold down the CTRL key and click on the required points.

   Note: Remember that IQVISION is licensed for use up to a specific number of points. It is good practice, therefore, to only add points that are actually required. Adding points that won't be used by IQVISION will not only waste resources but also generate unnecessary extra network traffic.

4. Click **Add** or drag the selected point(s) to the **Database** pane. The **Add** dialogue box is displayed.

   Note: IQVISION automatically chooses the most suitable writable point type. However, this can be manually changed by selecting a point in the list and choosing a different **Item Type**.

5. Click **OK**. The selected point(s) is added to the database.
6. Repeat the above process to add points for each TONN.

10 CONNECT TO 3RD PARTY SYSTEMS

If you have purchased an OPEN licence and want to use values from non-Trend systems it is necessary to connect to the 3rd-party systems and add the required points to the IQVISION database.

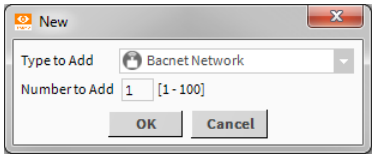
The following steps are required to connect to 3rd party systems:

- Licence with an OPEN licence - see **"Licensing IQVISION" on page 23**.
- **Add the Required 3rd Party Drivers**
- **Configure 3rd Party Drivers**
- **Add 3rd Party Points to the Database**

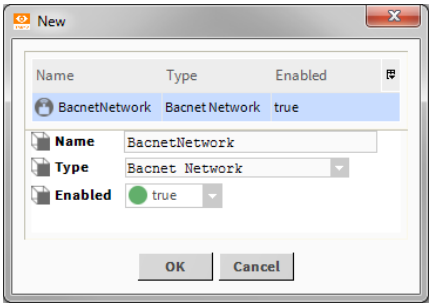
Note: For detail of using the BACnet Driver see **"Using the BACnet Driver" on page 48**.

10.1 Add the Required 3rd Party Drivers

1. In the **Nav** tree open the **Station** folder.
2. Open the **Config** folder.
3. Double click on **Drivers**. The view pane will show a list of installed Drivers (Driver Manager).
4. Click on the **New** button. The **New** dialogue box is displayed.



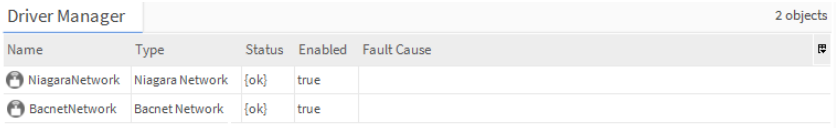
5. In the **Type to Add** box select the required driver, e.g. '*BacnetNetwork*'.
6. Click **OK**. The following dialogue box is displayed.



7. Change the default network **Name** to be a meaningful name.

   Note: This can be renamed later by right-clicking the driver in the Nav tree and selecting ***Rename****.*

8. Click **OK**. The **Driver Manager** will now show the driver.



9. You now need to configure the driver - see **"Configure 3rd Party Drivers" on page 47**.

10.2 Configure 3rd Party Drivers

The configuration of each 3rd party driver is different, refer to the Tridium documentation for the driver for details.

10.3 Add 3rd Party Points to the Database

The method of adding points to the database for each 3rd party driver is different, refer to the Tridium documentation for the driver for details.

10.4 Using the BACnet Driver

The ability to use values from a BACnet system is quite common and is supported by IQVISION. This section provides an overview of how to use the BACnet driver with IQVISION. For full details refer to the Tridium documentation.

The following steps are required to connect to a BACnet system:

- Licence with an OPEN licence - see **"Licensing IQVISION" on page 23**.
- **Add the BACnet Driver**
- **Configure the BACnet Driver**
- **Discover and Add BACnet Devices**
- **Add the Required BACnet Points to the Database**

10.4.1 Add the BACnet Driver

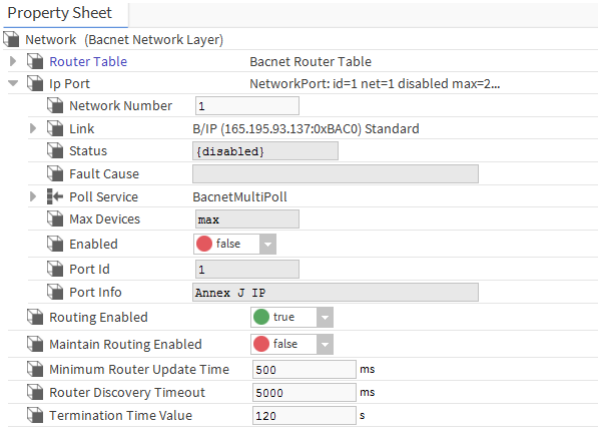
Follow the procedure described in **"Add the Required 3rd Party Drivers" on page 47** to add the BACnet driver.

- In step 5 in the **Type to Add** box select 'BacnetNetwork'.
- If required the BACnet driver can be renamed as it is being added. This can be useful if dealing with several BACnet installations.

10.4.2 Configure the BACnet Driver

1. In the **Nav** tree open the **Station** folder.
2. Open the **Config** folder.
3. Double click on **Drivers**. The view pane will show a list of installed Drivers (Driver Manager).
4. In the **Nav** tree open the folder for the BACnet driver (BacnetNetwork) and double click **Local Device**.
5. Set the **Object Id** to the IQVISION's address on the BACnet network (range 1-4194302).

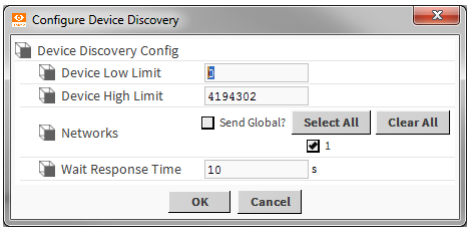
6. In the **Nav** tree open the **Bacnet Comm** folder and double click **Network** and expand the **Ip port** section.



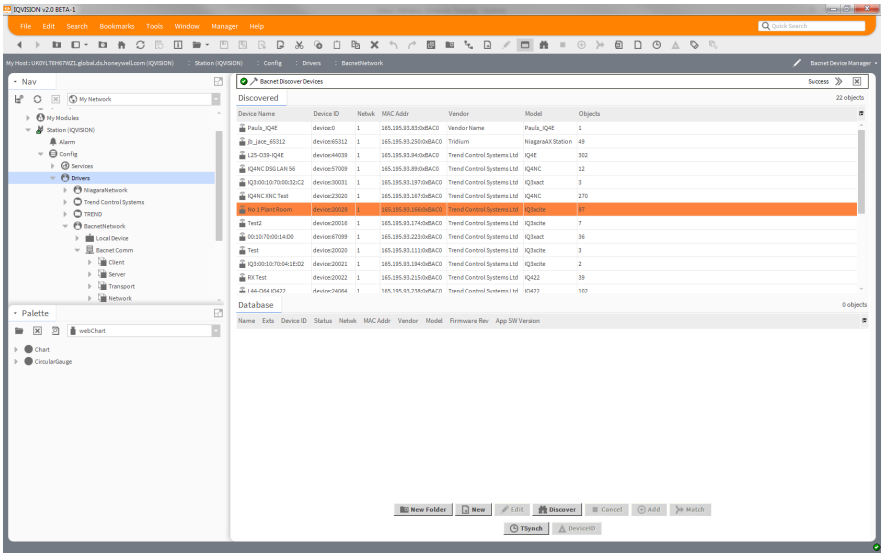
7. Set the **Network Number** to *1*.
8. Set **Enabled** to *true*.
9. Click  .

10.4.3 Discover and Add BACnet Devices

1. In the **Nav** tree, open the **Drivers** folder and double click the BACnet driver. The view pane will display the **Bacnet Device Manager**.
2. Click **Discover**. The **Configure Device Discovery** dialogue box is displayed.



3. If the address range of controllers is known then the **Device Low Limit** and **Device High Limit** can be edited to reduce discovery time.
4. Click **OK**. The discovery process starts. A progress bar at the top of the pane indicates the status of the discovery. Once the discovery is complete the devices that have been discovered are displayed in the **Discovered** list.

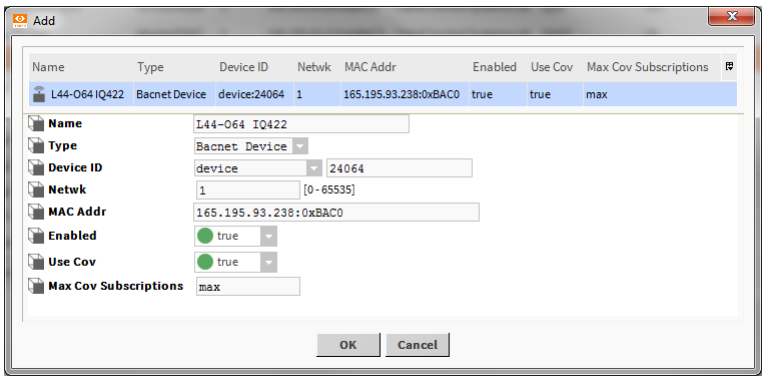


Hint: During the discovery process you can click on the » button at the top right to display a Job Log giving details about the discovery process so far.

5. In the **Discovered** list select the device(s) from which values are required. To select more than one device hold down the CTRL key and click on the required devices.

*Hint: The discovery will also find Trend deivces that have BACnet compatibility. In order to easily identify these devices sort the list by Vendor by clicking on the **Vendor** column.*

6. Click **Add** or drag the selected device(s) to the Database list. The **Add** dialogue box is displayed.



7. Review the settings for each device:

   - If required, change the device name in the **Name** box.

   If multiple devices are listed, click on the device in the list (to highlight it) to view its settings.

8. Check that the required devices have been added.

10.4.4 Add the Required BACnet Points to the Database

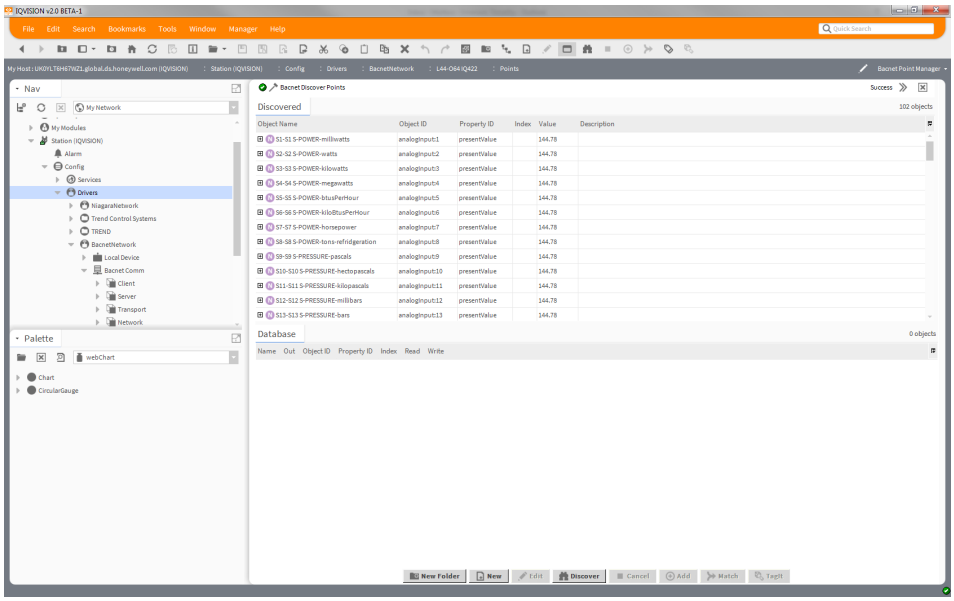
This process allows you to add points, alarm configuration, schedules and histories from previously discovered devices.

1. In the **Nav** tree, open the **Drivers** folder and double click the BACnet driver. The view pane will display the **Bacnet Device Manager**.
2. In the **Exts** column of the **Database** list double click the required icon.

   = Points
   = Alarm Configuration
   = Schedules
   = Histories

   The **BACnet Point Manager** is displayed.

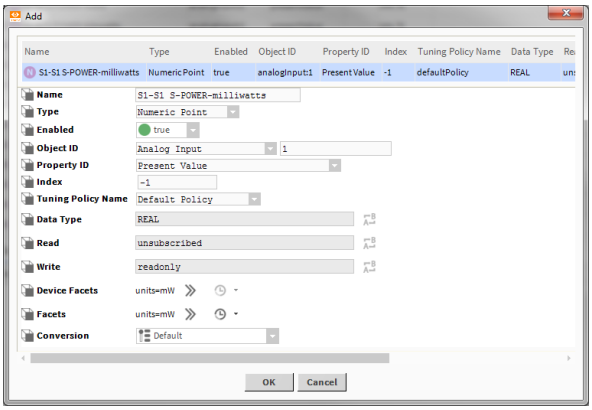
3. Click **Discover**. The discovery process starts. A progress bar at the top to the pane indicates the status of the discovery. Once the discovery is complete, points are displayed in the **Discovered** list:



4. In the **Discovered** list select the required points (values). To select more than one point hold down the CTRL key and click on the required points.

   Note: Remember that IQVISION is licensed for use up to a specific number of points. It is good practice, therefore, to only add points that are actually required. Adding points that won't be used by IQVISION will not only waste resources but also generate unnecessary extra network traffic.

5. Click **Add** or drag the selected point(s) to the **Database** pane. The **Add** dialogue box is displayed.



Note: IQVISION automatically chooses the most suitable writable point type. However, this can be manually changed by selecting a point in the list and choosing a different **Item Type**.

6. Click **OK**. The selected point(s) is added to the database.
7. Repeat the above process to add points for each controller.

11 CONTROLLING COMPLEX OCCUPATION TIMES

As described in **"Add Time Schedules" on page 39** a read only 'import' version of the time schedule is used to obtain data from the controller and a second editable 'export' version of the time schedule allows times to be written to IQ controllers.

For simple systems the export version of the time schedule can be used to make changes to controller's occupation times or set up Special Events (exceptions). See **"Viewing and Changing Occupation Times (Time Schedules)" on page 110**.

For more complex occupation requirements the occupation times can be controlled centrally.

11.1 Control Occupation Times Centrally

For sites with a number of Time Schedules in different controllers the occupation times can be controlled centrally to reduce the time taken to make changes. To enable this a BooleanSchedule should be added for each group of Time Schedules in the Trend controllers that are to operate the same times e.g. one for office occupation time and another for factory occupation and each of the Time Schedules linked to the BooleanSchedule. The occupation times for those Time Schedules are then specified in the BooleanSchedule.

A CalendarSchedule can be added to enable central control of days that operate different times e.g. for bank holidays - see **"Using a CalendarSchedule" on page 58**.

The following steps are required to configure IQVISION to control occupation times centrally:

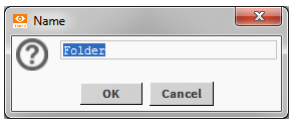
Create a Folder for the Master Time Schedules
Add a BooleanSchedule
Break Link with Schedule Import
Link the Time Schedules to the BooleanSchedule
Set the Weekly Schedule
Set the Special Events (Exceptions)

See **"Controlling Occupation Times Centrally" on page 113** for detail of change occupation times centrally.

11.1.1 Create a Folder for the Master Time Schedules

It is recommend that a folder is created to store the information required to control the occupation times.

1. In the **Nav** tree open **My Host > Station(IQVISION)**.
2. Right click **Config** and select **New > Folder**. The **Name** dialogue box is displayed.

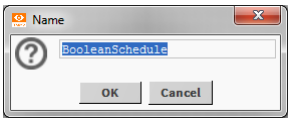


3. Specify the folder's name e.g. 'Master Time Schedules'.
4. Click **OK**.

11.1.2 Add a BooleanSchedule

A BooleanSchedule must be added for each group of Time Schedules in the Trend controllers that are to operate the same times.

1. In the **Nav** tree open **My Host > Station(IQVISION)**, navigate to the folder created for the master Time Schedules and double click to display the wire sheet in the view pane.
2. Open the schedule palette - see **"Palettes" on page 106**.
3. Drag a BooleanSchedule onto the wire sheet. The **Name** box is displayed.

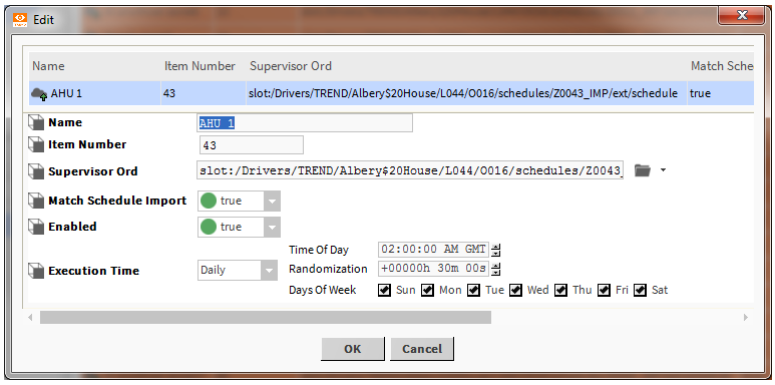


4. Enter a name for the BooleanSchedule. This should reflect the times it is to control e.g. 'OfficeOccupation'.
5. Click **OK**.

11.1.3 Break Link with Schedule Import

The link between an export schedule and the corresponding import schedule must be broken for each of the Time Schedules that are to be centrally controlled.

1. In the **Nav** tree open **My Host > Station(IQVISION)**, navigate to the controller containing the time schedule that is to be unlinked.
2. In the **Nav** tree right-click **Schedules** and choose **Views** > **Trend Schedule Export Manager**.
3. Double click the time schedule that is to be unlinked. The **Edit** dialogue box is displayed.

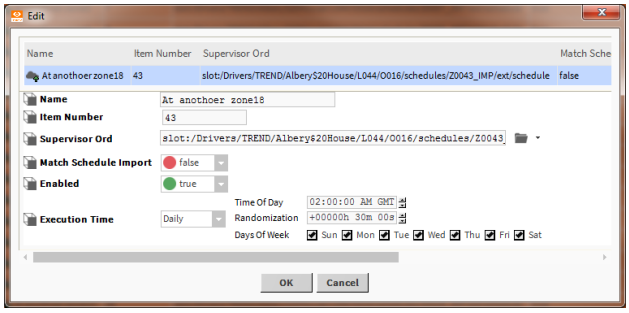


4. In the **Match Schedule Import** box select *false*.
5. Click **OK**.
6. Repeat for all required Time Schedules.

11.1.4 Link the Time Schedules to the BooleanSchedule

Each of the Time Schedules that are to be controlled must be linked to the BooleanSchedule.

1. In the **Nav** tree open **My Host > Station(IQVISION)**, navigate to the controller containing the time schedule that is to be unlinked.
2. In the **Nav** tree right-click **Schedules** and choose **Views** > **Trend Schedule Export Manager**.
3. Double click the time schedule that is to be linked to the BooleanSchedule. The **Edit** dialogue box is displayed.

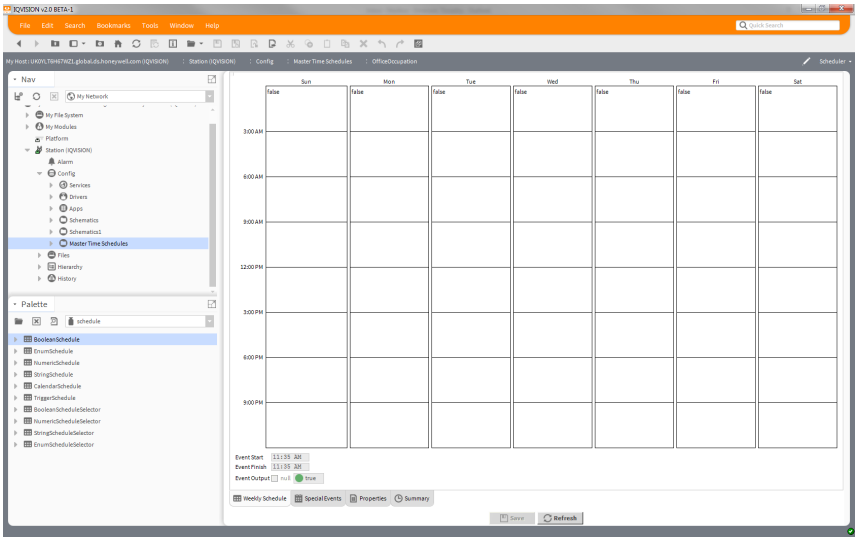


4. In the **Supervisor Ord** box select the required BooleanSchedule.
5. Click **OK**.
6. Repeat for all required Time Schedules.

11.1.5 Set the Weekly Schedule

The Weekly Schedule determines the occupation times for a normal week i.e. no Special Events apply.

1. In the **Nav** tree open **My Host > Station(IQVISION)**, navigate to the required BooleanSchedule.
2. Double click the BooleanSchedule. The **Scheduler** is displayed in the view pane.



3. Select the **Weekly Schedule** tab.
4. Specify the required occupation times:

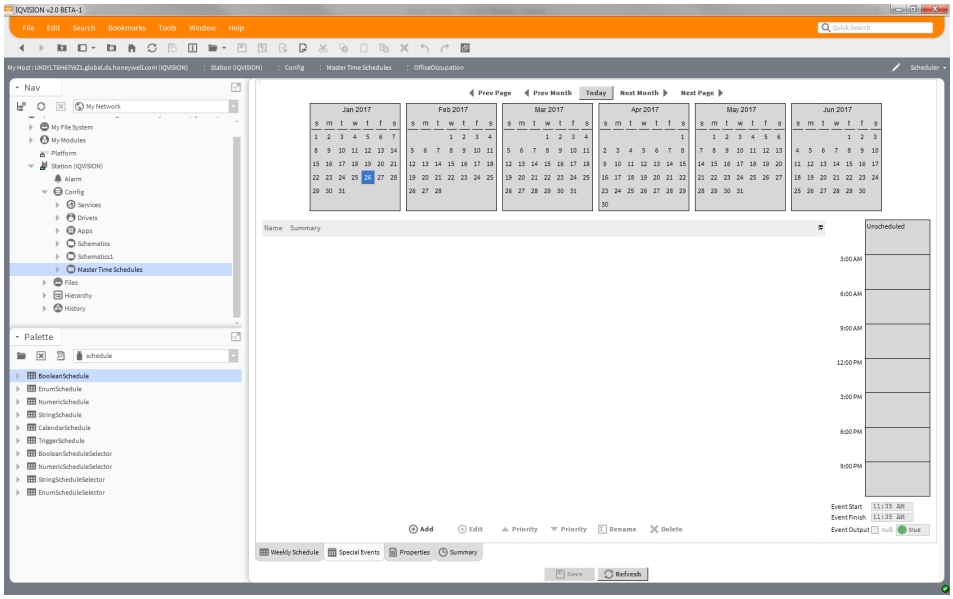
   - **To add a new time period:** Drag the mouse in the required white area of the grid.
   - **To make adjustments to existing time periods:** Drag the top or bottom edge of the green rectangles to the required time.
   - **To set all day occupation:** Right click the day and select **All Day Event**.
   - **To apply a day's times Monday to Friday:** Right click the day and select **Apply M-F**.
   - **To remove a time period:** Right-click the rectangle and select **Delete Event**.
   - **To remove all time periods for a day:** Right click the day and select **Clear Day**.
   - **To copy a day:** Right click the day and select **Copy Day** then right click the day the times are to be copied to and select **Paste Day**.

5. Click **Save**.

11.1.6 Set the Special Events (Exceptions)

Special Events enable different occupation times to be used on specific days.

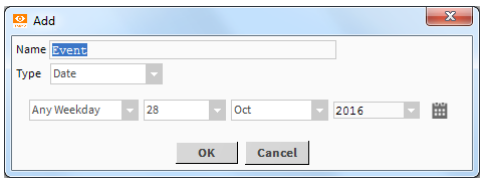
1. In the **Nav** tree open **My Host > Station(IQVISION)**, navigate to the required BooleanSchedule.
2. Double click the BooleanSchedule. The **Scheduler** is displayed in the view pane.
3. Select the **Special Events** tab.



4. Specify the required Special Events:

Add a Special Event

- Click **Add**. The **Add** dialogue box is displayed.



- Specify a name for the Special Event in the **Name** box.
- Select *Date* or *Date Range* in the **Type** box.

  Do NOT select any of the other options in the Type box as they are not supported by the controller and will cause problems.

- Specify the date(s) the Special Event applies to:

  - **Date:** Specify the day month and year in the appropriate box.
  - **Date Range:** Specify the day month and year for the beginning of the range in the appropriate box in the top row and specify the day month and year for the end of the range in the appropriate box in the bottom row.

- Click **OK**.
- Edit the times - see **"Edit the times" on page 57**.

Edit the times

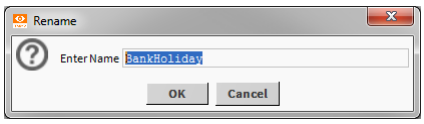
- Click the Special Event for which the times are to be edited.

    - **To add a new time period:** Drag the mouse in the required white area of the grid.
    - **To make adjustments to existing time periods:** Drag the top or bottom edge of the green rectangles to the required time.
    - **To set all day occupation:** Right click the day and select **All Day Event**.
    - **To remove a time period:** Right-click the rectangle and select **Delete Event**.
    - **To remove all time periods:** Right click the day and select **Clear Day**.

- To ensure non-occupancy outside the specified periods right click the day and select **Schedule Defaults**.

Rename a Special Event

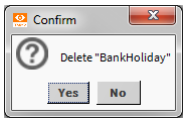
- Right click the Special Event that is to be renamed.
- Click **Rename**. The **Rename** dialogue box is displayed.



- Enter the new name.
- Click **OK**.

Delete a Special Event

- Right click the Special Event that is to be deleted.
- Click **Delete**. The **Confirm** dialogue box is displayed.



- Click **Yes**.

5. Click **Save**.

11.2 Using a CalendarSchedule

Time Schedules that are controlled by a BooleanSchedule will, by default, use occupation times specified in the Weekly Schedule. A CalendarSchedule can be used to specify days which will use different times, e.g. Bank Holidays.

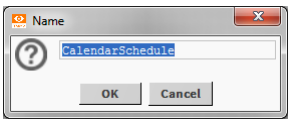
CalendarSchedules only specify the dates where times are different; the times worked on these days are specified in the BooleanSchedule. This allows different areas to work different times.

The following steps are required to configure IQVISION to use a CalendarSchedule:

Configure IQVISION to control occupation times centrally - see **"Control Occupation Times Centrally" on page 53**.
Add a CalendarSchedule
Link a CalendarSchedule to a BooleanSchedule
Specify the Dates
Specify the Occupation Times

11.2.1 Add a CalendarSchedule

1. In the **Nav** tree open **My Host > Station(IQVISION)**, navigate to the folder created for the Master Time Schedules and double click to display the wire sheet in the view pane.
2. Open the schedule palette - see **"Palettes" on page 106**.
3. Drag a CalendarSchedule onto the wire sheet. The **Name** dialogue box is displayed.

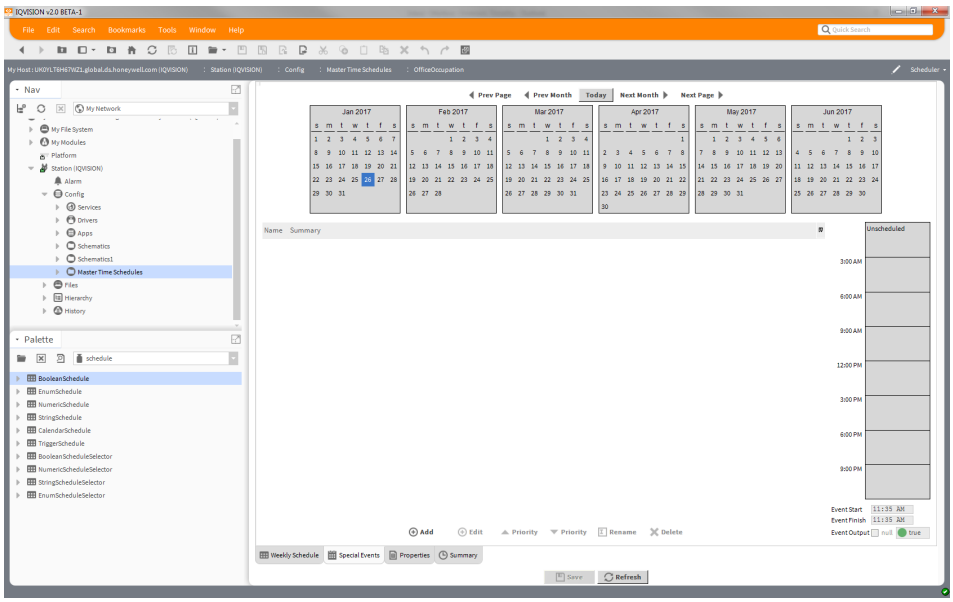


4. Enter a name for the CalendarSchedule. This should reflect the times it is to control e.g. 'BankHolidays'.
5. Click **OK**.

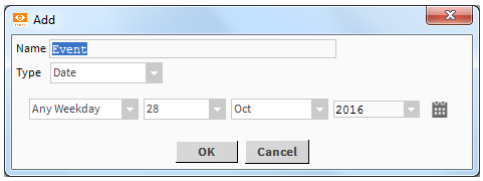
11.2.2 Link a CalendarSchedule to a BooleanSchedule

Each BooleanSchedule that is to use different times on the dates specified by the CalendarSchedule must be linked to the CalendarSchedule.

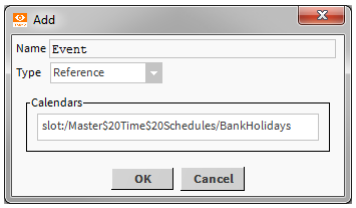
1. In the **Nav** tree open **My Host > Station(IQVISION)**, navigate to the required BooleanSchedule.
2. Double click the BooleanSchedule. The **Scheduler** is displayed in the view pane.
3. Select the **Special Events** tab.



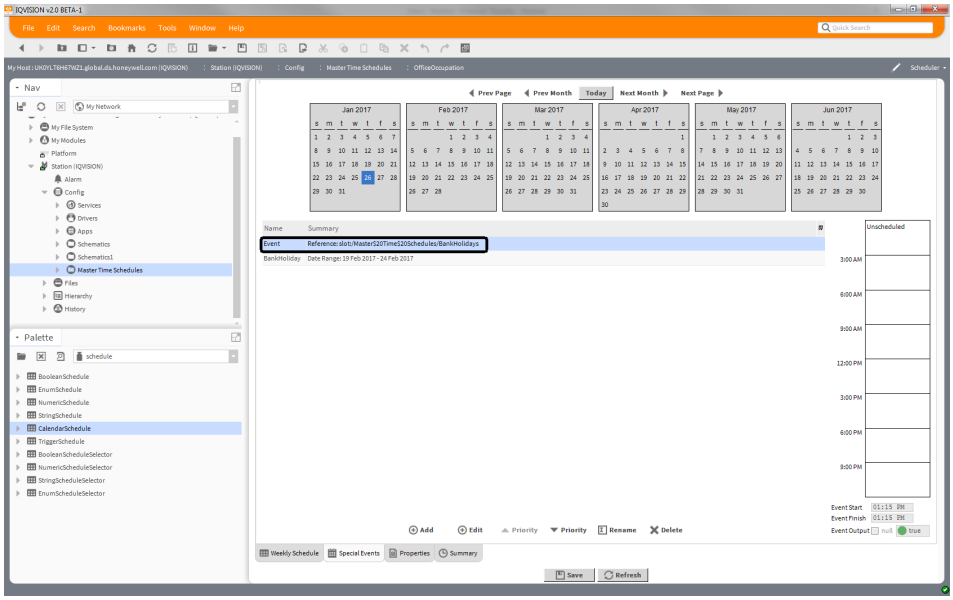
4. Click **Add**. The **Add** dialogue box is displayed.



5. Specify a name for the Special Event in the **Name** box.
6. Select *Reference* in the **Type** box. The CalendarSchedule should appear in the dialogue box.



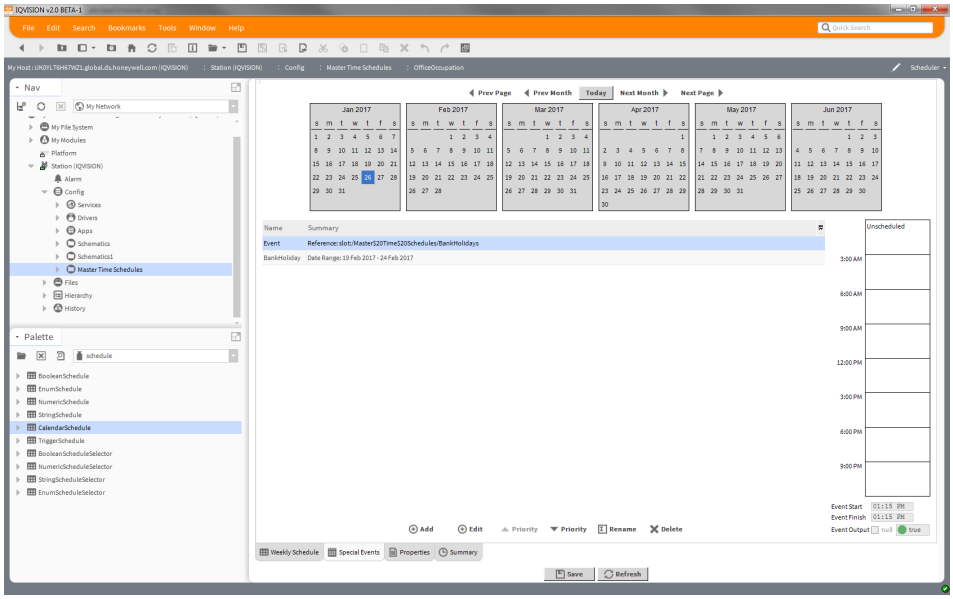
7. Click **OK**. A Special Event that will use the dates specified by the CalendarSchedule is added to the BooleanSchedule. Currently no times are specified.



11.2.3 Specify the Occupation Times

The times used on the dates specified by the CalendarSchedule must be specified.

1. In the **Nav** tree open **My Host > Station(IQVISION)**, navigate to the required BooleanSchedule.
2. Double click the BooleanSchedule. The **Scheduler** is displayed in the view pane.
3. Select the **Special Events** tab.



4. Select the Special Event for which times are to be specified.
5. Specify the occupation times for the Special Event:

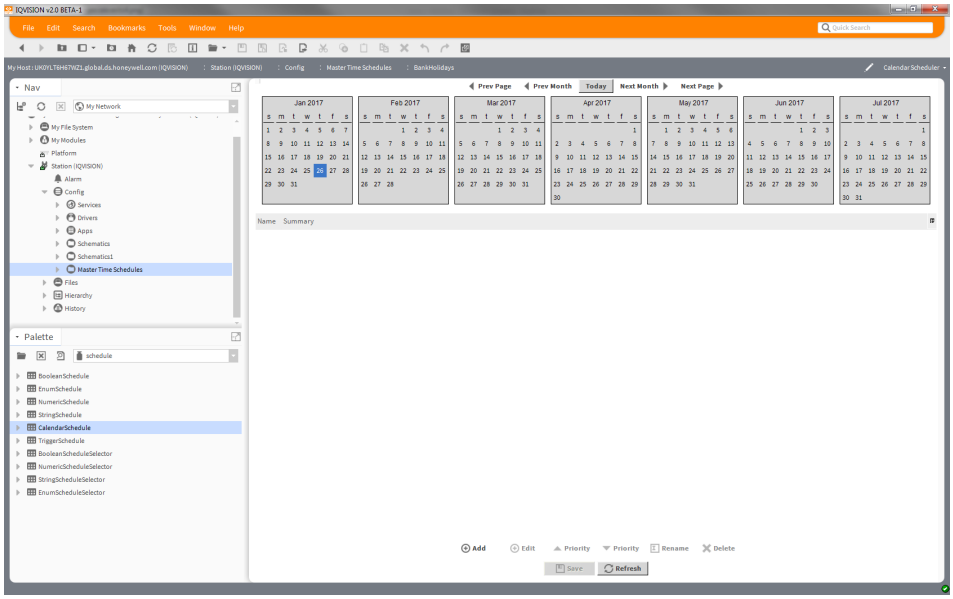
   - **To add a new time period:** Drag the mouse in the required white area of the grid.
   - **To make adjustments to existing time periods:** Drag the top or bottom edge of the green rectangles to the required time.
   - **To set all day occupation:** Right click the day and select **All Day Event**.
   - **To remove a time period:** Right click the rectangle and select **Delete Event**.
   - **To remove all time periods:** Right click the day and select **Clear Day**.

6. To ensure non-occupancy outside the specified periods right click the day and select **Schedule Defaults**.
7. Click **Save**.

11.2.4 Specify the Dates

The dates that are to operate different times must be specified in the CalendarSchedule.

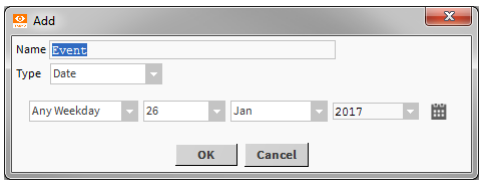
1. In the **Nav** tree open **My Host > Station(IQVISION)**, navigate to the folder created for the Master Time Schedules and double click to display the wire sheet in the view pane.
2. Double click the CalendarSchedule. The **Calendar Scheduler** is displayed in the view pane.



3. Specify the required dates:

Add a date

- Click **Add**. The **Add** dialogue box is displayed.



- Specify a name for the Special Event in the **Name** box.
- Select *Date* or *Date Range* in the **Type** box.

  Do NOT select any of the other options in the Type box as they are not supported by the controller and will cause problems.

- Specify the date(s) the Special Event applies to:

  - **Date:** Specify the day month and year in the appropriate box.
  - **Date Range:** Specify the day month and year for the beginning of the range in the appropriate box in the top row and specify the day month and year for the end of the range in the appropriate box in the bottom row

- Click **OK**.

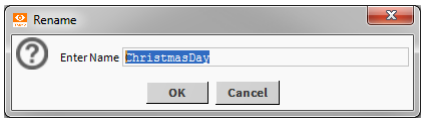
Edit a date

- Double click the date that is to be edited.
- Edit the date as required.

Rename a date

- Right click the date that is to be renamed.

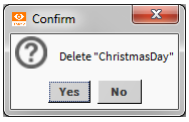
- Click **Rename**. The **Rename** dialogue box is displayed.



- Enter the new name.
- Click **OK**.

Delete a date

- Right click the date that is to be deleted
- Click **Delete**. The **Confirm** dialogue box is displayed.



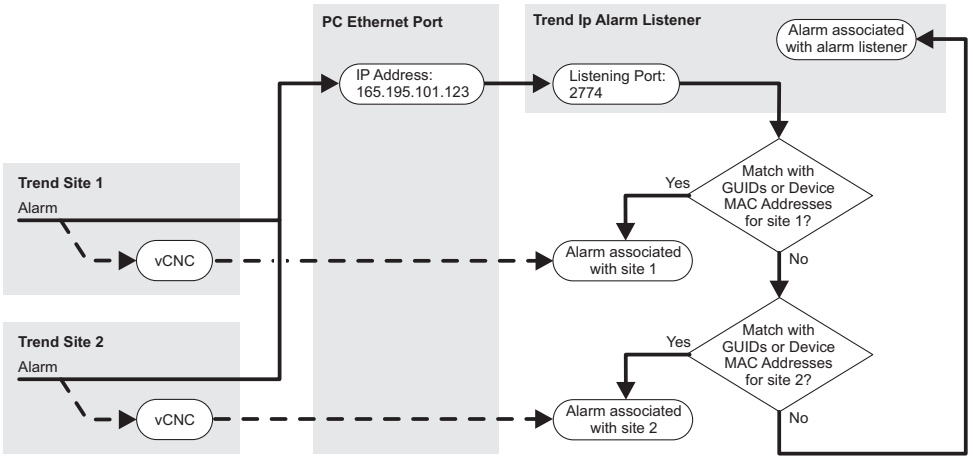
- Click **Yes**.

4. Click **Save**.

12 CONFIGURING ALARMS

Alarms generated within a Trend system can be sent to IQVISION by the following routes:

- Alarms can be sent to a specific IP address (which would be the IP Address of the PC running IQVISION).
- Alarms can be sent to the vCNC that IQVISION uses to connect to the site. This is only suitable if the IQVISION uses a permanent connection.



Alarms received via the site's vCNC will automatically be associated with that site.

However, alarms received via the IP Address are processed by the Trend IP Alarm Listener, which 'listens' for alarm messages on a specific port (default is 2774). It uses information obtained during device discovery to determine which site originated the alarm. It does this by trying to match data within the alarm message with a site GUID or device MAC address in the IQVISION database.

If alarms are received from unknown GUIDs or MAC addresses they will be raised against the Trend IP Alarm Listener service itself.

Once an alarm is associated with a site the Alarm Service allows alarms to be assigned to different alarm classes which in turn allows them to be handled differently according to specific criteria. By default all alarms are assigned to the Default Alarm Class. Additional Classes can be added as required.

12.1 Alarm Priorities

IQVISION can set different priorities for the various stages of alarms. The following stages exist in IQVISION:

- **toOffnormal** i.e. value is valid but has gone above or below a specified level (e.g. equivalent to HIGH or LOW in a Trend system);
- **toFault** i.e. value is invalid such as caused by a hardware fault (e.g. equivalent to OUTL in a Trend system);
- **toNormal** i.e. value is back within a normal valid range (e.g. equivalent to Alarm Cleared).

Each stage can be set to a priority level between 0 (lowest) and 255 (highest).

Escalation can be configured so that if an alarm isn't actioned within a specified time it can be sent to a secondary destination(s).

The total alarm count and 'unacked' (unacknowledged) alarms are viewable. But individual alarms cannot be viewed until a recipient has been configured.

12.2 Setting up Alarm Handling

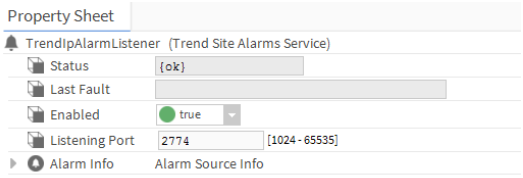
In order to set up alarm handling the following steps are required:

[Changing the Alarm Listener Port Number](#)
[Configuring Site Alarm Information](#)
[Set up Controller Alarm Destination Modules](#)
[Adding Alarm Classes](#)
[Set the Alarm Class for an Alarm](#)
[Add an Alarm Recipient](#)

12.2.1 Changing the Alarm Listener Port Number

If you do not want to use the default port number (2774) to listen for IP alarms it can be changed as follows:

1. In the **Nav** tree open the **Services** folder (under Station > Config).
2. Double click **TrendIpAlarmListener**. The following properties will be displayed.

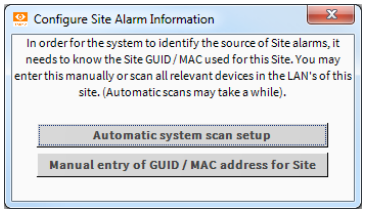


3. Change the **Listening Port** number as required.
4. Click **Save**.

12.2.2 Configuring Site Alarm Information

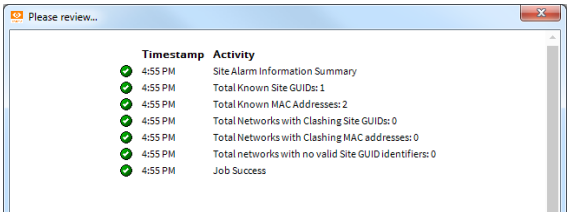
If you choose not to scan the site for alarm information during device discovery, you will need to configure this information before IQVISION can associate alarms with the appropriate Trend site. This can be done either by scanning the site or entering the information manually.

1. In the **Nav** tree double click the Trend network driver to open the **Trend Device Manager**.
2. Click the **Configure Site Alarm Information** button. The following dialogue box is displayed.



To perform an automatic setup:

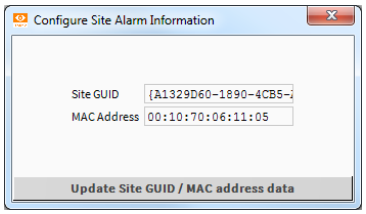
1. Click **Automatic system scan setup**. Scanning will commence - this may take a while. Once completed a results dialogue box is displayed. For example.



2. Check the results for any problems found such as having more than one GUID or duplicate MAC addresses.

To perform a manual setup:

1. Click **Manual entry of GUID/MAC address for Site**. The following dialogue box is displayed.



2. Type in a valid **Site GUID** and/or the **MAC Address** of the device that is forwarding alarms from the site.
3. Click the **Update** button.

12.2.3 Set up Controller Alarm Destination Modules

Controllers send alarms to the destination specified by one or more Alarm Destination modules in their strategy. For alarms to be sent to the IP Address of IQVISION, configure the module as follows:

Destination Type:	IP.
Destination:	The IP address of the IQVISION PC.
Dest. Port:	The alarm listening port (typically 2774).

For alarms to be sent via the vCNC to IQVISION, configure the module as follows:

Destination Type:	IQ Lan
Alarm Address:	The address of the vCNC on the Trend network.
Remote Lan:	The LAN number of the vCNC on the Trend network.

Note: A permanent vCNC connection is required for alarms to be sent this way.

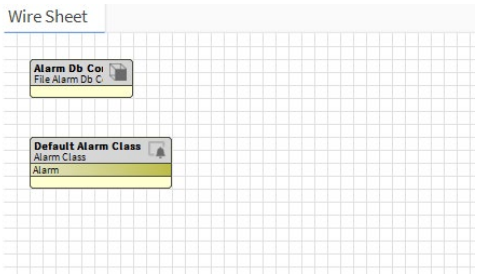
Refer to the IQSET Manual (TE200147) for further details on setting up controller Alarm Destination modules.

12.2.4 Adding Alarm Classes

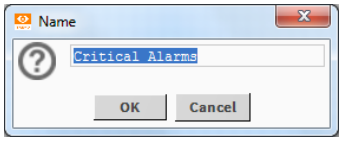
The Alarm Service allows alarms to be assigned to different alarm classes which in turn allows them to be handled differently according to specific criteria. By default all alarms are assigned to the Default Alarm Class. Additional Classes can be added as required.

To add an alarm class

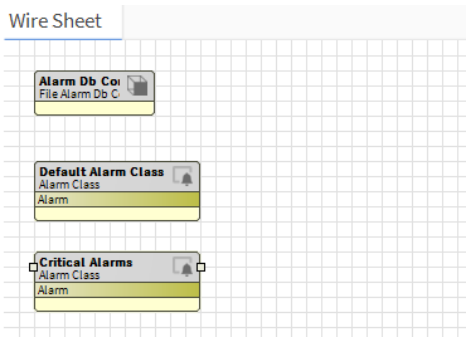
1. In the **Nav** tree open the **Station > Config > Services** folder.
2. Double click **AlarmService**. The view pane will display the **Alarm Service** wire sheet.



3. Open the **Alarm Palette** - see **"Palettes" on page 106**.
4. Drag an **AlarmClass** item onto the wire sheet. The **Name** dialogue box is displayed.



5. Change the default class name as required (e.g. Critical Alarms) and click **OK**.

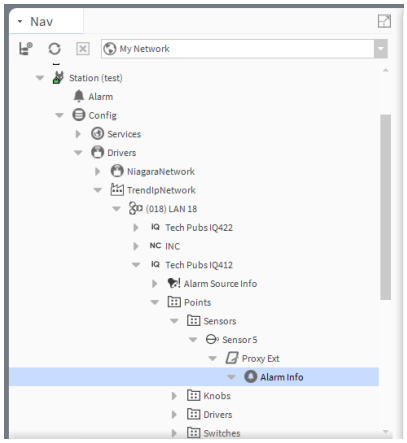


12.2.5 Set the Alarm Class for an Alarm

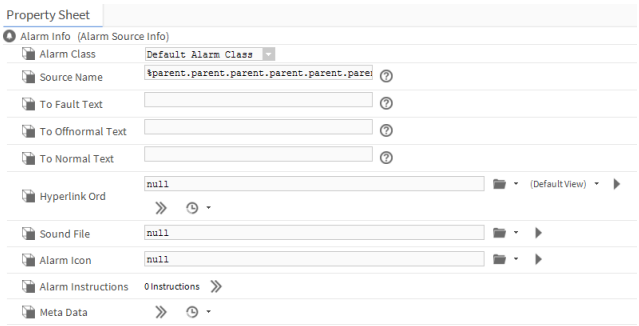
By default all alarms are assigned to the Default Alarm Class. If you have added other Alarm Classes you need to specify which class each alarm is to use.

To set the class for an alarm:

1. In the **Nav** tree drill down into the required site and locate the **Alarm Info** item for the required point (e.g. a Sensor).



2. Double click the **Alarm Info** item to display the **Property Sheet** in the view pane.



3. Pick the required **Alarm Class** from the drop-down list.

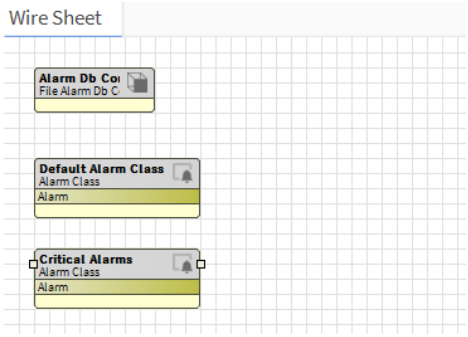
Note: To add further alarm classes to the list refer to **"Adding Alarm Classes" on page 65**.

12.2.6 Add an Alarm Recipient

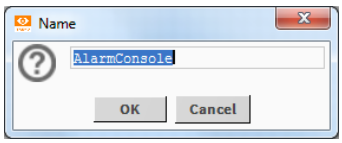
For alarms to be seen by a user they must be passed to a recipient. This will most commonly be a Console Recipient which allows alarms to be listed and acted upon. There is also a Station Recipient which allows alarms to be passed to another instance of IQVISION.

To add an alarm recipient:

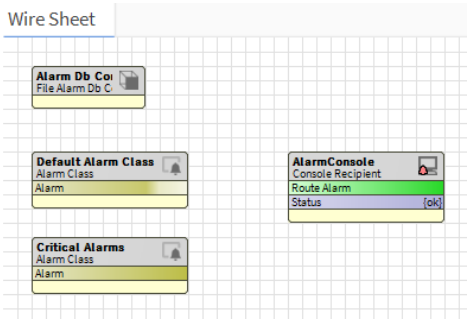
1. In the **Nav** tree open the **Station > Config > Services** folder.
2. Double click **AlarmService**. The view pane will display the **Alarm Service** wire sheet.



3. Open the **Alarm Palette** (see **"Palettes" on page 106**) and open the **Recipients** folder.
4. Drag a **ConsoleRecipient** item onto the Wire Sheet. The **Name** dialogue box is displayed.

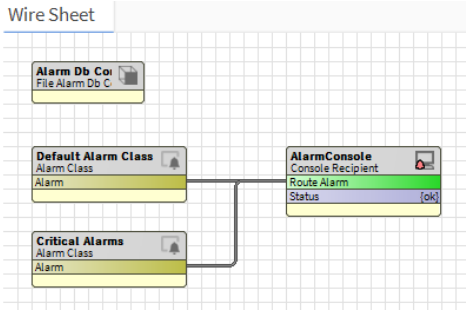


5. Change the default name as required (e.g. AlarmConsole) and click **OK**. The recipient is added to the wire sheet.



6. Position the mouse pointer on the right-hand side of the **Alarm** item in **AlarmClass** and drag to the left-hand side of the **RouteAlarm** item in the **ConsoleRecipient**.

   Note: Multiple AlarmClass items can be linked to the same ConsoleRecipient if required.



7. To check correct setup, double click the ConsoleRecipient. The **Alarm Console** will display in the view pane.

13 CREATING SCHEMATICS (PX Pages)

Schematics within IQVISION are known as PX Pages (Presentation XML).

Existing schematic pages can be imported/migrated into IQVISION from another supervisor (e.g. 963) using the Migration Tool - see section **"Migration Tool" on page 95**. Once migrated you can make changes to the PX Pages using the various tools within IQVISION. The same tools may also be used to create new PX Pages from scratch.

This section describes how to create the most commonly required features of PX Pages. For more in depth information please refer to the Tridium documentation.

It is recommended that you create a template page that contains features that are needed on each page, e.g. a logo, outside temperature, navigation buttons, etc. It is also recommended that you create a folder to store all the PX Pages, and another folder to store any images used on the pages.

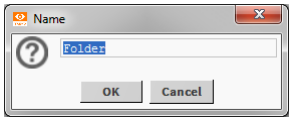
The following steps are required to create PX Pages:

Create a Folder for the PX Pages
Create a Folder for the Images
Prepare Images
Add Images to IQVISION
Specify the PX Template Page
Create a PX Page
Edit a PX Page

13.1 Create a Folder for the PX Pages

PX Pages can be created at any point within IQVISION e.g. added to a folder, device or a module. However, this can make engineering unnecessarily complicated so it is recommend that a folder is created to contain them.

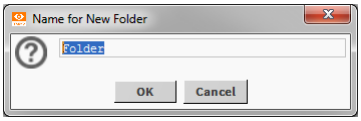
1. In the **Nav** tree open **My Host > Station(IQVISION)**.
2. Right click **Config** and select **New> Folder**. The **Name** dialogue box is displayed.



3. Specify the folders's name e.g. 'Schematics'.
4. Click **OK**.

13.2 Create a Folder for the Images

1. In the **Nav** tree open **My Host > Station(IQVISION)**.
2. Right click **Files** and select **New> Folder**. The **Name** dialogue box is displayed.



3. Specify the folders's name e.g. 'Images'.
4. Click **OK**.

13.3 Prepare Images

Any external images that are to be used on PX Pages must be created using a 3rd party graphics package and sized to the size required on the PX Pages.

Note: Once the images have been added to IQVISION they cannot be changed.

13.4 Add Images to IQVISION

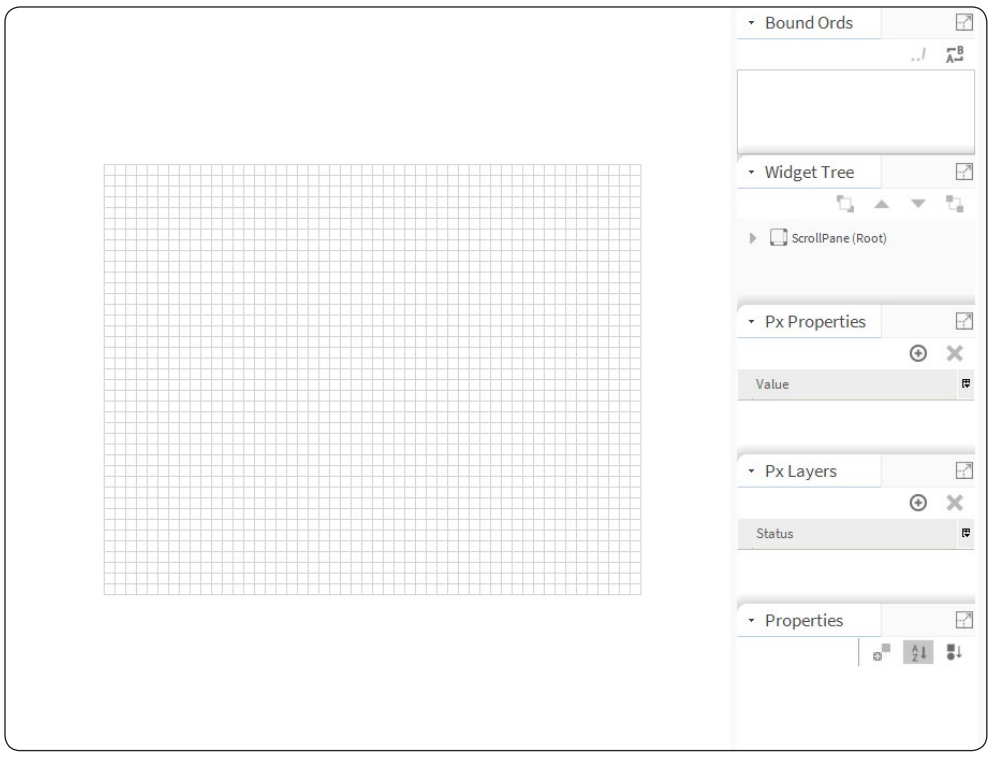
To use images within IQVISION they must exist within the file structure of IQVISION.

1. In the **Nav** tree open **My Host > My File System** and navigate to the file that is to be added (this could be a folder containing multiple graphics).
2. Right click the file or folder and select **Copy**.
3. In the **Nav** tree open **My Host > Station(IQVISION) > Files** and navigate to the location the image(s) are to be stored e.g. the folder created in **Create a Folder for the Images**.
4. Right click the location (e.g. images) and select **Paste**.

13.5 Specify the PX Template Page

PX Pages are created using the template PX Page (located - My Host > Sys Home > defaults > workbench > newfiles > PxFile.px). By editing this page all future PX Pages created will have this format.

1. In the **Nav** tree open **My Host > My File System > Sys Home > defaults > workbench > newfiles**.
2. Double click the **PxFile.px** file.
3. On the menu bar click the icon to switch to **PX Editor** view.



Note: The grid in the middle of the screen is the viewable area of the page.

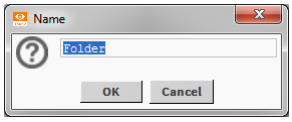
4. Design the page layout as required - see **"Create or Change PX Page Elements" on page 71**.
5. Save the file (select **File> Save**, or press CTRL+S).

13.6 Create a PX Page

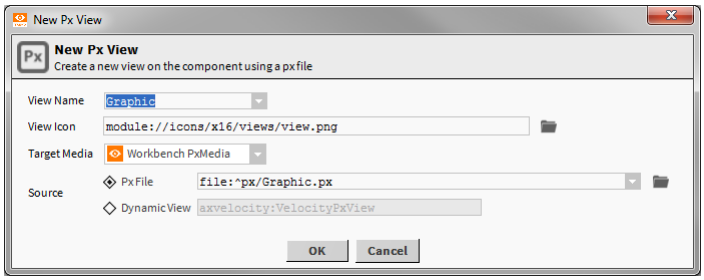
PX Pages are created by making a new view of an element in the Nav tree and once a PX view is added it is the new default view of the element. PX Pages are stored in the IQVISION file structure, but are linked to the element where the view has been attached.

To keep structure simple it is a good idea to create subfolders. These subfolders hold the various schematics you want to create.

1. In the **Nav** tree open **My Host > Station(IQVISION) > Config** and navigate to where the PX Page is to be located e.g. the folder created in **Create a Folder for the PX Pages**.
2. Right click the folder and select **New> Folder**. The **Name** dialogue box is displayed.



3. Specify the page's name e.g. 'Floor 4'.
4. Click **OK** a folder is created.
5. Right click the folder you have just created and select **Views > New View**. The **New Px View** dialogue box is displayed.



6. Enter the name of the page (same as the folder just created) in the **View Name** box.
7. Click **OK**. The PX Page will be created based on the template page.

13.7 Edit a PX Page

The PX Editor is used to edit a PX Page.

1. In the **Nav** tree locate the PX file and double click on it.
2. On the menu bar click the icon to switch to **PX Editor** view.
3. Change the page layout as required - see **"Create or Change PX Page Elements" on page 71**.
4. Save the file (select **File> Save**, or press CTRL+S).

13.7.1 Create or Change PX Page Elements

After creating a new PX Page or opening an existing page for editing use the following procedures to design the page layout and content.

13.7.1.1 Setting the Page Size and Background

To set the viewable area size:

1. Double click the layout grid to open the **Properties** dialogue box.
2. Click **viewSize** to set the visible screen size in pixels (maximum 10000 x 10000).
3. Click **OK**.

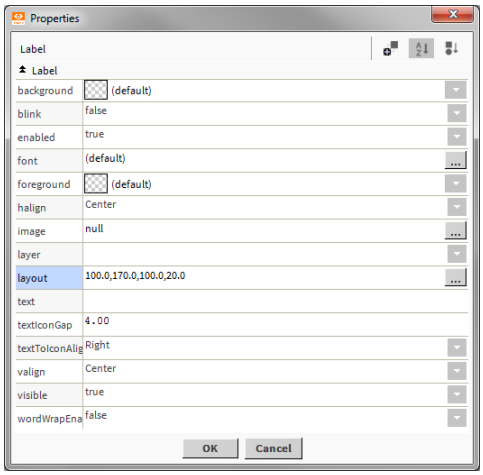
To set the background colour:

1. Double click the layout grid to open the **Properties** dialogue box.
2. Click the **background** as required and select either **Solid** or **Gradient** and use the colour picker to set the required colour(s).
3. Click **OK**.

To set the background image:
1. Double click the layout grid to open the **Properties** dialogue box.
2. Click the **background** as required and select **Image**.
3. Select the required image file and alignment settings.
4. Click **OK**.

13.7.1.2 Add Text

1. Right click the page and select **New > Label**. A label is added to the page.
2. Double click the label. The **Properties** dialogue box is displayed.



3. Enter the required text in the **text** box.
4. Click **OK**.

13.7.1.3 Add an Image

Add your own image:
Images are sized on the screen based on their native dimensions (pixel size) - you cannot scale the image. Therefore, you may need to resize the image using your preferred graphics editor before adding to the page.

1. Navigate to the required image using the **Nav** tree.

   Note: It is recommended that any images you intend using in IQVISION are first copied into a folder within the Station - see **"Create a Folder for the Images" on page 69**.

2. Click and drag the file to the layout grid and position as required.

   Note: As you drag the item on the page two green lines indicate the top left corner where the item will be positioned.

Add an IQVISION Image:
IQVISION has some built in images that can be added to a PX Page.

1. Open the palette containing the required graphics - see **"Palettes" on page 106**. The following palettes contains useful images, but there are others available:

   KitPx – Covers elements like – logoff, buttons etc
   KitPxHvac – has a library of various hardware graphics – pumps, boilers etc
   KitPxN4svg – is similar to KitPx but all the graphics are SVG (scalable vector graphics)

2. Navigate to the required image using the palette.
3. Click and drag the image to the layout grid and position as required.

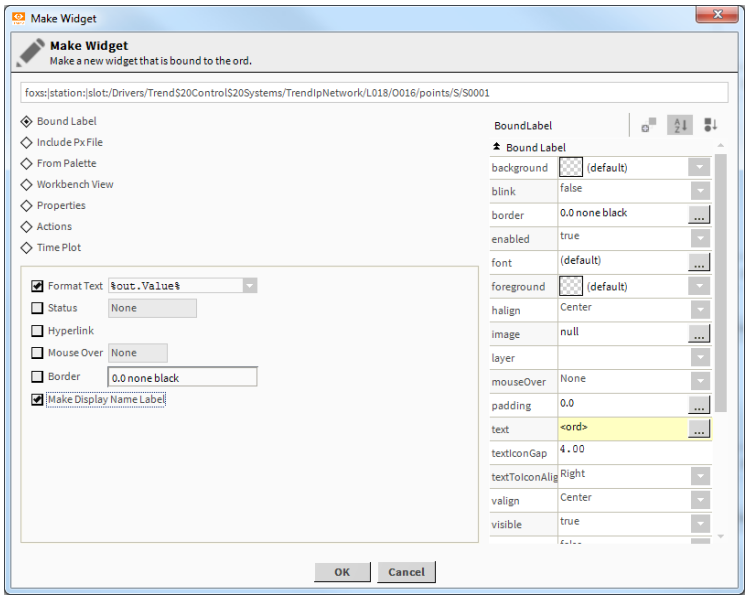
   Note: As you drag the item on the page two green lines indicate the top left corner where the item will be positioned.

13.7.1.4 Add a Dynamic Object (Value)

1. Navigate to the required value using the **Nav** tree.
2. Click and drag the value to the layout grid and position as required.

   Note: As you drag the item on the page two green lines indicate the top left corner where the item will be positioned.

3. When you release the mouse button the **Make Widget** dialogue box is displayed.
4. Select **Bound Label**.



5. Select **Format Text** and choose **%out.Value%** to display the value.
6. Select **Make Display Name Label** to display the label.
7. Click **OK**.

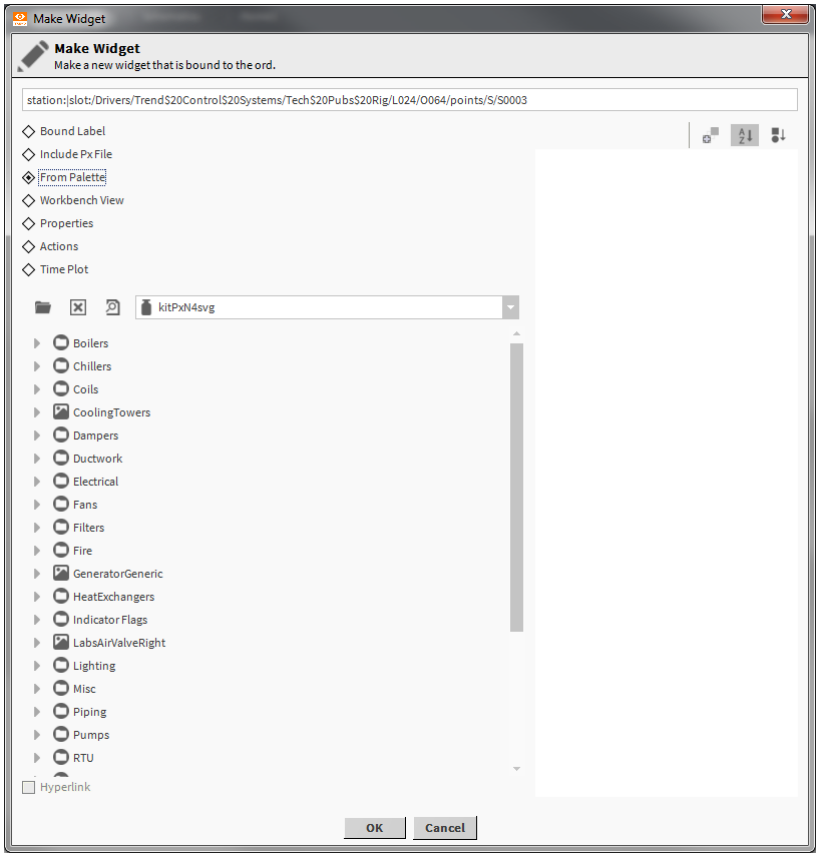
13.7.1.5 Add an Animated Image

IQVISION has some built in images that can be animated depending on value from the system.

1. Navigate to the value that is to be linked to the image using the **Nav** tree.
2. Click and drag the value to the layout grid and position as required.

   Note: As you drag the item on the page two green lines indicate the top left corner where the item will be positioned.

3. When you release the mouse button the **Make Widget** dialogue box is displayed.
4. Select **From Palette**.



5. Open the palette containing the required graphics - see **"Palettes" on page 106**.
6. Navigate to the required image using the palette.
7. Select the required image.
8. Click **OK**.

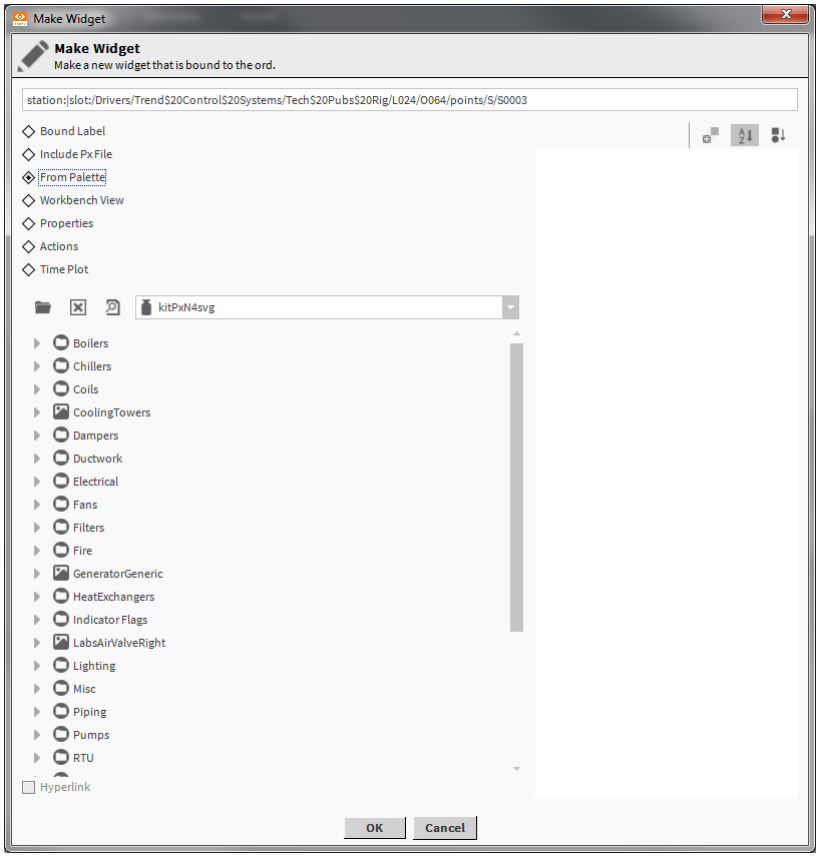
13.7.1.6 Add a Slider

A slider can be added to enable an analogue value to be adjusted.

1. Navigate to the value that is to be linked to the slider using the **Nav** tree.
2. Click and drag the value to the layout grid and position as required.

   Note: As you drag the item on the page two green lines indicate the top left corner where the item will be positioned.

3. When you release the mouse button the **Make Widget** dialogue box is displayed.
4. Select **From Palette**.



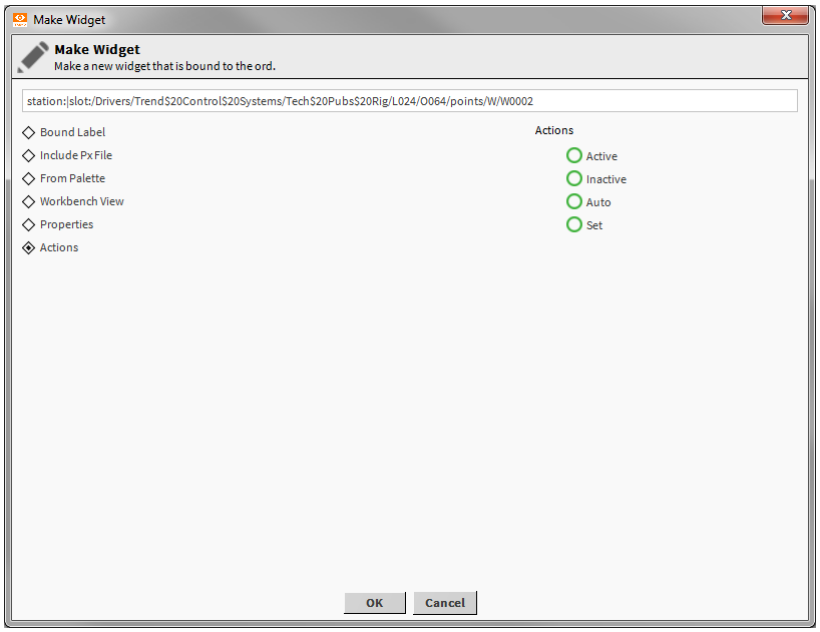
5. Open the KitPx palette - see **"Palettes" on page 106**.
6. Select *SetPointSlider*.
7. Click **OK**.

13.7.1.7 Add a Button to Adjust a Value

1. Navigate to the value that is to be adjusted using the **Nav** tree.
2. Click and drag the value to the layout grid and position as required.

   Note: As you drag the item on the page two green lines indicate the top left corner where the item will be positioned.

3. When you release the mouse button the **Make Widget** dialogue box is displayed.
4. Select **Actions**.



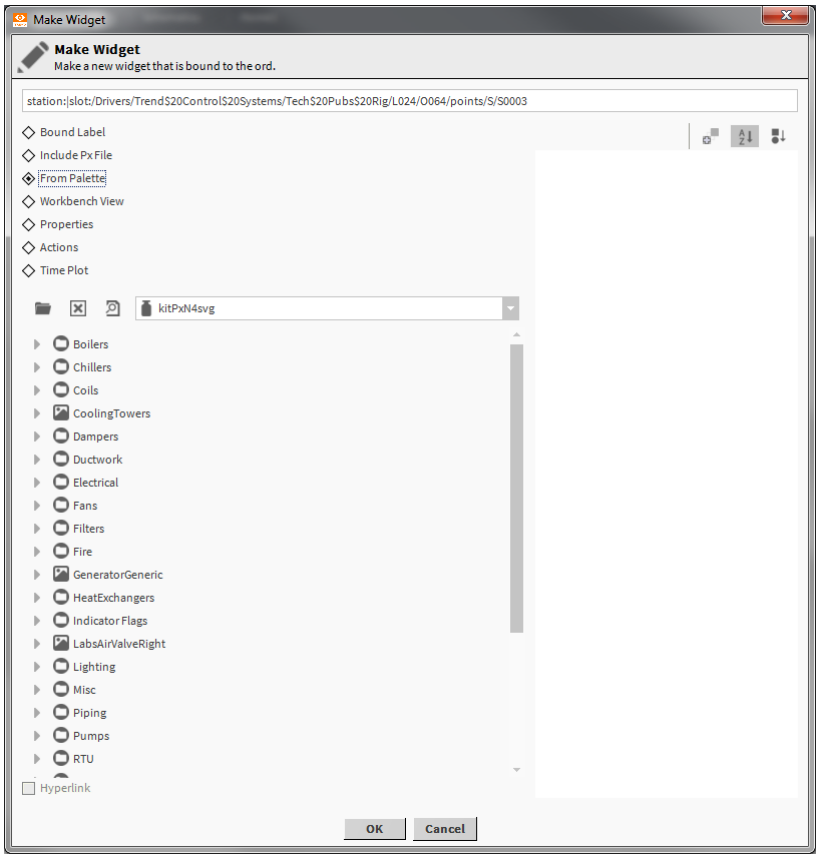
5. Select **Set**.
6. Click **OK**.

13.7.1.8 Add a Link to Another Page

1. Navigate to the PX Page that is to be linked to using the **Nav** tree.
2. Click and drag the PX Page to the layout grid and position as required.

   Note: As you drag the item on the page two green lines indicate the top left corner where the item will be positioned.

3. When you release the mouse button the **Make Widget** dialogue box is displayed.
4. Select **From Palette**.



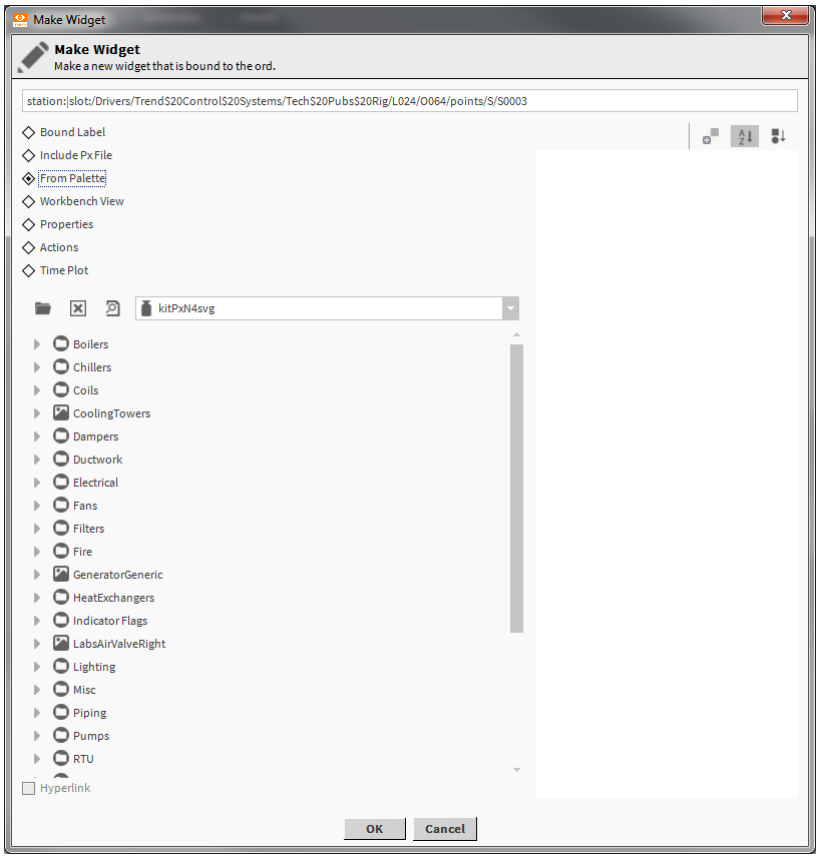
5. Open the KitPx palette - see **"Palettes" on page 106**.
6. Select **HyperlinkButton**.
7. Select the **Hyperlink** check box.
8. Enter the required text in the **text** box.
9. Click **OK**.

13.7.1.9 Add a Graph

1. Navigate to the required history using the **Nav** tree.
2. Click and drag the history to the layout grid and position as required.

   Note: As you drag the item on the page two green lines indicate the top left corner where the item will be positioned.

3. When you release the mouse button the **Make Widget** dialogue box is displayed.
4. Select **From Palette**.



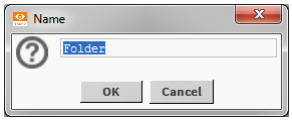
5. Open the webChart palette - see **"Palettes" on page 106**.
6. Select **Chart**.
7. Click **OK**.

13.8 Reuse PX Pages

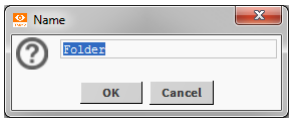
PX Pages can be reused, saving significant engineering time.

Normally PX Pages are created by using a new view attached to a folder in a centralised structure. However, as each PX Page is created in the file system in the 'px' folder, it is possible for a page to be reused by copying the file in the px folder and attaching it to the required folder.

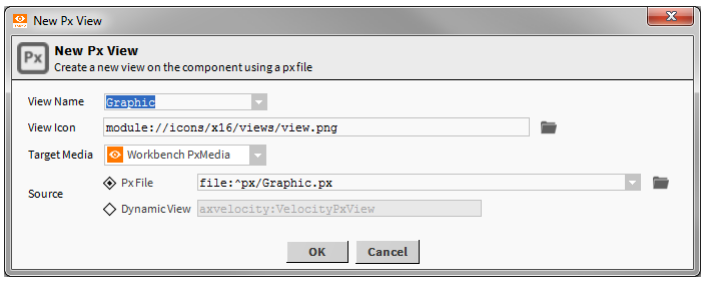
1. Create a PX Page as required - see **"Create a PX Page" on page 71**.
2. In the **Nav** tree open **My Host > Station(IQVISION) > Files > px**.
3. Right click the PX Page that is to be reused and select **Copy**.
4. Right click **px** and select **Paste**. The **Name** dialogue box is displayed.



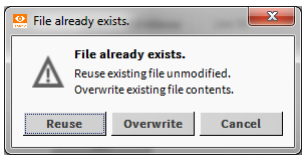
5. Enter a name for the PX Page.
6. Click **OK**. The PX Page will be added.
7. In the **Nav** tree open **My Host > Station(IQVISION) > Config** and navigate to where the PX Page is to be located.
8. Right click the folder and select **New> Folder**. The **Name** dialogue box is displayed.



9. Specify the page's name e.g. 'Floor 4'.
10. Click **OK** a folder is created.
11. Right click the folder you have just created and select **Views > New View**. The **New Px View** dialogue box is displayed.



12. Enter the name of the page created above in the **View Name** box.
13. Click **OK**. The **File already exists** dialogue box is displayed.



14. Click **Reuse**.
15. Edit the page as required - see **"Edit a PX Page" on page 71**.

13.8.1 Reuse a Generic PX Page

Terminal controllers often have the same strategy and the associated PX Pages are identical, but reference data from different controllers.

To reduce engineering time a PX Page with generic references to data in the controller can be used for multiple controllers by attaching it to the required controllers in the **Nav** tree. In order for this to work any reference to the controller must be made generic, and the PX Page must be associated with the controller not a folder.

Create a generic PX Page:

1. Create a PX Page as required - see **"Create a PX Page" on page 71**.
2. Open the **Bound Ords** pane.
3. Double click on the first ord that references a value in the controller. The **Edit ord** dialogue box is displayed.

4. Edit the ord to make it generic by removing references to the site, LAN, and controller. E.g.

   station:|slot:/Drivers/Trend$20Control$20Systems/Tech$20Pubs$20Rig/L024/O064/points/S/S0003

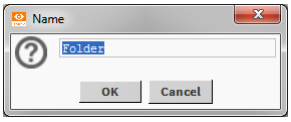
   which is referencing sensor module 3 in controller 64 on LAN 24 of the Tech Pubs site would become:

   slot:points/S/S0003

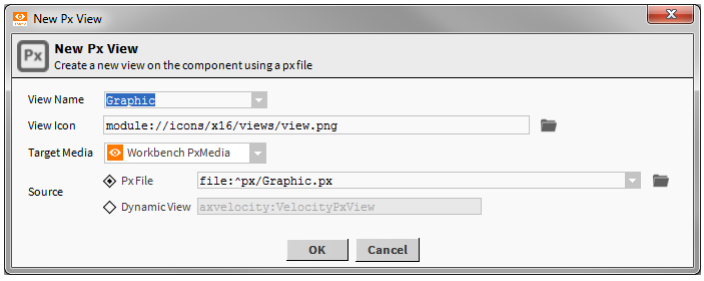
5. Click **OK**.
6. Press CTRL+S to save the page.

Associate a PX Page with a controller:

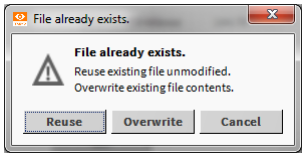
1. Right click the PX Page that is to be reused and select **Copy**.
2. Right click the **px** folder in the **Nav** tree and select **Paste**. The **Name** dialogue box is displayed.



3. Enter a name for the PX Page (e.g. Generic).
4. Click **OK**.
5. In the **Nav** tree navigate to the controller that the page is to be associated.
6. Right click the controller and select **Views > New View**. The **New Px View** dialogue box is displayed.



7. Enter the name of the page created above in the **View Name** box.
8. Click **OK**. The **File already exists** dialogue box is displayed.



9. Click **Reuse**.

13.9 Dashboards

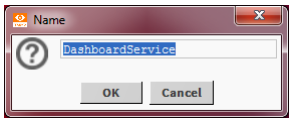
A Dashboard is an element on a PX Page which each user can customise to their requirements.

To use dashboards the Dashboard palette needs to be opened, see **"Palettes" on page 106**, and the Dashboard Service needs to be added to the Services section of IQVISION.

Dashboard panes are added to the PX view like any other Graphic, but require some extra configuration.

13.9.1 Add the Dashboard Service

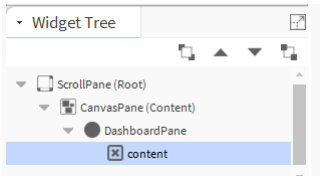
1. In the **Nav** tree open **My Host > Station(IQVISION) > Config > Services**.
2. Open the Dashboard palette, see **"Palettes" on page 106** and drag *DashboardService* onto **Services**. The **Name** dialogue box is displayed.



3. Click **OK**.

13.9.2 Add a Dashboard to a PX Page

1. Create the PX Page as required.
2. Open the Dashboard palette, see **"Palettes" on page 106**, and drag *DashboardPane* onto the page.
3. Open the webchart palette - see **"Palettes" on page 106**.
4. Drag either *Chart* or *Circular Gauge* onto the content of the Dashboard pane in the widget tree.



14 SET UP IQVISION USERS

IQVISION's security is controlled by users. The access rights of each user determines what information the user can access and what things they are able to change/configure.

To achieve this the security within IQVISION is managed using three services:

Categories
Roles
Users

Categories
Categories define what areas of the system a user can access.

Roles
Roles are used to group the categories together that are required for a particular job and to define the level of access to those categories.

E.g. a boiler engineer would only need access to the boilers but would require a high level of access. Therefore a role would be required for the engineers that gave high level access to the category that gave access to the boilers.

An energy manager would need information from all the plant but with a lower level of access. Therefore a role would be required for the energy manager that gave low level access to a number of categories covering all the plant.

Categories are assigned to roles using the Category Browser which is just another way of looking at the **Nav** tree.

Users
Users define which roles the user has, their password, expiry, web access view.

The 'admin' user is a superuser level access which has access to the whole system. Because of this details of the admin user's password should carefully controlled.

To configure users the required steps should be followed:

Configure Categories
Configure Roles
Configure Users

14.1 Configure Categories

Before creating the necessary categories it is necessary to plan what is required, you should consider the users and the distinct areas, then work out 'Where' needs to be granted access and create a category for each of these.

To configure categories the required steps should be followed:

Add a Category
Set up the Categories

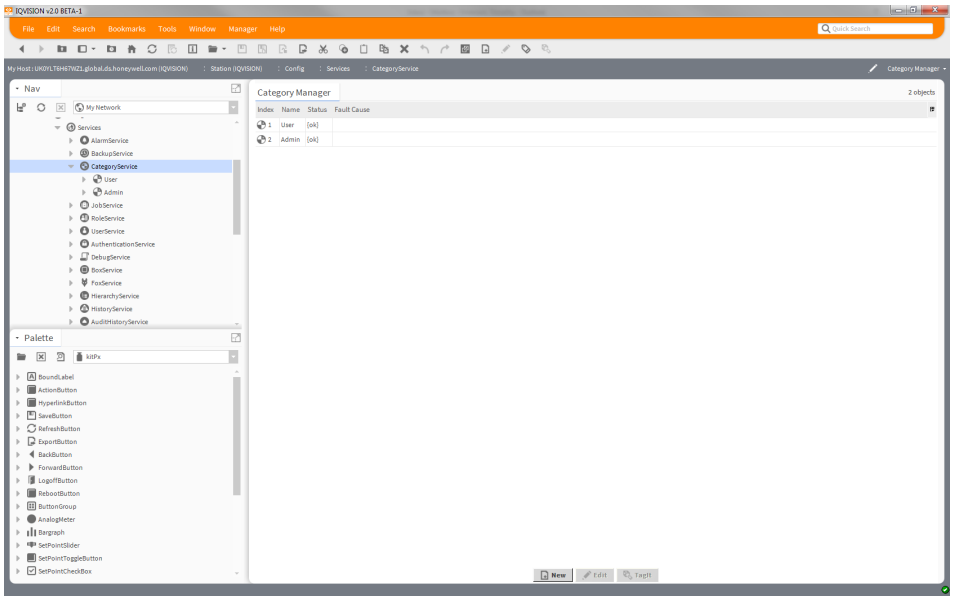
14.1.1 Add a Category

User and Admin categories are created by default and additional categories are added using the Category Manager.

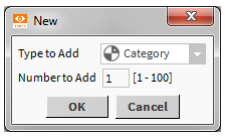
Note: The Admin category does not relate to the Admin user used to engineer IQVISION.

1. In the **Nav** tree open **My Host > Station(IQVISION) > Config > Services**.
2. Double click **CategoryService**. The **CategoryBrowser** is displayed in the **view** pane.

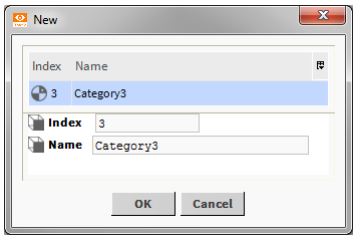
3. Click the view changer box and select **Category Manager**. The **Category Manager** is displayed in the **view** pane.



4. Click **New**. The **New** dialogue box is displayed.



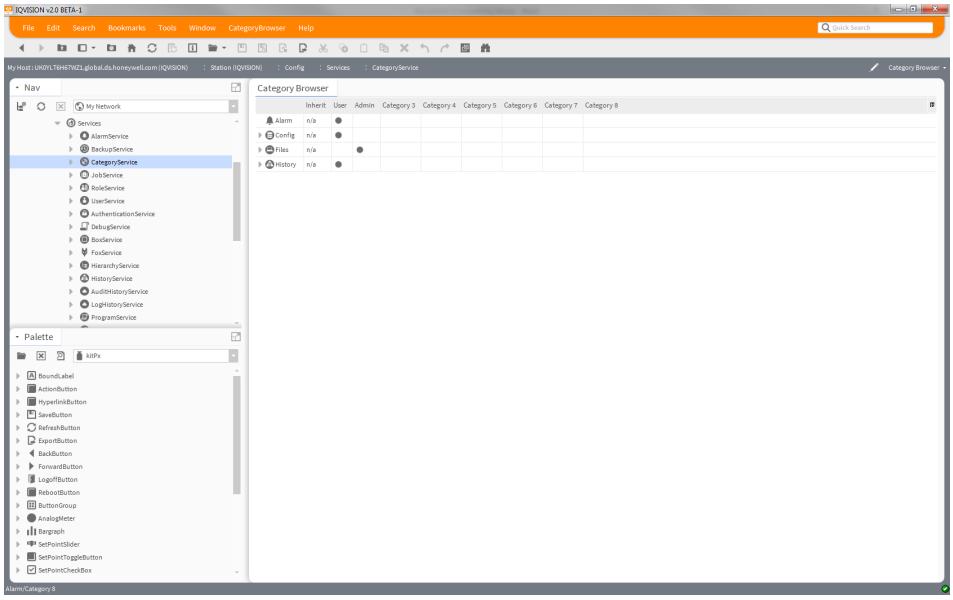
5. Click **OK**. The dialogue box changes.



6. Enter the name of the category in the **Name** box.
7. Click **OK**.

14.1.2 Set up the Categories

1. In the **Nav** tree open **My Host > Station(IQVISION) > Config > Services**.
2. Double click **CategoryService**. The **CategoryBrowser** is displayed in the **view** pane.



3. Grant each category access to the required areas of the system by clicking the required rows in the column for each category. To grant access to elements lower in the hierarchy expand the appropriate row and click.

   Note: Categories are a parent child system so selecting the top level will grant access to every child element under that level.

   The inherit feature enables the access of the User category to be copied to another category. If there is a tick on the **Inherit** column for a row when that row is selected for another category the access from the User category is copied to the other category and **removed** from the User category. To reinstate access to the User category click the row in the **User** column.

   Caution: Due to this it is potentially easy to accidentally remove rights.

   A dot in a cell indicates access to that specific area. If the dot is black the access will not be affected by the **Inherit** tick, if it is grey it will be affected.

   It is recommended that the Admin category is given the same access in the **Config** row as the User category i.e. leave the **Inherit** rows in the **Config** row are they are. For the other rows (Alarm, Files, and History) the **Inherit** rows can be unticked to enable you to specify the access more easily.

   Note: By default the 'Admin' and 'New' categories will have no access.

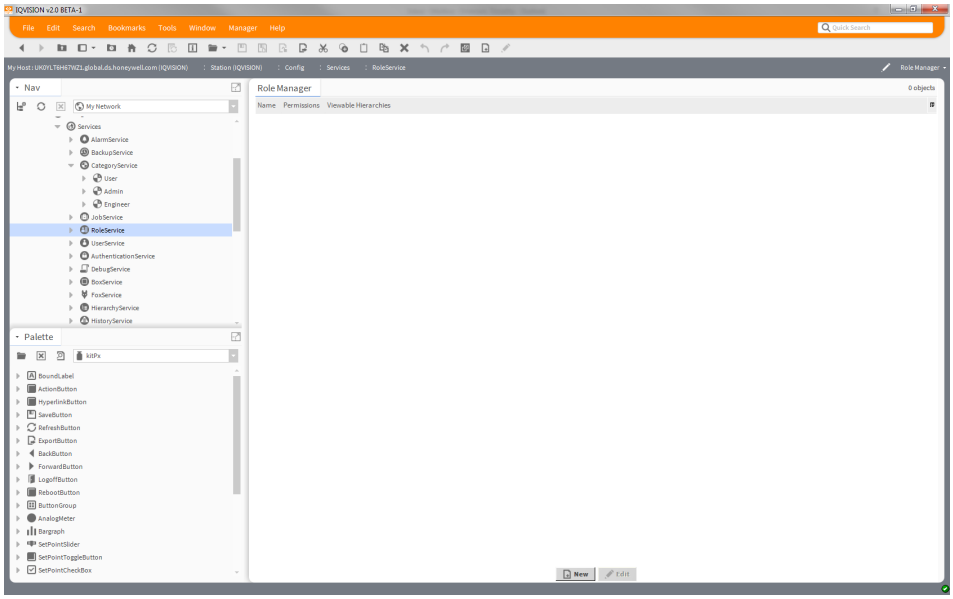
   Note: It is recommended that the 'Admin' category has access to some of the more complex areas of IQVISION but not the whole of IQVISION.

4. Click  .

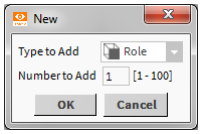
14.2 Configure Roles

Roles use the categories to define what areas of the system can be accessed. They can have multiple categories assigned. It is best to configure Roles with job roles in mind rather than specific areas like categories.

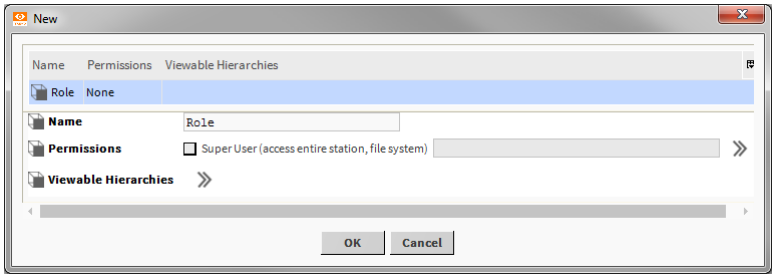
1. In the **Nav** tree open **My Host > Station(IQVISION) > Config > Services**.
2. Double click **RoleService**. The **Role Manager** is displayed in the **view** pane.



3. Click **New**. The **New** dialogue box is displayed.

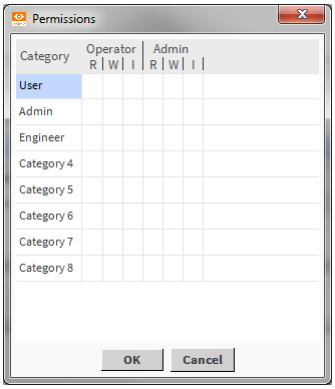


4. Click **OK**. The dialogue box changes.



*Note: It is recommended that the **SuperUser (access entire station, file system)** check box is **NOT** selected.*

5. Click >> next to **Permissions**. The **Permissions** dialogue box is displayed.



6. Specify the permissions for each category by clicking the appropriate column for each category.

   When you assign permissions, higher-level permissions (green check marks) automatically include the lower level ones (grey check marks). For example, if you enable admin level write (W), the system automatically enables admin level read (R), as well as operator level read and write (RW).

   The first column, **Category**, lists the groups to which you may grant permission. The **Operator** and **Admin** columns relate to the permissions level configured on each component. Below these headings are the cells to use for assigning one of three permissions to each category:

R	Read allows the user to view the object.
W	Write allows the user to change the object.
I	Invoke allows the user to initiate an action related to the object.

   Depending on how the permission level is set on the role, six permissions are derived:

Permission	***Description***
To allow a user to view operator level information	Check the Operator config flag on the slot and select the Operator R column on the permission map.
To allow a user to modify operator level information (if it is not read only)	Check the Operator config flag on the slot and select the Operator W column on the permission map.
To allow the user to view and invoke operator-level operations (actions)	Check the Operator config flag on the slot and select the Operator I column on the permission map
To allow the user to view admin level information	Leave the Operator config flag unchecked on the slot and select the Admin R column on the permission map.
To allow the user to modify admin level information (if it is not read only)	Leave the Operator config flag unchecked on the slot and select the Admin W column on the permission map.
To allow the user to view and invoke admin-level operations (actions)	Leave the Operator config flag unchecked on the slot and select the Admin I column on the permission map.

7. Click **OK**.
8. Click **OK**. A confirmation dialogue box is displayed.
9. Click **Yes**.

14.3 Configure Users

To configure users the required steps should be followed:

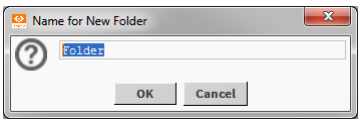
Configure NAV Files
Add Users

14.3.1 Configure NAV Files

NAV files are used to define the PX Page that is displayed when a user logs in. Each user must have a NAV file assigned. It is recommend that a folder is created to store all the NAV files.

14.3.1.1 Create a Folder for the NAV Files

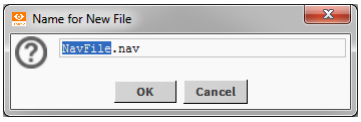
1. Right click **Files** and select **New> Folder**. The **Name** dialogue box is displayed.



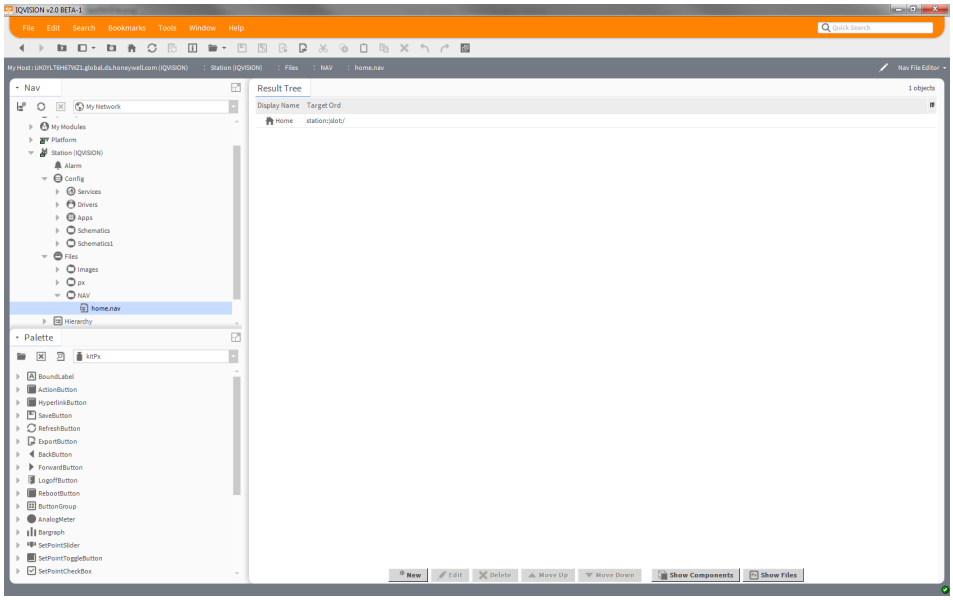
2. Specify the folders's name e.g. 'NAV'.
3. Click **OK**.

14.3.2 Create NAV Files

1. In the **Nav** tree open **My Host > Station(IQVISION) > Config** and navigate to where the NAV file is to be located e.g. the folder created in Create a Folder for the NAV Files.
2. Right click the folder and select **New> NavFile.nav**. The **Name** dialogue box is displayed.

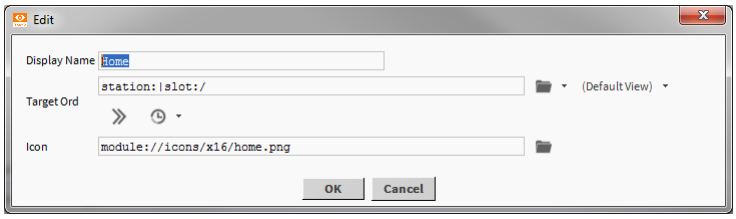


3. Specify the file's name e.g. 'Home'.
4. Click **OK**. The file is created.
5. Open the folder containing the NAV file.
6. Double click the NAV file. The **Nav File Editor** is displayed in the view pane.

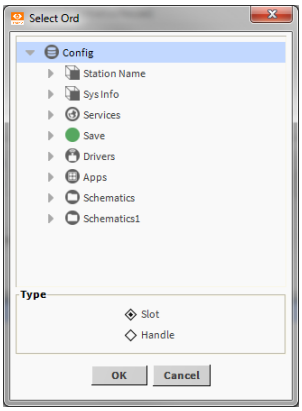


7. Click **Show Components**.

8. In the **Result Tree** double click the NAV file. The **Edit** dialogue box is displayed.



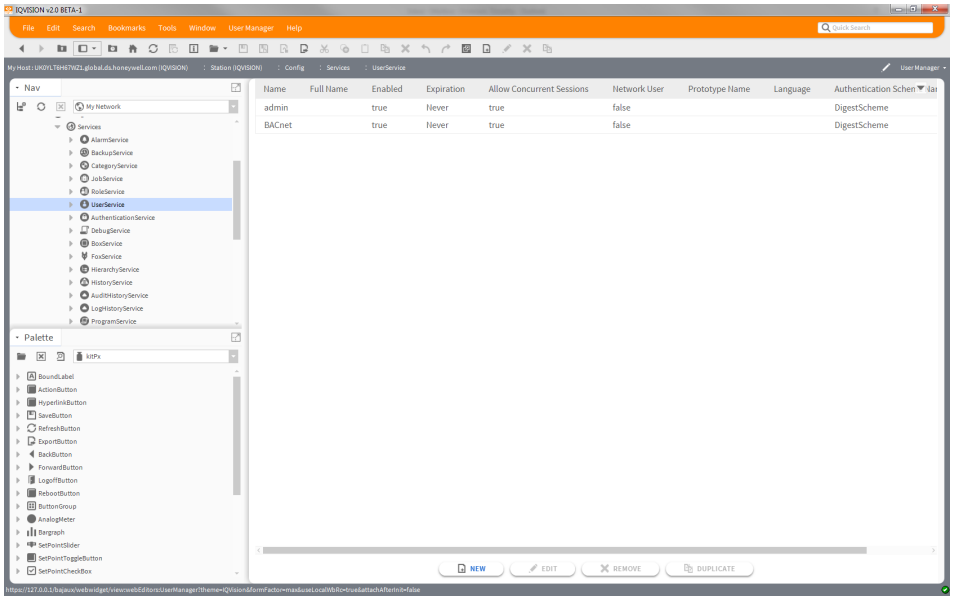
9. Click next to **DefaultView**. The **Select Ord** dialogue box is displayed.



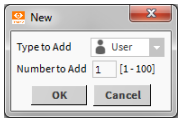
10. Navigate to the PX Page that is to be referenced by the NAV page and select it.
11. Click **OK**.
12. Click **OK**.

14.3.3 Add Users

1. In the **Nav** tree open **My Host > Station(IQVISION) > Config > Services**.
2. Right click **UserService** and select **Views > AX User Manager**. The **Ax User Manager** is displayed in the **view** pane.

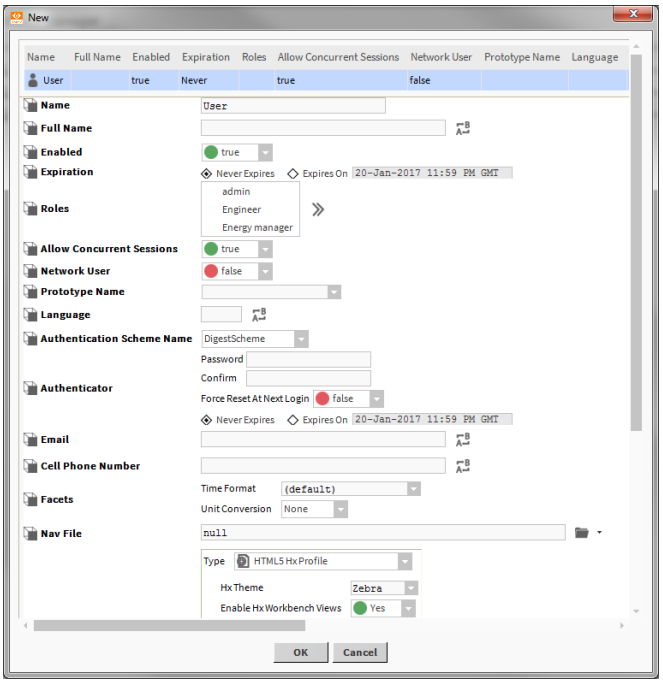


3. Click **New**. The **New** dialogue box is displayed.



Note: Several users can be added at the same time. However, it is recommended to add users individually to prevent confusion when specifying passwords.

4. Click **OK**. The dialogue box changes.



5. Enter the user's username in the **Name** box.
6. Enter the users full name in the **Full Name** box.
7. If the user is to expire on a specific date select the **Expires On** option and specify the required date.
8. Select the roles for the user in the **Roles** box.
9. Enter the user's password in the **Password** box.

   Note: Passwords must be 10 digits alpha numeric.

10. Re-enter the user's password in the **Confirm** box.
11. To force the user to change the password when they next login set **Force Reset At Next Login** to *true*.
12. To force the user to change the password on a specific date, select the **Expires On** option and specify the required date.
13. If the password is to expire on a specific date select the **Expires On** option and specify the required date.
14. Specify the NAV file that is linked to the PX Page that is to be displayed when the user logs in in the **Nav** file box.
15. Specify what happens when a user logs in from a web browser in the **Default Web Profile** box.

    - In the **Type** box select the required option.

      It is recommend that you select *HTML5 Hx Profile* as it will render the graphics in a HTML5 format avoiding Java issues.

    - In the **Hx Theme** box select *IQVision*.
    - Select **Yes** or **No** to specify whether the user has access to the following features:
      - Hx workbench views
      - Nav tree side bar
      - search side bar
      - palette side bar
      - Nav file tree
      - Config tree
      - Files tree
      - Histories tree
      - Hierarchies tree

16. In the **User Pin Level** box specify the PIN level of the user that is used to determine access to items on PX pages that have been imported from 963 using the Migration Tool.
17. Click **OK**.

15 BACKUP & RESTORE

To ensure that the IQVISION configuration can be restored in the event of hardware or software failure it is recommended that the IQVISION station is backed up. To reduce the risk it is recommended that the backup is performed in two ways:

Using the Station Copier
Using the Backup Service

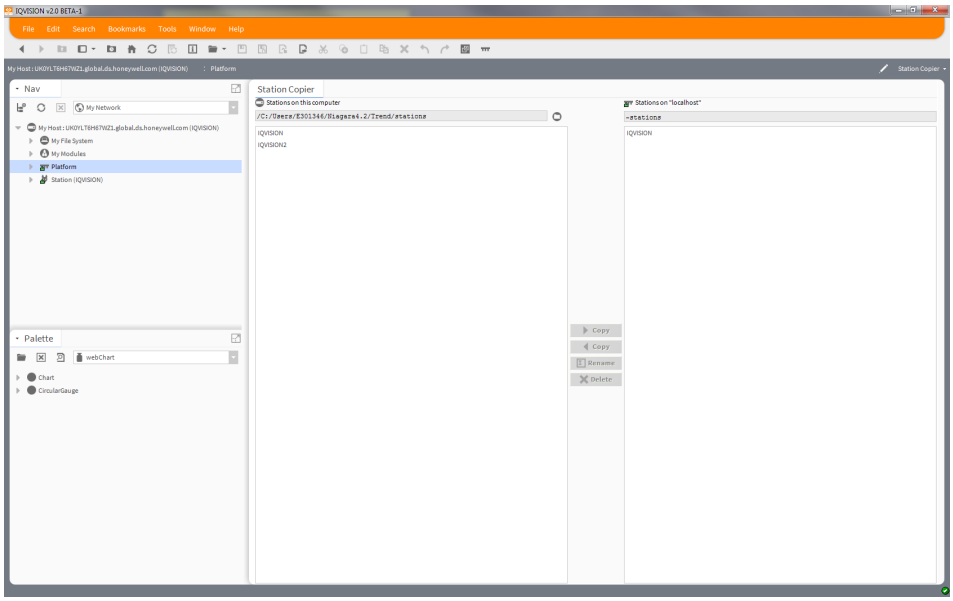
It is also important to ensure that the passphrase entered during the IQVISION installation, platform password (normally PC login credentials) and the password for the 'admin' user (specified when creating the IQVISION station) are available for use during any restore procedure.

15.1 Backup the Configuration

15.1.1 Using the Station Copier

The IQVISION configuration can be copied from the localhost back to the local computer. This is not a true back up but it is useful as it makes the configuration available offline and thus reusable in future IQVISION installations.

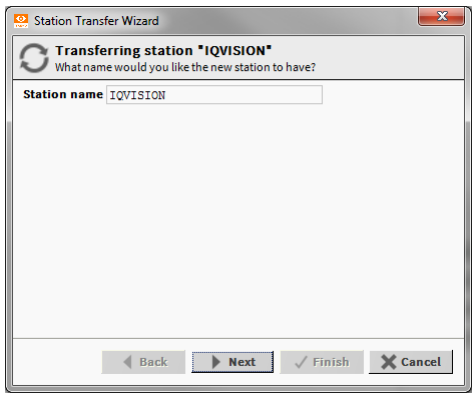
1. In the **Nav** tree right-click on **Platform** and select **Views > Station Copier**. The **Station Copier** is displayed in the view pane.



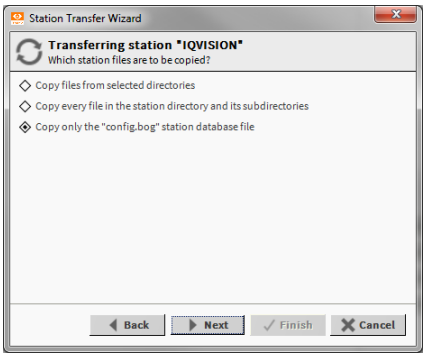
2. In the right-hand column (Stations on "localhost") click the station to be copied (e.g. IQVISION).

   The Localhost is the live version of IQVISION. Copying from left to right will overwrite the live version with an older PC version. **To copy the live version to the PC it is RIGHT to LEFT**

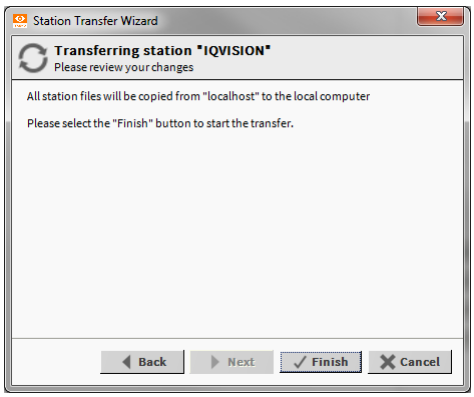
3. Click **< Copy**. The **Station Transfer Wizard** is displayed.



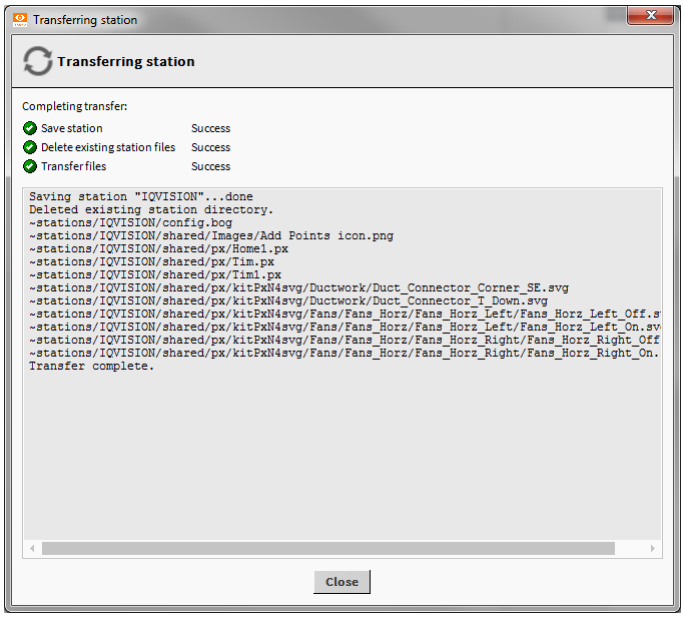
4. Enter the name of the backup copy (e.g. IQVISION Backup).
5. Click **Next**.



6. Select **Copy every file in the station directory and its subdirectories**.
7. Click **Next**.
8. If the station already exists in the destination you will be prompted to delete the entire station, or just overwrite duplicate files. Select the required option and click **Next**.



9. Click **Finish** to start copying the files. Once the copy is complete the following dialogue box is displayed.

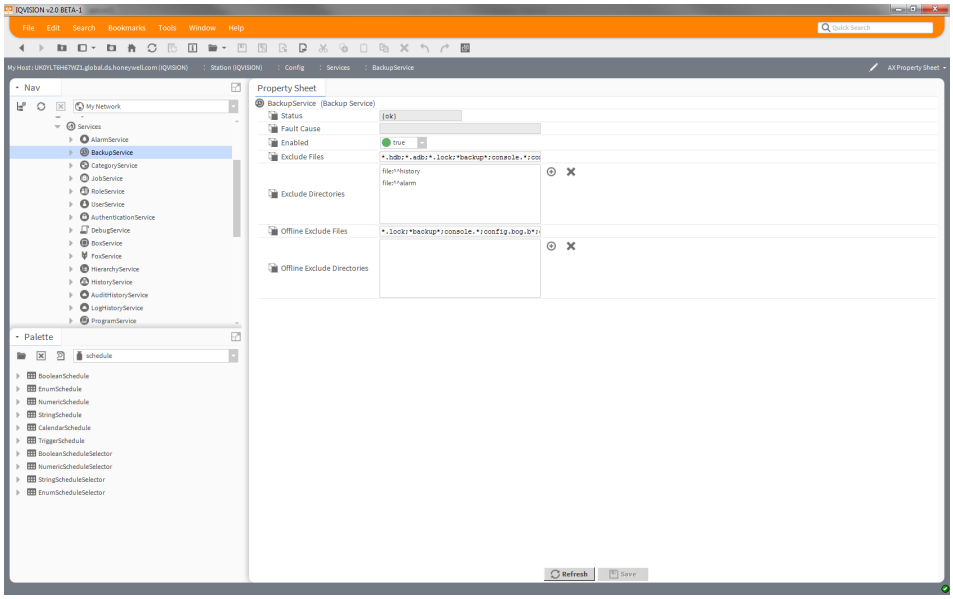


10. Click **Close**.
11. In the **Nav** tree open **My File System** and navigate to C:/Users/xxxxxx/Niagara4.2/Trend/stations where xxxxxx is your user name.
12. Right-click the required station folder and select **Copy**.
13. Navigate to the required storage location (e.g. a plug-in memory device).
14. Right-click and select **Paste**.

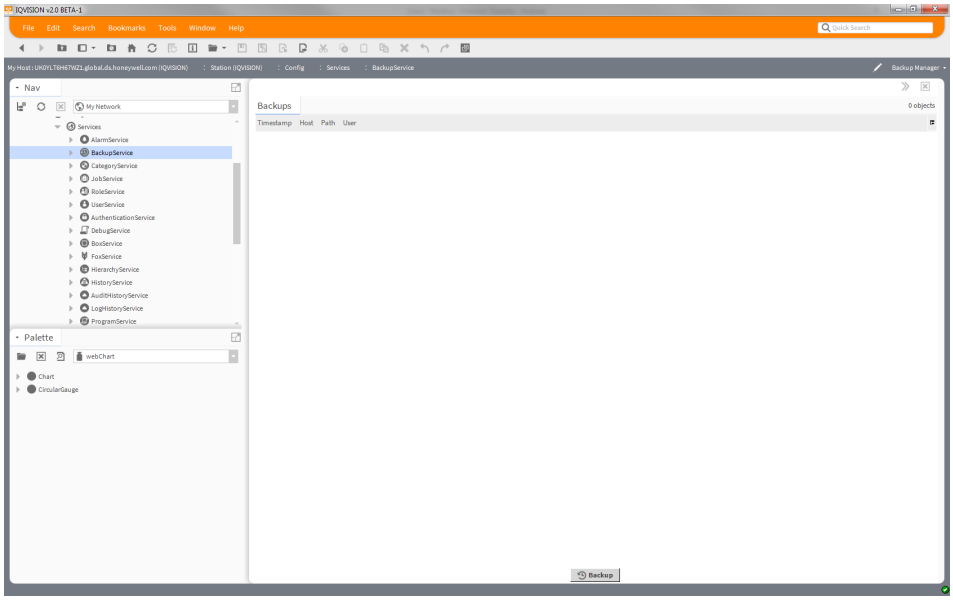
15.1.2 Using the Backup Service

Station backups are stored as '.dist' files in C:/Users/xxxxxx/Niagara4.2/Trend/backups where xxxxxx is your user name.

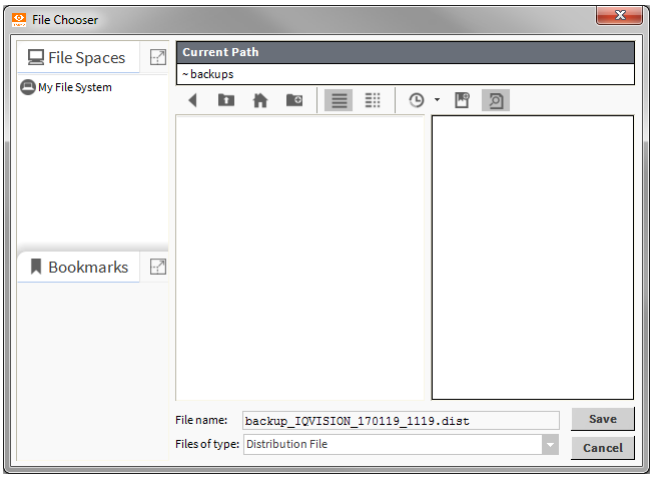
1. In the **Nav** tree open **Station > Config > Services**.
2. Right click **Schedules** and choose **Views** > **Ax Property Sheet**.



3. In the **Exclude Directories** box click *file:^^history* and click ✖.
4. In the **Exclude Directories** box click *file:^^alarm* and click ✖.
5. Click **Save**.
6. In the **Nav** tree double click **BackupService**. The **Backup Manager** is displayed in the view pane.



7. Click **Backup**. The **File Chooser** dialogue is displayed.



8. If required rename the backup in the **File name** box.
9. Click **Save**.
10. Ensure the backup file is stored securely.

15.2 Restore the Configuration

15.2.1 Restore Using the Station Copier

To restore a station copy follow the procedure described in **"Using the Station Copier" on page 91 but copy the station from left to right.**

15.2.2 Restore the Station Using the dist file

1. Rename the backup.dist file to a zip by renaming the extension.
2. Navigate to the station folder and copy it into the wb user home.
3. Use the station copier to copy it to the daemon home and start.

16 MIGRATION TOOL

IQVISION includes a Migration Tool that can be used to import system data from other Trend tools. The tool is compatible with data exported from:

- 963 supervisor,
- IQSET engineering tool.

Imported data can include device configurations and/or schematics.

HINT: Although you can migrate devices and schematics in a single pass, you may find it helpful to migrate devices and schematics separately.

16.1 Exporting Data from Other Tools

Before using the migration tool it is necessary to export the required data from which ever tool(s) you have.

Device data is contained in a '.dxml' file, and schematic data is contained in a '.sxml' file

16.1.1 963

You will need to download the latest version (v2.00 or above) of the 96x Schematic Export Tool from PNet. Run the tool and export the required schematic files.

Note: The Migration Tool does not migrate all 963 schematic items. It is recommend that the option to remove unsupported items from the export is selected when exporting the required schematic files.

Refer to the 96x Schematic Export Tool Manual (TE201242) for further details.

16.1.2 IQSET

Load the required project into IQSET (v7.05 onwards), select the devices required and choose **Export > IQVISION**.

Refer to IQSET Manual (TE200147) for further details.

16.2 Copying Exported Files into IQVISION

1. In the **Nav** tree open **My File System** and navigate to the location of your exported file(s).
2. Right-click the file(s) or folder(s) required and select **Copy**.
3. In the **Nav** tree open the **Station** folder.
4. Right-click on **Files** and select **Paste**.

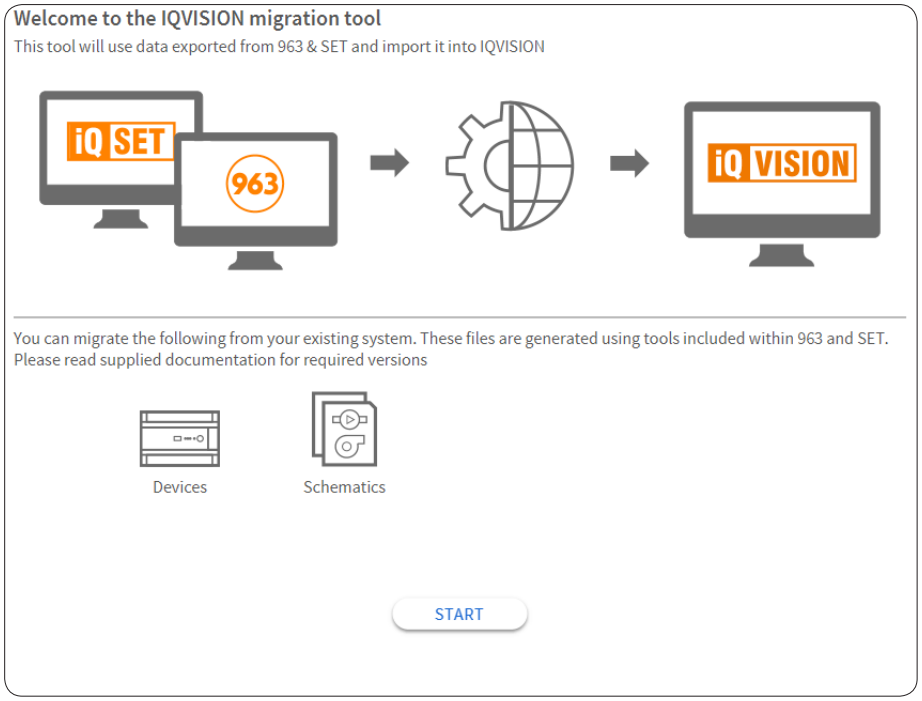
16.3 Using the Migration Tool

The Migration Tool will guide you through the process of migrating data from a 963 or IQSET project into IQVISION. You must first have exported files from 963 or IQSET and copied them into the Station > Files location on the IQVISION computer.

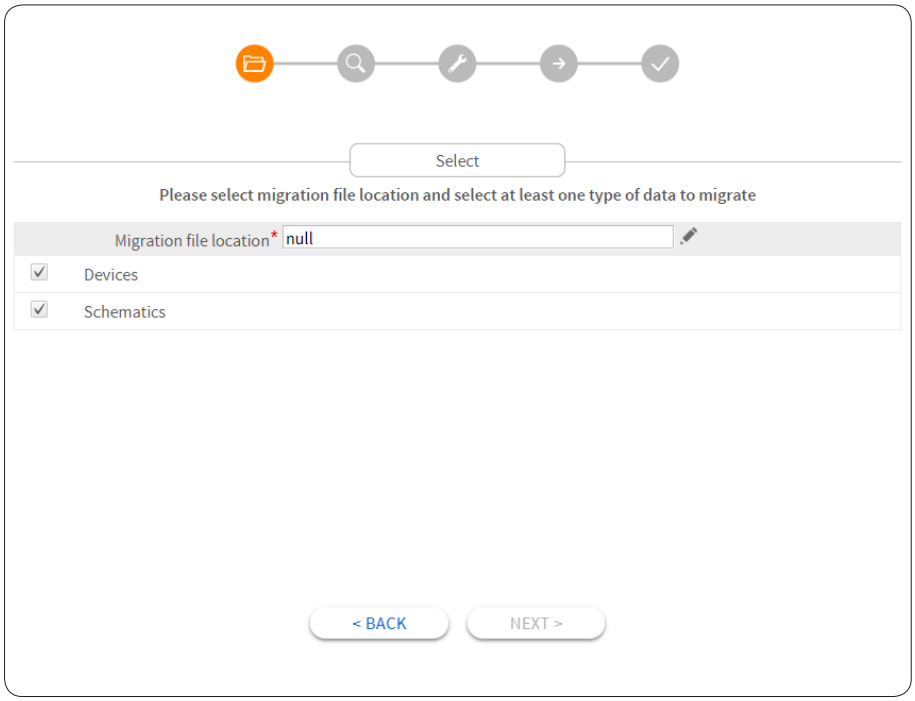
The tool guides you through a number of steps and will not allow you to proceed to the next step until you have completed any necessary tasks. In most cases you can go back to the previous step if you encounter any problems or want to change something.

To Migrate 963 and IQSET Data into IQVISION:

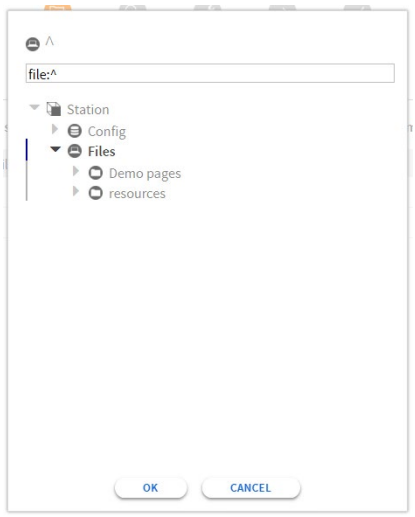
1. Click the icon on the toolbar. The welcome page of the Migration Tool is displayed.



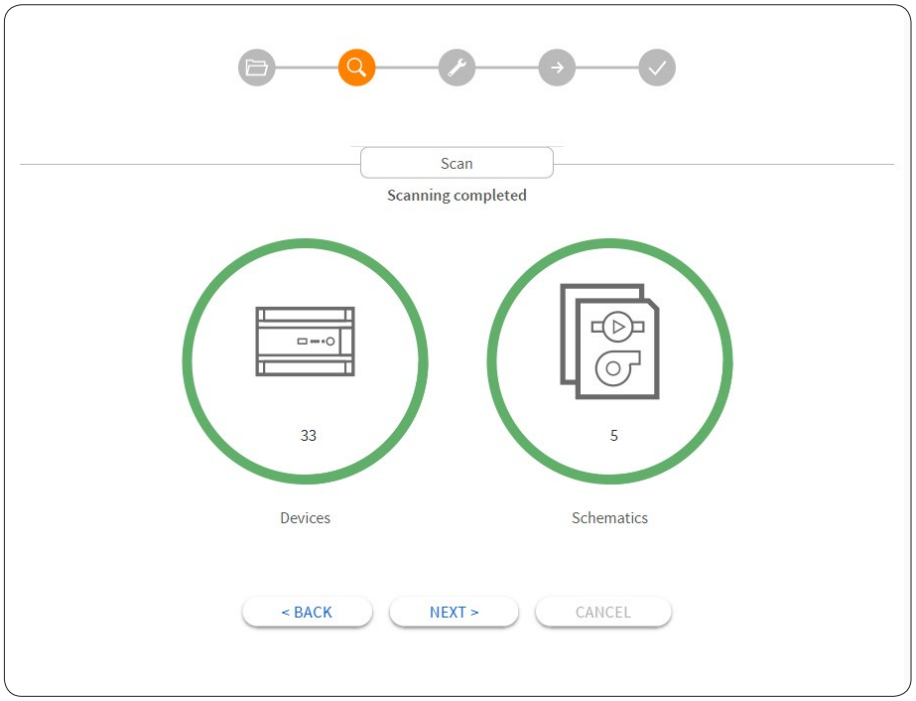
2. Click **START**. The **Select** page is displayed.



3. Click the icon and choose the location of the 963 or IQSET source file(s).

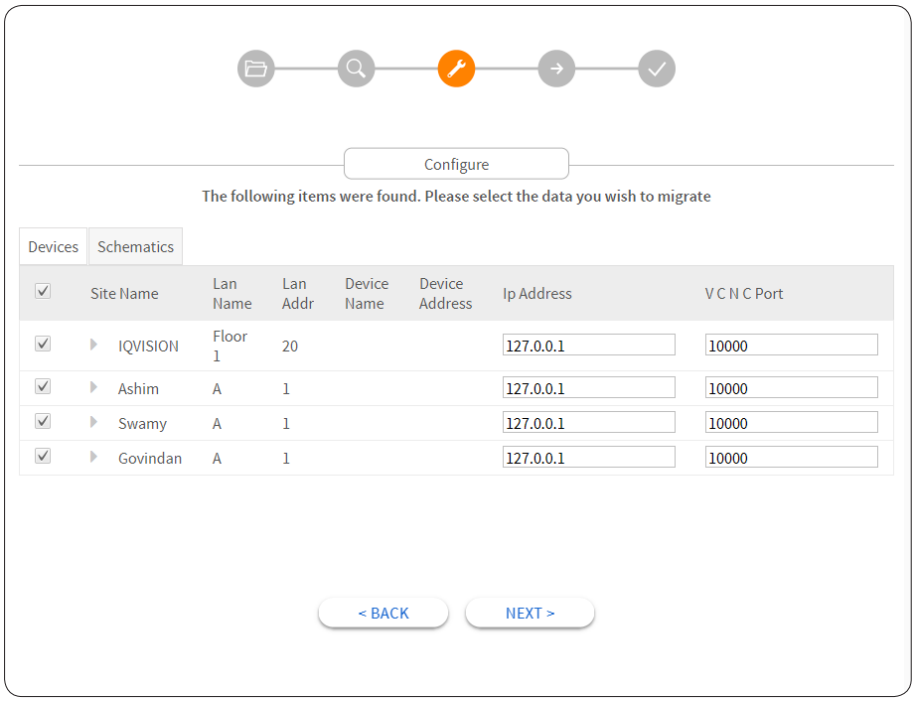


4. Click **OK**.
5. Deselect any unwanted data types (e.g. Devices or Schematics). All are selected by default and at least one must be selected.
6. Click **NEXT**. The **Scan** page is displayed and the tool will automatically scan the specified folder (or file) for the selected data. Progress is indicated by the spinning green circles.

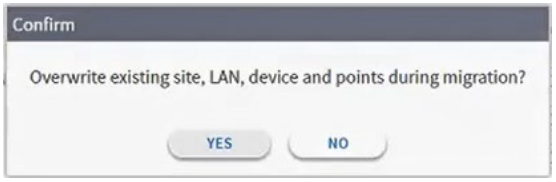


When scanning is complete the number of devices and schematics found is displayed.

7. Click **NEXT**. The **Configure** page is displayed, showing a list of all of the devices and schematics that have been found.

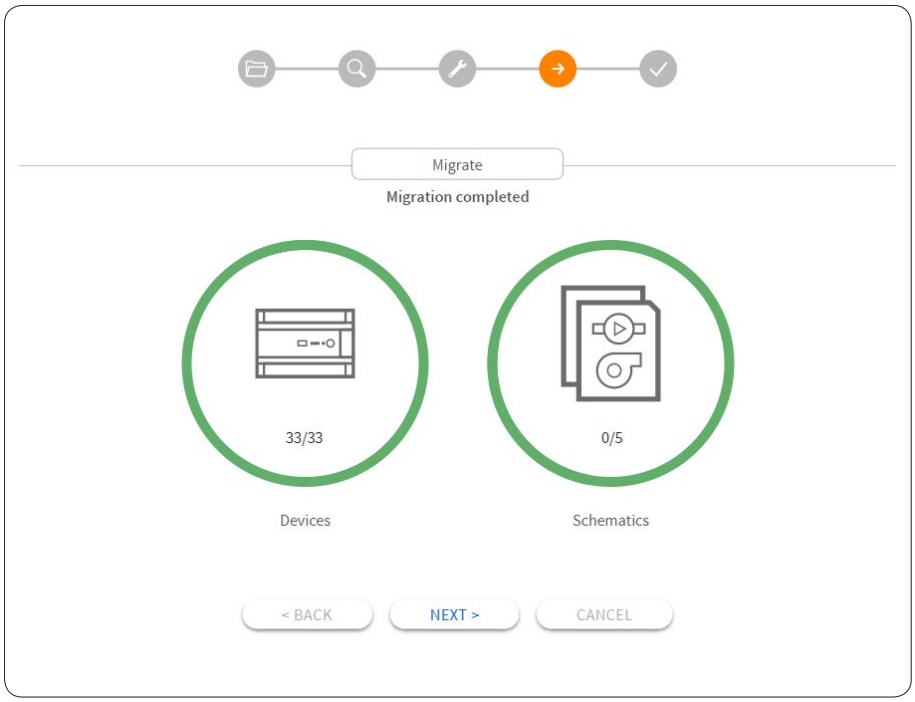


8. Click the **Devices** tab and deselect any devices that you do not wish to migrate.
9. Click the **Schematics** tab and deselect any schematics that you do not wish to migrate.
10. If required, enter the **Ip Address** and **VCNC Port** number of the vCNC to be used to make a connection to the site. By default the address is set to l27.0.0.1 (i.e. the local host) and vCNC port is set to 10000. Alternatively, you can set this up later by configuring the Trend IP Driver for the site (see **page 33**).
11. Click **NEXT**. The following confirmation dialogue box is displayed.



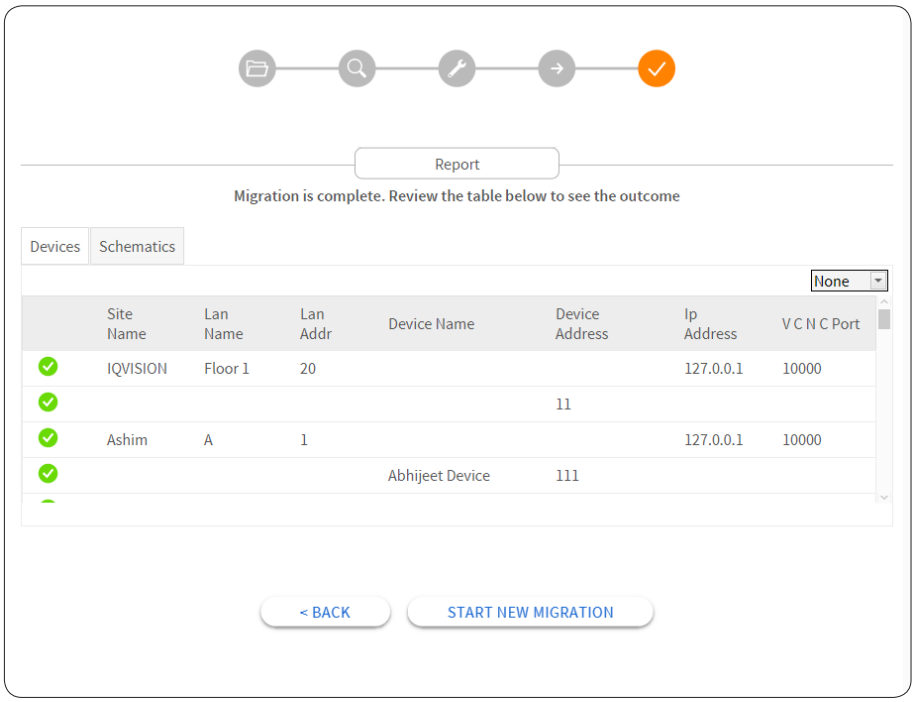
12. Click **YES** to migrate all files. If the new data conflicts with any existing site, LAN, device or point details, the existing details is overwritten. Click **NO** to migrate only the details where there are no conflicts.

The Migrate page is displayed and the tool will commence migration of the selected items. Progress is indicated by the spinning green circles.



When migration is complete the number of devices and schematics migrated is displayed.

13. Click **NEXT**. The Report page will appear allowing you to review which devices and schematics have been migrated and whether the migration was successful as indicated by the icons.



Icon	*Status*
	Fully migrated. No problems reported.
	Partially migrated.
	Failed. Not migrated.

16.3.1 Migrated Devices - Next Step

The Migration Tool creates and outputs device data to a folder called ‘Trend N4’ within the **Station > Drivers** section. Under this each set of devices is split into the relevant Trend LAN. For each device all points are split into sub folders.

Histories (Plots) are automatically learnt and, by default, data is set to be collected from a plot module once daily at 02:00:00 AM GMT. This can be altered as required for each history, and must be altered for plots with intervals of 1 second or 1 minute to prevent data being lost. For example, assuming a plot module maintains a maximum of 1000 plot records, 1 second plots must be collected at least once every 16 minutes, and 1 minute plots must be collected at least once every 16 hours.

16.3.2 Migrated Schematics - Next Steps

The Migration Tool places all the recreated schematics files in a folder called ‘PX’ within the **Station > Files** section. The files are named according to their original name.

Review the schematic/PX Pages to check that they are as expected. Some minor editing of the font, size, colour and positioning of text may be required.

17 USING IQVISION

This section covers the general procedures for day-to-day use of IQVISION.

Once configured IQVISION needs to be running all the time to enable it to collect logged data, control occupation times, process alarms and allow users to access information.

If **AUTO-START** was selected when the IQVISION station was created, see **"Create a New Station" on page 27**, IQVISION will be running whenever the PC is started and running. If this is not the case the IQVISION station must be started manually - see **"Start the IQVISION Station" on page 119**.

17.1 Access IQVISION

IQVISION can be accessed from a PC using the IQVISION application or from a web browser.

Note: When accessing IQVISION from a web browser not all features are available.

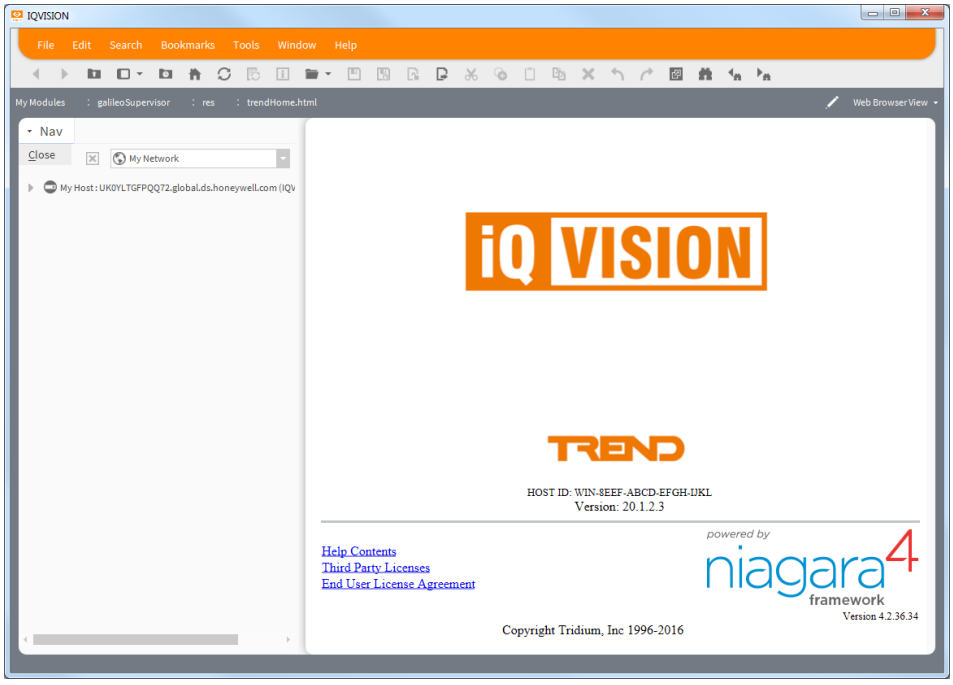
17.1.1 Access IQVISION from the IQVISION Application

Launch the IQVISION Application
Log on

17.1.1.1 Launch the IQVISION Application

1. Click **Start** and choose **All Programs**.
2. Navigate to the **Trend Control Systems** > **IQVISION** folder.
3. Click **IQVISION**.

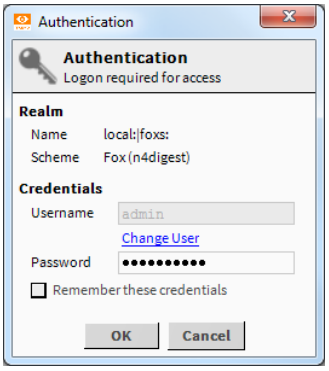
The IQVISION application window will open:



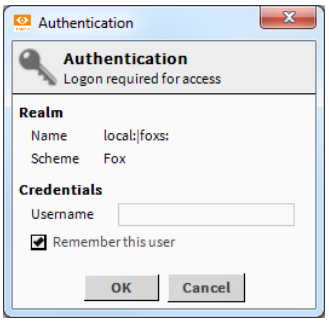
Note: For an overview of the IQVISION user interface see **page 106**.

17.1.1.2 Log on

1. In the **Nav** tree double click on **Station**. The **Authentication** dialogue box is displayed with a default user selected:



2. To select a different user click **Change User**, otherwise go to step 5.



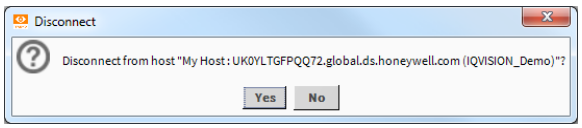
Hint: Select the **Remember this user** *tickbox to make this the default username.*

3. Enter a new **Username**.
4. Click **OK**.
5. Type the appropriate password in the **Password** box.
6. Click **OK**.

17.1.1.3 Log off

When you have finished using IQVISION it is important to log off from IQVISION to ensure that the system cannot be accessed by unauthorised users. Logging off requires you to disconnect from both the Platform and Station.

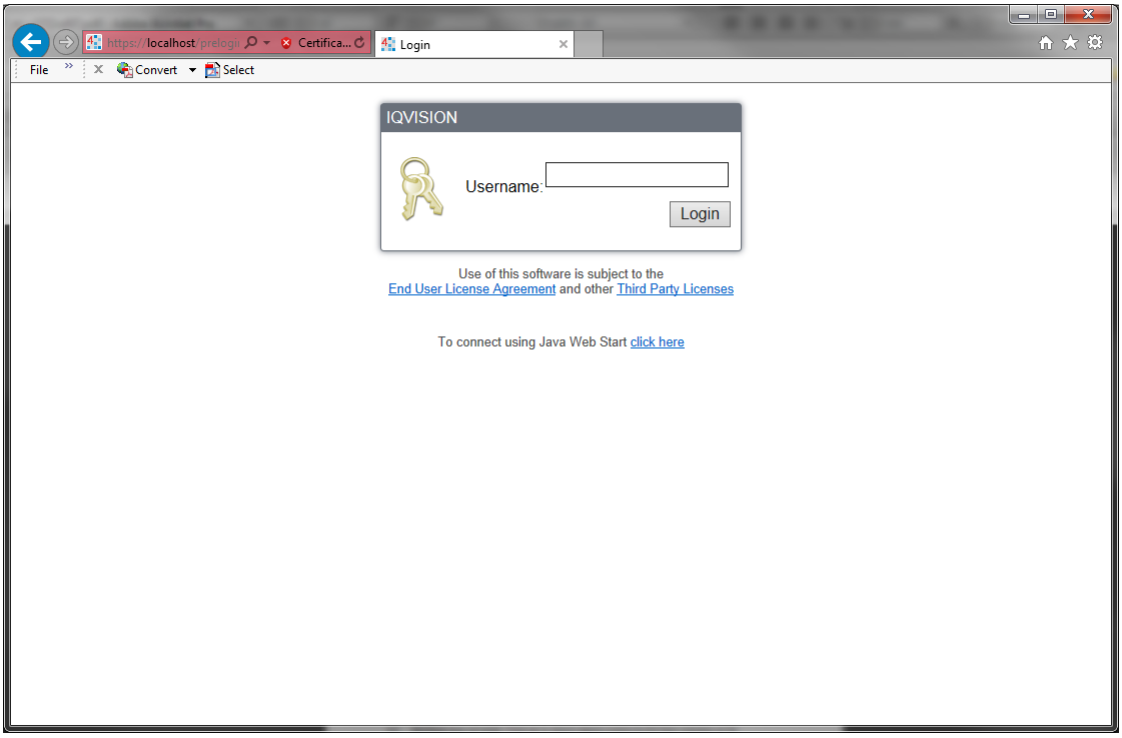
1. In the **Nav** tree right-click on **My Host** and select **Disconnect**. The **Disconnect** dialogue box is displayed.



2. Click **Yes** to disconnect.

17.1.2 Access IQVISION from a Web Browser

1. Go to the IP address of the PC running IQVISION. The IQVISION log on page is displayed.



2. Enter your user name.
3. Click **Login**.
4. Enter your password.
5. Click **Login**.

17.1.2.1 Log off

1. Click ☒.
2. Click **Yes**.

17.2 Use IQVISION

Once you have accessed IQVISION it can be used in two different ways:

Using IQVISION via PX Pages
Using IQVISION via the Nav Tree

The method you use will depend on how IQVISION has been configured, your level of access and the tasks you want to do.

17.2.1 Using IQVISION via PX Pages

Use of IQVISION via PX Pages requires more initial configuration, but enables users to access the system using graphical pages tailored to their requirements in a controlled way.

The PX Pages will have been designed to provide clickable links to either move between pages or select particular controls (e.g. to change a set point, change occupancy times, etc). When you log in you will be taken to a landing page from which you can navigate to the required information and, if allowed, make adjustments. Simply click on the links provided; the user interface should make it obvious what the link does.

Access the PX Pages
Use the PX Page
Use Dashboards

17.2.1.1 Access the PX Pages

When you log on a PX Page will normally be displayed allowing you to navigate to parts of the system that you have access to.

If a PX Page is not displayed and you want to navigate the system using PX Pages you will need to display the required page from the **Nav** tree.

1. In the **Nav** tree open **My Host > Station(IQVISION) > Config** and navigate to the required PX Page.
2. Double click the page.

17.2.1.2 Use the PX Page

Navigation
Once a PX Page is displayed you will be able to navigate to other parts of the system by clicking on the links provided. These links may be in the form of text hyperlinks buttons, or graphics with hyperlinks depending on how the page has been configured. The display should make it clear the function of each item on the page.

The next and previous buttons () can be used to move between the pages you have already viewed.

Adjustments
If you have the authority and the page has been configured appropriately you may be able to make adjustments by clicking on various graphical elements, e.g. sliders and buttons.

The meaning and use of such items should be intuitive.

17.2.1.3 Use Dashboards

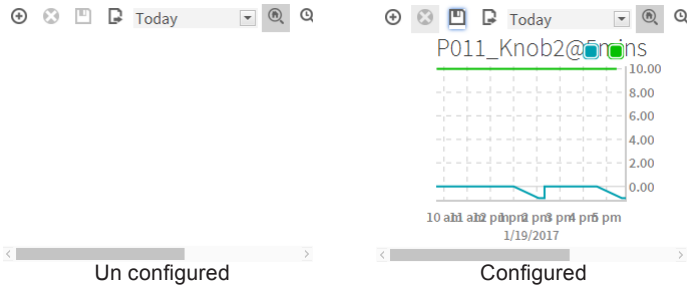
A Dashboard is an item on a PX Page that enables you to choose the information that is displayed. Once you have set up the item it can be saved so that next time you visit the page your selections are visible. Selections made by other users do not affect yours. A PX Page may contain one or more dashboard items.

There are two types of dashboard item; Gauges and Charts.

Gauge
A gauge type dashboard appears as shown below and enables an analogue value to be represented in a graphical way.

Un configured Configured

Chart
A chart type dashboard appears as shown below and enables values to be represented as a graph, e.g. histories. Time schedules can also be added enabling you to view the occupancy state and when a parameter is at a certain value.



Un configured Configured

17.2.1.3.1 Configuring a Dashboard

Note: Configuring a dashboard requires access to the **Nav** *tree.*

Adding an item to a Dashboard
1. Use the **Nav** tree to locate the point required.
2. Drag the point onto the dashboard. For charts you can add more than one value.

Save a Dashboard
1. Click on the dashboard.

17.2.2 Using IQVISION via the Nav Tree

17.2.2.1 Basic Controls and Navigation

To see the location of the following IQVISION controls and features, refer to the diagram on **page 11**.

17.2.2.1.1 Nav Tree

To show the side bar:
1. On the menu bar select **Window** > **Side Bars** and ensure **Show Side Bars** is checked.

To add a Nav tree to the side bar:
1. On the menu bar select **Window** > **Side Bars** > **Nav**.

To remove a Nav tree from the side bar:
1. Click the arrow to the left of the **Nav** tree title and select **Close**.

17.2.2.1.2 Palettes

To show the side bar:
1. On the menu bar select **Window** > **Side Bars** and ensure **Show Side Bars** is checked.

To add a Palette to the side bar:
1. On the menu bar select **Window** > **Side Bars** > **Palette**.
2. Click the file icon and select the Palette type from the displayed options.

To remove a Palette from the side bar:
1. Click the arrow to the left of the **Palette** title and select **Close**.

17.2.2.1.3 Locator Bar

To navigate down the hierarchy:
1. Holding the mouse over an item: a small arrow will appear.
2. Click the arrow to reveal a drop down box and select the required option.

To navigate up the hierarchy:
1. Click on an item in the bar to navigate back to that level.

To navigate to specific location:
1. Click in a blank area of the locator bar and type the path directly into the box.

17.2.2.1.4 View Pane & View Changer

To change the view of a selected item:
1. Click the view changer box and choose the required view.

   Or

   Right-click the item (e.g. in the **Nav** tree), then select **Views >** and the required view.

17.2.2.2 Viewing and Changing Point Values

To view a point value:

1. Use the **Nav** tree to locate the point required.
2. Double click the point (or right-click and select **Views** > **AX Property Sheet**) to view its **Property Sheet**. The **Out** item will indicate the current point value.

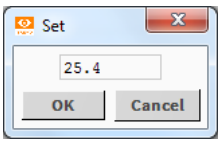
To change a point value (writable points only):

1. Use the **Nav** tree to locate the point required, right-click the point and select **Actions** > **Set Value**.

   Or

   Click the button that allows the value to be adjusted.

   The **Set** dialogue box is displayed.



2. Type the required value.

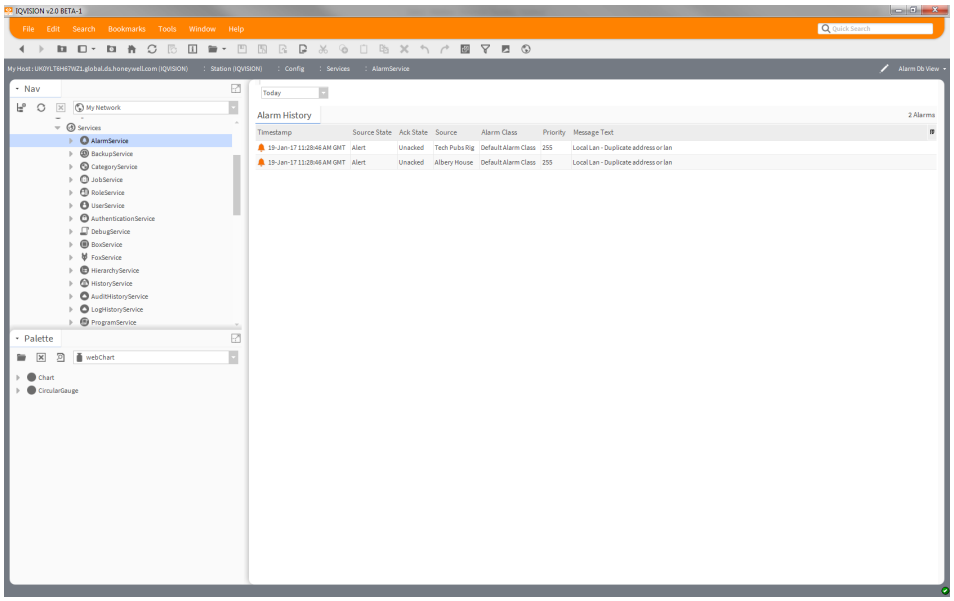
   Note: IQVISION does not check that the value entered is valid.

3. Click **OK**.

17.2.2.3 Viewing Alarms

17.2.2.3.1 Viewing Alarms Using the Alarm History

1. In the **Nav** tree open the **Services** folder (under Station > Config).
2. Right-click **AlarmService** and select **Views** > **Alarm Db View**. The **Alarm History** is displayed in the view pane.



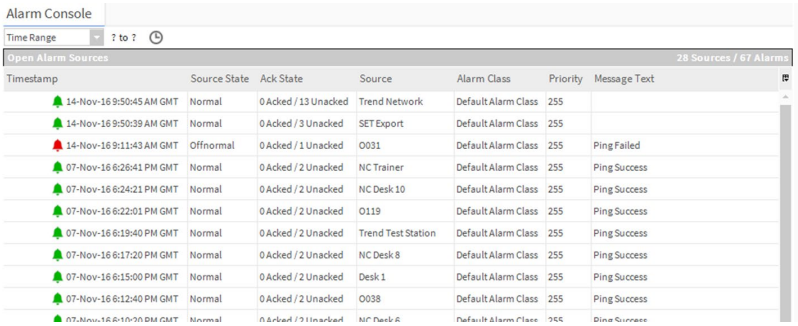
3. Use the selector box (top left) to choose the required period.

17.2.2.3.2 Using the Alarm Console

The Alarm Console allows you to view details of each alarm, acknowledge an alarm or add notes to alarms. Notes are useful to record actions (particularly for critical alarms) such as who has been notified, contact numbers and agreed timescales for fixing the problem.

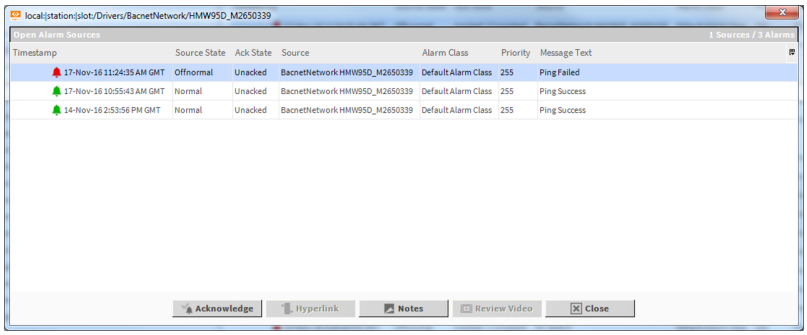
To view specific alarm details:

1. In the **Nav** tree open the **Station > Config > Services** folder.
2. Double click **AlarmService**. The view pane will display the **Alarm Service** wire sheet.
3. Double click on the required **ConsoleRecipient** to open the **Alarm Console**:

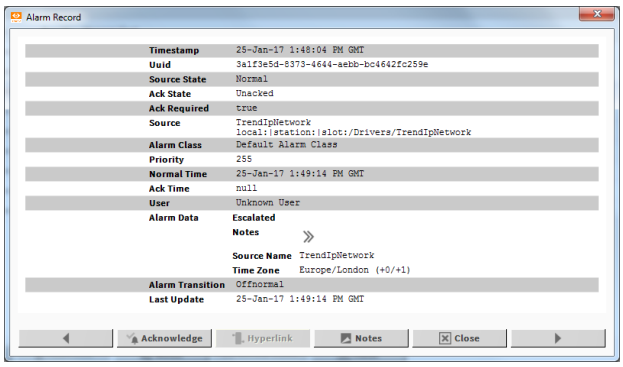


*Note: Current alarms are indicated by a **red** icon, cleared alarms are indicated by a **green** icon.*

4. Double click an alarm line to open the **Alarm Viewer**. This will list all current and cleared alarms related to the same alarm condition:



5. Double click an alarm to open the **Alarm Record**, giving full details of the alarm.



To acknowledge an alarm:

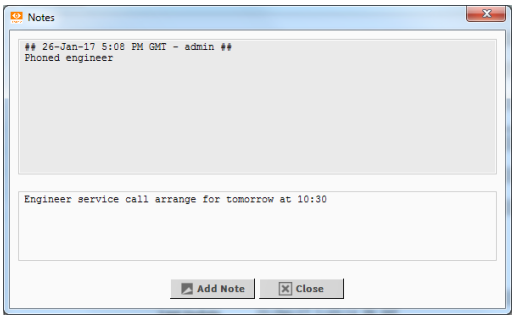
1. Click the alarm in the **Alarm Console** or **Alarm Viewer** or open the **Alarm Record** for a specific alarm.
2. Click the **Acknowledge** button.

Note: Multiple alarms can be selected and acknowledged at the same time in the Alarm Console or Alarm Viewer by clicking in conjunction with CTRL and/or Shift keys.

To view or add notes for an alarm:

1. Click the alarm in the **Alarm Console** or **Alarm Viewer** or open the **Alarm Record** for a specific alarm.

2. Click the **Notes** button. The **Notes** window is displayed and any previously added notes will be shown with a timestamp in the top section:



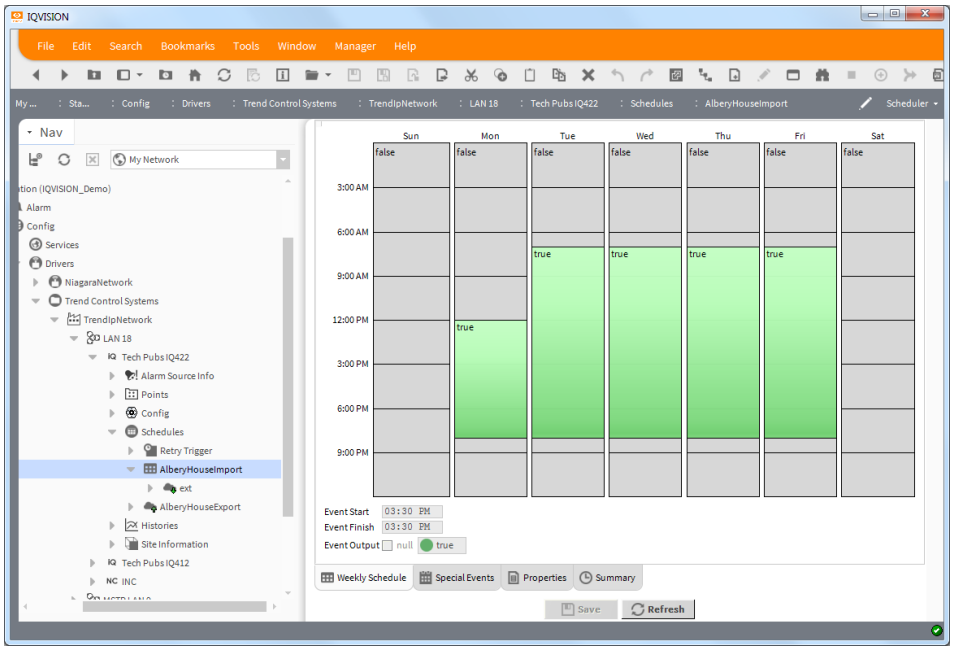
3. Type any new details in the lower section and click the **Add Note** button to save, or click **Close** to close the window without adding a new note.

Note: You cannot add notes to multiple alarms.

17.2.2.4 Viewing and Changing Occupation Times (Time Schedules)

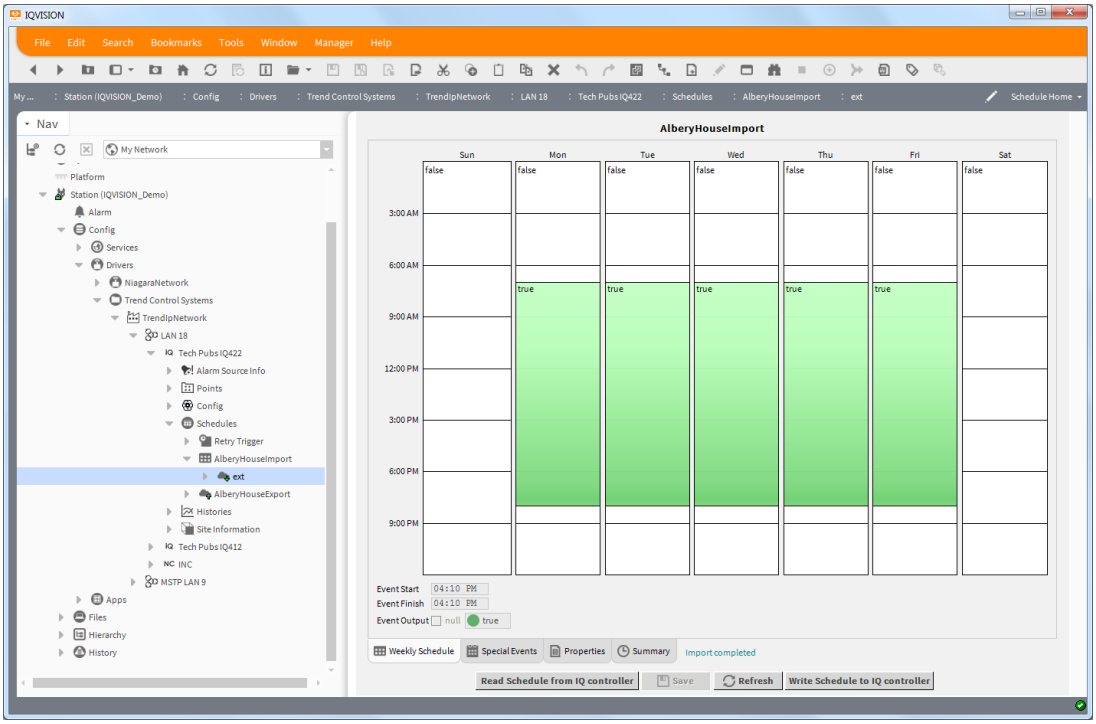
To view occupation times:

1. In the **Nav** tree open the **Schedules** folder for the required controller.
2. Double click the required the read-only 'Import' schedule. The **Scheduler** is displayed.



To change occupation times:

1. In the **Nav** tree, expand the read-only 'Import' schedule that you want to change.
2. Double click the **ext** (extension). The **Schedule Home** is displayed.



3. Click the **Read Schedule from IQ controller** button to get the latest data from the controller. Progress/status messages are displayed at the bottom of the screen.

   Note: The data is automatically refreshed once a day.

4. Click the **Refresh** button to update the display.

5. Specify the required occupation times:

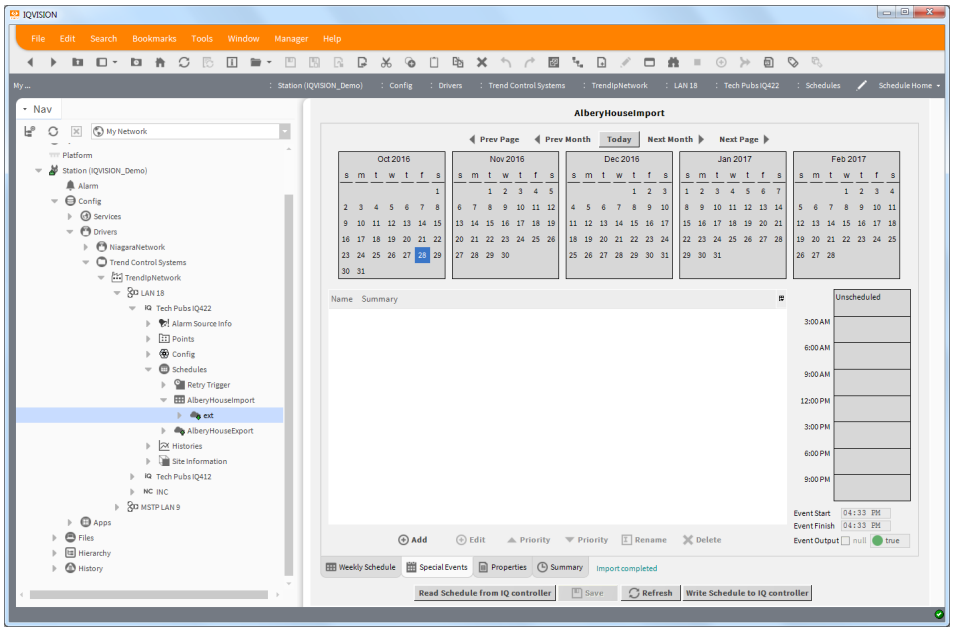
   - **To add a new time period:** Drag the mouse in the required white area of the grid.
   - **To make adjustments to existing time periods:** Drag the top or bottom edge of the green rectangles to the required time.
   - **To set all day occupation:** Right click the day and select **All Day Event**.
   - **To a apply a period a day's times Monday to Friday:** Right click the day and select **Apply M-F**.
   - **To remove a time period:** Right-click the rectangle and select **Delete Event**.
   - **To remove all time periods for a day:** Right click the day and select **Clear Day**.
   - **To copy a day:** Right click the day and select **Copy Day** then right click the day the times are to be copied to and select **Paste Day**.

6. Click **Save**.
7. Click **Write Schedule to IQ controller** to trigger an immediate download to the controller. Progress/status messages are displayed at the bottom of the screen.

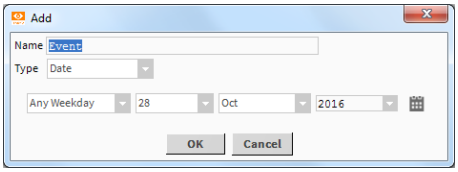
   Note: The data is automatically refreshed once a day.

To add Special Events (exceptions):

1. In the **Nav** tree, expand the read-only 'Import' schedule that you want to add an event to.
2. Double click on the auto-generated **ext** (extension). The **Schedule Home** is displayed.
3. Click the **Special Events** tab:

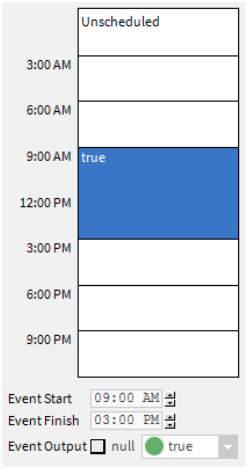


4. Click **Add**. The **Add** dialogue box is displayed.



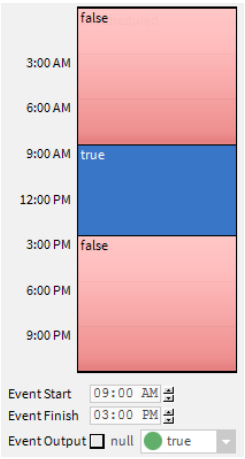
5. Give the event a suitable **Name** (e.g. Bank Holiday) and enter the required date information.
6. Click **OK**.

7. Drag the mouse in the time table to set the required ‘on/true’ time(s).



- **To add a new time period:** Drag the mouse in the required white area of the grid.
- **To make adjustments to existing time periods:** Drag the top or bottom edge of the green rectangles to the required time.
- **To set all day occupation:** Right click the day and select **All Day Event**.
- **To remove a time period:** Right click the rectangle and select **Delete Event**.
- **To remove all time periods:** Right click the day and select **Clear Day**.

8. Right click in the white ‘Unscheduled’ area of the time table and select **Schedule Defaults**. This will set the appropriate ‘off/false’ time periods.



9. Click **Save**.
10. Click the **Write Schedules from IQ controller** button to trigger an immediate download to the controller. Progress/status messages are displayed at the bottom of the screen.

Note: The data is automatically refreshed once a day.

17.2.2.5 Controlling Occupation Times Centrally

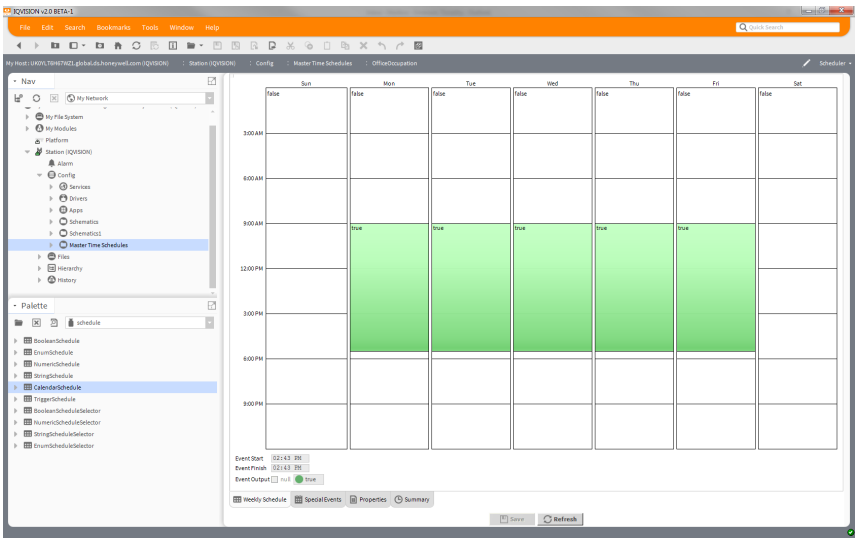
If IQVISION has been configured to control occupation times centrally, see **"Controlling Complex Occupation Times" on page 53**, the times can be changed in several ways depending on the configuration.

Changing the Weekly Schedule
Editing Special Events
Editing the CalendarSchedule

17.2.2.5.1 Changing the Weekly Schedule

The weekly schedule determines the occupation times for a normal week, i.e. no Special Events apply.

1. In the **Nav** tree open **My Host > Station(IQVISION)**, navigate to the required BooleanSchedule.
2. Double click the BooleanSchedule. The **Scheduler** is displayed in the view pane.



3. Select the **Weekly Schedule** tab.
4. Specify the required occupation times:

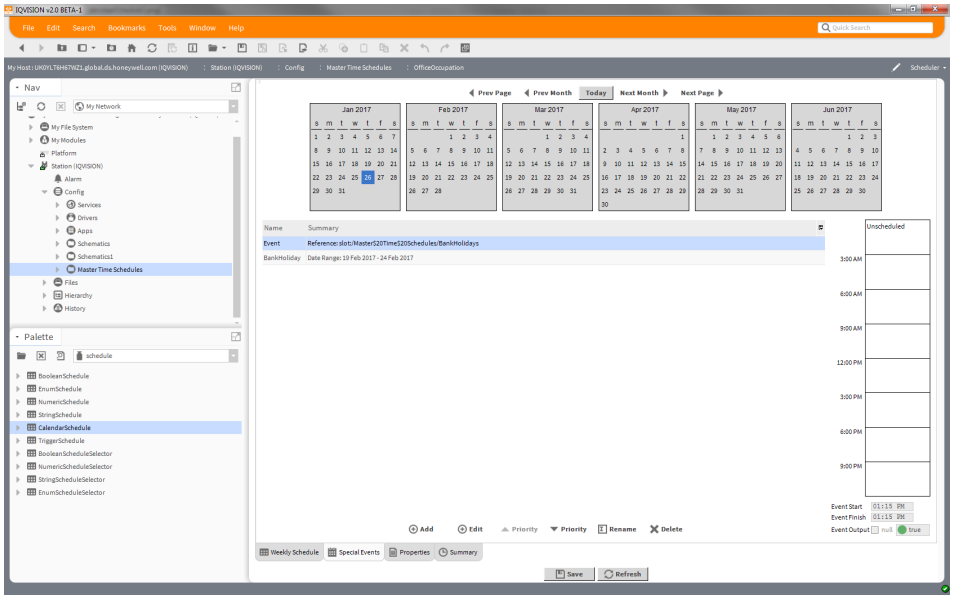
   - **To add a new time period:** Drag the mouse in the required white area of the grid.
   - **To make adjustments to existing time periods:** Drag the top or bottom edge of the green rectangles to the required time.
   - **To set all day occupation:** Right click the day and select **All Day Event**.
   - **To a apply a period a day's times Monday to Friday:** Right click the day and select **Apply M-F**.
   - **To remove a time period:** Right-click the rectangle and select **Delete Event**.
   - **To remove all time periods for a day:** Right click the day and select **Clear Day**.
   - **To copy a day:** Right click the day and select **Copy Day** then right click the day the times are to be copied to and select **Paste Day**.

5. Click **Save**.

17.2.2.5.2 Editing Special Events

Special events enable different occupation times to be used on specific days.

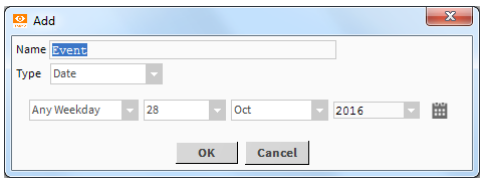
1. In the **Nav** tree open **My Host > Station(IQVISION)**, navigate to the required BooleanSchedule.
2. Double click the BooleanSchedule. The **Scheduler** is displayed in the view pane.
3. Select the **Special Events** tab.



4. Specify the required Special Events:

Add a special event

- Click **Add**. The **Add** dialogue box is displayed.



- Specify a name for the special event in the **Name** box.
- Select *Date* or *Date Range* in the **Type** box.

  Do NOT select any of the other options in the Type box as they are not supported by the controller and will cause problems.

- Specify the date(s) the special event applies to:

  Date: Specify the day month and year in the appropriate box.
  Date Range: Specify the day month and year for the beginning of the range in the appropriate box in the top row and specify the day month and year for the end of the range in the appropriate box in the bottom row

- Click **OK**.
- Edit the times - see **"Edit the times" on page 115**.

Edit the times

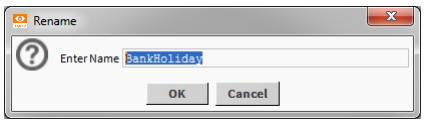
- Click the special event for which the times are to be edited.

    - **To add a new time period:** Drag the mouse in the required white area of the grid.
    - **To make adjustments to existing time periods:** Drag the top or bottom edge of the green rectangles to the required time.
    - **To set all day occupation:** Right click the day and select **All Day Event**.
    - **To remove a time period:** Right click the rectangle and select **Delete Event**.
    - **To remove all time periods:** Right click the day and select **Clear Day**.

- To ensure non-occupancy outside the specified periods right click the day and select **Schedule Defaults**.

Rename a special event

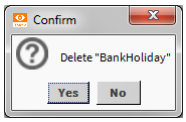
- Right click the special event that is to be renamed.
- Click **Rename**. The **Rename** dialogue box is displayed.



- Enter the new name.
- Click **OK**.

Delete a special event

- Right click the special event that is to be deleted.
- Click **Delete**. The **Confirm** dialogue box is displayed.



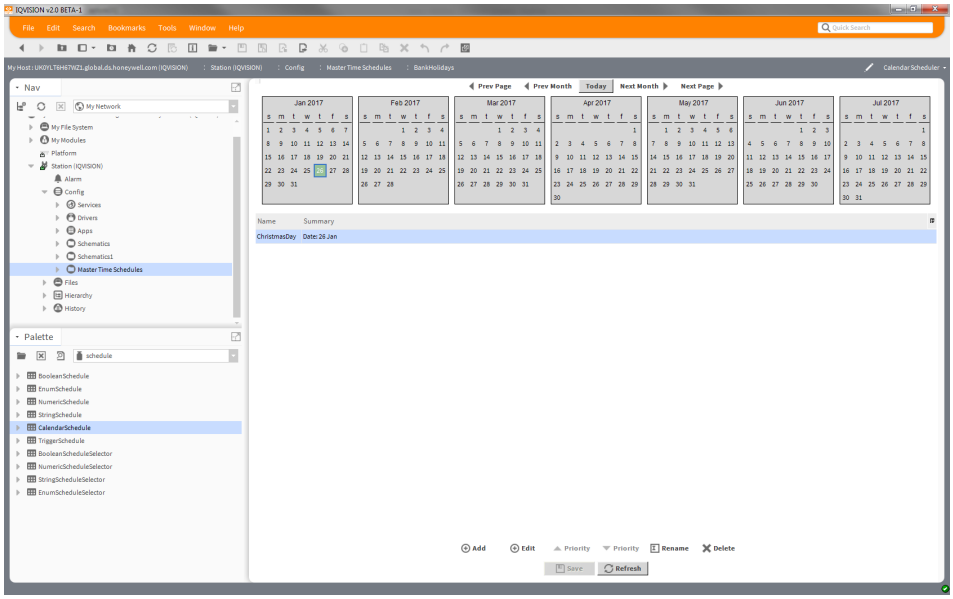
- Click **Yes**.

5. Click **Save**.

17.2.2.5.3 Editing the CalendarSchedule

If a CalendarSchedule has been added to specify days different occupation times are used, these days can be edited by add or removing events from the CalendarSchedule.

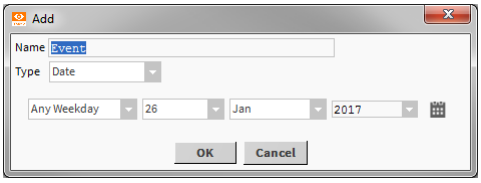
1. In the **Nav** tree open **My Host > Station(IQVISION)**, navigate to the required BooleanSchedule.
2. Double click the CalendarSchedule. The **Scheduler** is displayed in the view pane.
3. Select the **Special Events** tab.



4. Specify the required date:

Add a date

- Click **Add**. The **Add** dialogue box is displayed.



- Specify a name for the special event in the **Name** box.
- Select *Date* or *Date Range* in the **Type** box.

Do NOT select any of the other options in the Type box as they are not supported by the controller and will cause problems.

- Specify the date(s) the special event applies to:

Date: Specify the day month and year in the appropriate box.
Date Range: Specify the day month and year for the beginning of the range in the appropriate box in the top row and specify the day month and year for the end of the range in the appropriate box in the bottom row.

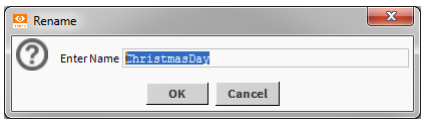
- Click **OK**.

Edit a date

- Double click the date that is to be edited.
- Edit the date as required.

Rename a date

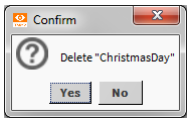
- Right click the date that is to be renamed.
- Click **Rename**. The **Rename** dialogue box is displayed.



- Enter the new name.
- Click **OK**.

Delete a date

- Right click the date that is to be deleted.
- Click **Delete**. The **Confirm** dialogue box is displayed.

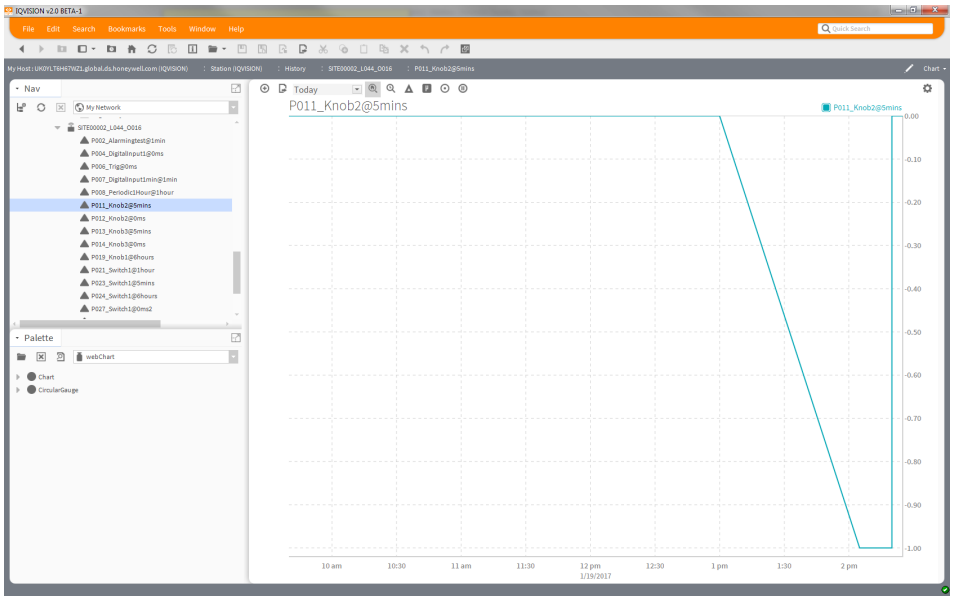


- Click **Yes**.

5. Click **Save**.

17.2.2.6 Viewing a History (Graph)

1. In the **Nav** tree open the **History** folder (Station > History).
2. Open the folder for the required controller.
3. Double click on the history that you wish to view. The **Chart** view is displayed.



17.2.2.6.1 Viewing Multiple Plot Graphs

To add another plot to the same chart:

1. Drag the required history from the **Nav** tree onto the **Chart** view.

17.2.2.6.2 Adjusting the Displayed Information

To change the displayed time period:

1. Use the selector (at the top left of the Chart view) to choose the required time period.

To change the horizontal scale:

1. Mouse over the appropriate scale until the cursor changes to a double arrow.
2. Drag the mouse left or right to change the scale.

To change the vertical scale:

1. Mouse over the appropriate scale until the cursor changes to a double arrow.
2. Drag the mouse up or down to change the scale.

17.2.2.6.3 Viewing the Source Data

To view the source data in table form:

1. Click the View Changer and select **History Table**.

17.2.2.6.4 Exporting a Graph or Data Table

1. In the **Nav** tree, right-click on the required history and select **Export**. The **Export** dialogue box is displayed.
2. In the **Select Exporter** box select the required export type and file format.
3. Choose the export method (e.g. Save to File).
4. Click **OK**.

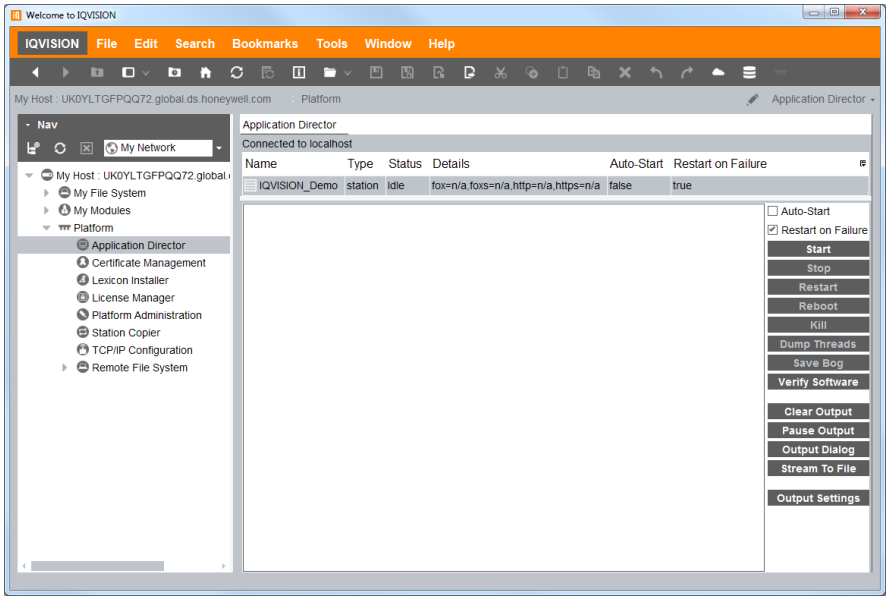
17.2.2.6.5 Viewing Live Updates

1. View the desired plot (as described above) and change the view to **History Chart**.
2. Click the Play button to start getting history updates. At the bottom right corner of the window the message 'Waiting on first Live Update...' will appear.
3. When the time period (setup in 8.2.7) has elapsed the message will change to show 'Last Live Update' with the date and time of the update.

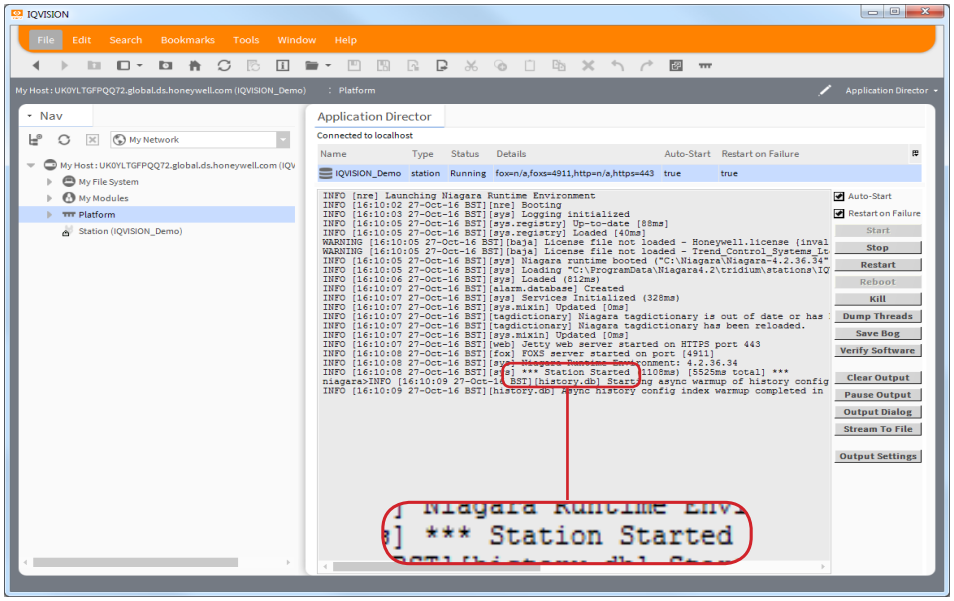
Note: If you zoom in on the chart, live updates will not be visible anymore. If you need to see values that are not visible on the chart you need to switch to History Table view - see 17.2.2.6.4.

17.3 Start the IQVISION Station

1. In the **Nav** tree open **My Host > Station(IQVISION) > Platform > Services**.
2. Double click **Application Director**. The **Application Director** is displayed in the view pane.



3. Click **Start**. The station will be started, check that a 'Station Started' message is shown.



APPENDICES

A1 USING THE EXTENDED SUPPORT OPTIONS

IQVISION has the following extended support options that can be purchased:

IQV-OPC	Extend the open protocol points with OPC client connectivity
IQV-DB-CSV	Extend the capability for the supervisor to interact with Microsoft Excel
IQV-DB-SQL	Extend the capability for the supervisor to communicate SQL

In order to use these options it is necessary to licence IQVISION with the appropriate licence - see **"Licensing IQVISION" on page 23**.

For details of configuring and using these option refer to the Tridium documentation.

INDEX

Symbols
3rd Party Drivers
Add ... 45, 47
BACnet Driver ... 48
Configure ... 47
3rd Party Points ... 46, 47
3rd Party Systems ... 45, 47, 121
A
About
IQVISION ... 9–12
This Manual ... 7
Access
IQVISION ... 101, 103
PX Pages ... 104
Acknowledge an Alarm ... 108
Add
3rd Party Drivers ... 45, 47
3rd Party Points to the Database ... 46, 47
BACnet Devices ... 49
BACnet Driver ... 48
BACnet Points to the Database ... 50
BooleanSchedule ... 54
Button to Adjust a Value ... 76
CalendarSchedule ... 58
Categories ... 83
Graph ... 78
Images to IQVISION ... 70
Link to Another Page ... 77
PX Page ... 71
Required Trend Points to the Database ... 36
Special Events ... 56, 111, 114
Time Schedules ... 39
TONN Points ... 46
TONNs to the Niagara Network ... 45
Trend Plots ... 41
User-defined Points ... 38
Users ... 89
Alarm Classes ... 65
Alarm Console ... 108
Alarm Handling ... 64
Alarm History ... 107
Alarm Listener Port Number ... 64
Alarm Recipient ... 67
Alarms
Acknowledge ... 108
Add Notes ... 108
Animated Image ... 74
Archive Function ... 44
AUTO-START ... 28
B
Backup & Restore ... 91–94
BACnet Devices ... 49
BACnet Driver ... 48
Add ... 48
Configure ... 48
BACnet Points
Add ... 50
BooleanSchedule
Add ... 54
Link Time Schedules ... 55
Link to CalendarSchedule ... 58
Break Link with Schedule Import ... 54
Building a Site ... 31–44
Add the Required Trend Points to the Database ... 36
Add Time Schedules ... 39
Add Trend Driver ... 31
Add Trend Plots ... 41
Add User-defined Points ... 38
Configure the Trend Driver ... 33
Discover and Add Devices from the Trend Site ... 34
History Update Rates ... 43
Manual Site Discovery ... 31
Migration Tool ... 31
C
CalendarSchedule ... 116
Add ... 58
Add a date ... 116
Delete Date ... 117
Edit a date ... 117
Link to BooleanSchedule ... 58
Rename a date ... 117
Specify Dates ... 61
Use ... 58
Categories ... 83
Add ... 83
Configure ... 83, 85
Change
Occupation Times ... 110, 113
Special Events ... 114
Values ... 107
Weekly Schedule ... 113
Configure
3rd Party Drivers ... 47
Alarms ... 63–68
BACnet Driver ... 48
Categories ... 83, 85
Dashboards ... 105
IQVISION Users ... 83–90
PX Template Page ... 70
Roles ... 86
Trend Driver ... 33
Users ... 88
Weekly Schedule ... 55
Windows Firewall ... 21
Connect
To 3rd Party Systems ... 45, 47, 121
To TONNs ... 45–46
Contacting Trend ... 8
Controlling Complex Occupation Times ... 53–62
Copying Exported Files into IQVISION ... 95
Create
NAV Files ... 88
PX Pages ... 69–82, 71
Station ... 27
D
Dashboards
Add ... 81
Configuring ... 105
Save ... 105
Use ... 105
Dashboard Service ... 81
Database
Adding Device Values ... 36
Dates
CalandarSchedule ... 61
Delete
CalendarSchedule Date ... 117
Special Events ... 57, 115
Disaster Recovery Planning ... 13
Discover
BACnet Devices ... 49
Trend Devices ... 34
Dynamic Object (Value) ... 73
E
Edit
PX Page ... 71
Special Events ... 57, 115
Engineering Procedure ... 17
Exceptions. See Special Events
Extended Support ... 121
F
Firewall Settings ... 21
G
Generic PX Pages ... 79
Graphs. See Histories
H
Histories ... 41
Add to PX Page ... 78

Update Rates ... 43
View ... 118
I
Images ... 69
Add to IQVISION ... 70
Add to PX Page ... 72
Initial Setup ... 25–30
Create a New Station ... 27
Launch the IQVISION Application ... 25
Open the Platform ... 26
Open the Station ... 30
Installation
Install IQVISION ... 19–22, 20
Install Platform Daemon ... 20
Install the Licence ... 23
Licence Files ... 23
Obtain a Licence and Certificate ... 23
Obtain the Software ... 19
Requirements ... 19
Update Licence ... 24
Windows Firewall ... 21
IQVISION
Access ... 101, 103
Launch the Application ... 101
Log off ... 102, 103
Log on ... 102, 103
Use ... 104–119
L
Launch IQVISION ... 25, 101
License IQVISION
Install Licence Files ... 23
Obtain a Licence ... 23
Live Updates
Set Update Rate ... 43
View ... 119
Locator Bar ... 106
Log off ... 102, 103
Log on ... 102, 103
M
Manual Site Discovery ... 31
Migration Tool ... 31, 95–100
N
NAV Files ... 88
Nav Tree ... 106
O
Obtain
Licence ... 23
Software ... 19
Occupation Times
Central Control ... 113
Change ... 110, 113, 116
Control ... 53–62
Specify ... 55, 60
View ... 110
OPEN licence ... 47
Open the Platform ... 26
Open the Station ... 30
P
Palettes ... 106
Passphrase ... 15
Platform
Open ... 26
Platform Daemon ... 20
Install ... 20
Plot Modules ... 41
Plots. See Histories
Prepare Images ... 69
PX Pages
Access ... 104
Add Animated Image ... 74
Add Button to Adjust a Value ... 76
Add Dashboards ... 81
Add Dynamic Object (Value) ... 73
Add Histories ... 78
Add Image ... 72
Add Link to Another Page ... 77
Add Text ... 72
Background ... 71
Configure ... 69–82
Create ... 69–82, 71
Edit ... 71
Generic ... 79
Reuse ... 79
Size ... 71
Template Page ... 70
Use ... 104
PX Page Template ... 70
R
Rename
CalendarSchedule Date ... 117
Special Events ... 57, 115
Restore ... 91–94
Reuse PX Pages ... 79
Roles ... 83
Configure ... 86
S
Save
Dashboards ... 105
Schematics. See PX Pages
Securing IQVISION ... 13
Access Control ... 14
Default Admin User ... 14
Network Planning and Security ... 14
Passphrase ... 15
Physical and Environmental Considerations ... 13
Securing Access to the Operating System ... 14
Securing Wireless Devices ... 14
Security Check List ... 15
Security Updates and Service Packs ... 13
System Monitoring ... 14
Virtual Environments ... 14
Virus Protection ... 13
Security Guidelines ... 13–15, 63–67
Set Up
Alarm Classes ... 65
Alarm Handling ... 64
Alarm Listener Port Number ... 64
Alarm Recipient ... 67
Alarm's Alarm Class ... 66
Categories ... 85
IQVISION Users ... 83–90
Roles ... 86
Site Alarm Information ... 64
Site Alarm Information ... 64
Slider ... 75
Special Events ... 56, 111
Add ... 56, 111, 114
Change ... 114
Delete ... 57, 115
Edit Times ... 57, 115
Rename ... 57, 115
Specify Occupation Times ... 60
Start the IQVISION Station ... 119
Station
Creating ... 27
Opening ... 30
T
Time Schedules
Add to the Database ... 39
Link BooleanSchedule ... 55
TONNs ... 45
Trend Driver ... 31, 32
Add ... 31, 32
Configure ... 33
Overview ... 10
Trend Network
Connecting to ... 9
Discover Devices ... 34
Trend Plots ... 41
U
Update a Licence ... 24
Use

Archive Function 44
CalendarSchedule 58
Dashboards 105
IQVISION 101–120
IQVISION via PX Pages 104
IQVISION via the Nav Tree 106
Migration Tool 95–100
PX Pages 104
Users 83
Add 89
Configure 88
V
Values
Change 107
View 107
View
Alarms 107
Histories 118
Occupation Times 110
Values 107
View Changer 106
View Pane 106
W
Web Browser 103
Weekly Schedule 55
Change 113
Windows Firewall 21

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