



Adroit 10

Quick Start Guide

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Datasource	Purpose
Adroit	Exposes the configured agents and their slots, of the connected Adroit Agent Server.
Event Log	Exposes the events within the Windows event logs of the connected specific computer.
OLE DB	Exposes the data within a specific OLE DB compliant database or data store.
Server Scripts	Stores scripts that can be run on the Server.
Simulation	Exposes a wide variety of different types of generated data
WebServices	Exposes a wide variety of data available in web services

Note: For further information on the available datasource see the Adroit help.

- Clients: The Adroit SUI comes with a number of types of clients which can securely connect to the SmartUI Server:
 - a. Designer: The SmartUI Designer allows the user to configure datasources as well as create and design graphic forms.
 - b. Operator (View Clients) allows the user to operate graphic forms
 - c. Performance Anywhere: An HTML5 web reporting client for building dashboards
 - d. Adroit Air: Mobile App for push notifications such as operator messages, alarms and process data (runs on Android and iOS)

When connecting to the SUI the user will be prompted for login credentials. The default credentials are the same as the Windows credentials that the user installed Adroit SUI under.

2. Initial Setup of Adroit

2.1. Hardware & Software Requirements

2.1.1. Recommended Hardware & Software

Please refer to the Hardware & Software Specification document available from our website.

<https://adroittech.co.za/download/adroit-10-data-spec-sheet/>

2.1.2. Additional Software

Additional software that will expand the functionality of Adroit:

- Internet information services (IIS): Required for web service and distribution service
- SQL with advanced reporting services: used for historical data logging and reporting. Adroit ships with the free SQL Express that can be used for these purposes.

2.2. Licensing

Typically, the Agent Server is licensed via a HASP software protection hardware key, which is inserted into the USB port of the computer on which the Agent Server is running. This HASP is then programmed in accordance with your specific license agreement.

In situations where it is not possible to use a physical HASP, it is also possible to license Adroit via a software license, which is only available on request. For further details, contact your Adroit representative for details.

2.2.1. Licensing definitions

- Scan points: When a memory address is scanned/attached in the PLC and for every DBAccess Agent; Script Agent; and SNMP Agent a Scan Point is consumed.
- Version: HASPs are licensed against versions of Adroit.

IMPORTANT: The former Remote Nodes licenses that applied to all types of clients have been DISCONTINUED. These have now been replaced by the following client specific node licenses, each of which have different costs:

- Clients: typically Operators and/or Designers and
- Mobile/Web Clients: typically Performance Anywhere or Adroit Air clients.
- OEM: Additional components that are separately licensed are specified as separate textual entries in the product license e.g. Adroit Alarm Management enablement, Adroit Historian enablement; Max Demand Agent, OEE Agent; Siemens Ethernet driver; DNP 3.0 driver.

A time limit is set on development HASPs. Production HASPs have no time limit.

2.3. Prerequisites for installing Adroit software

1. Ensure that the Windows operating system on which you intend to install Adroit has been and remains legally licensed and ACTIVATED, since Adroit is not supported when it is run on an unlicensed Windows operating system.
2. Ensure that you are not using the built-in Administrator account to run Adroit, since UAC is automatically disabled whenever this built-in Administrator account is used.
3. When installing and running Adroit on an operating system that provides User Account Control (UAC), such as Windows 7 or Windows Server 2008, please ensure that UAC is always ENABLED, since Adroit is not supported when it is run with UAC disabled.
4. Adroit 10 requires the Microsoft .NET Framework 4.6.2
5. The Web Service component can ONLY be installed on a computer that has IIS (Internet Information Services) installed.

2.4. Installation

1. Install the Adroit software from either the download or media supplied.
2. Click on the Adroit installation executable option.

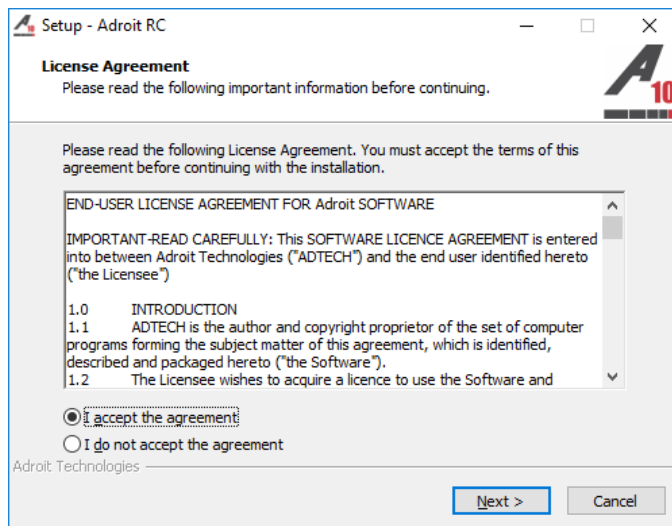


Figure 2 - License Agreement

3. Select the "I accept the agreement" to accept the EULA, then click the next button

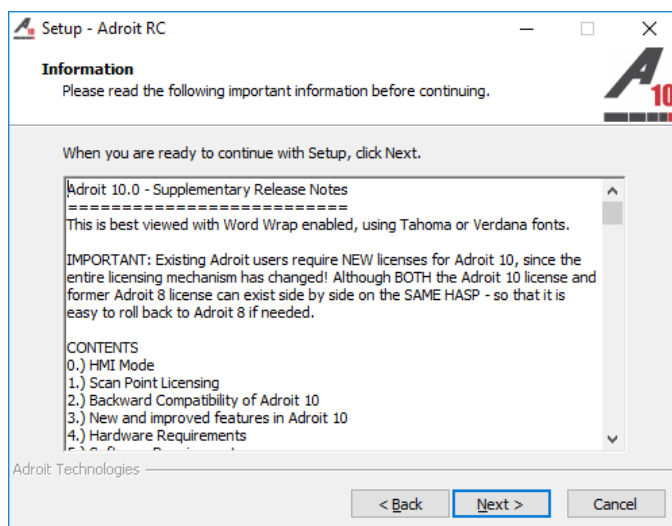


Figure 3 – Release Notes

NOTE: The release notes contain all the information regarding the new version of Adroit. It is recommended that the user familiarise themselves with this document, then click the Next button.

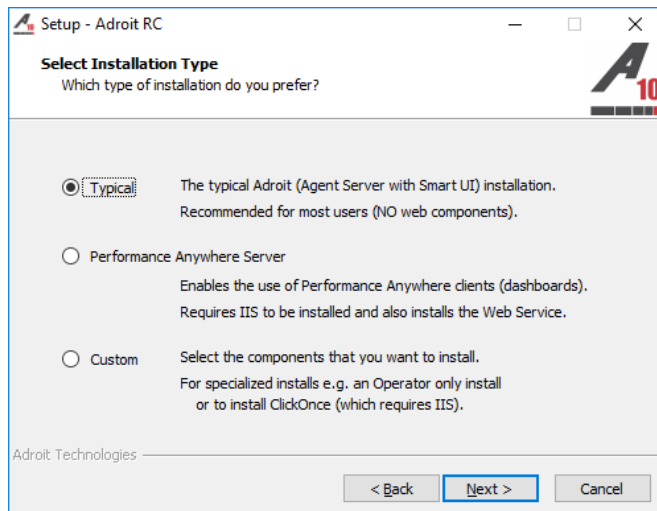


Figure 4 - Select Installation Type

4. The user will now be prompted to select which type of installation they require. The Typical installation will install a stand-alone Adroit. Click the Next button.

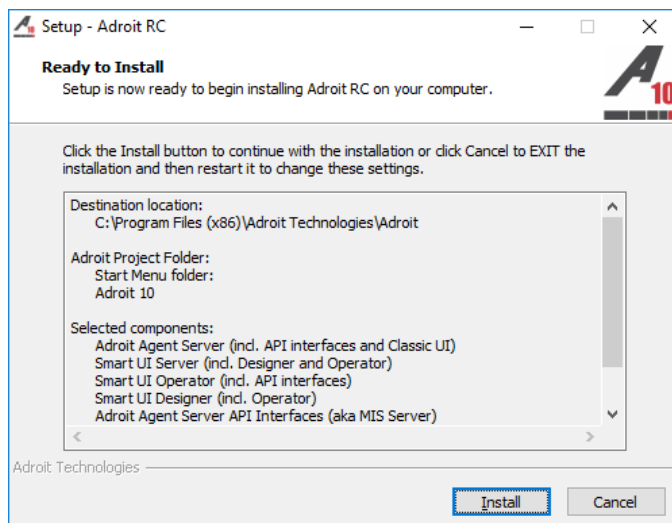


Figure 5 - Ready to Install

The Ready to Install screen give the user a summary of what will be installed.

5. Click on the Install button.

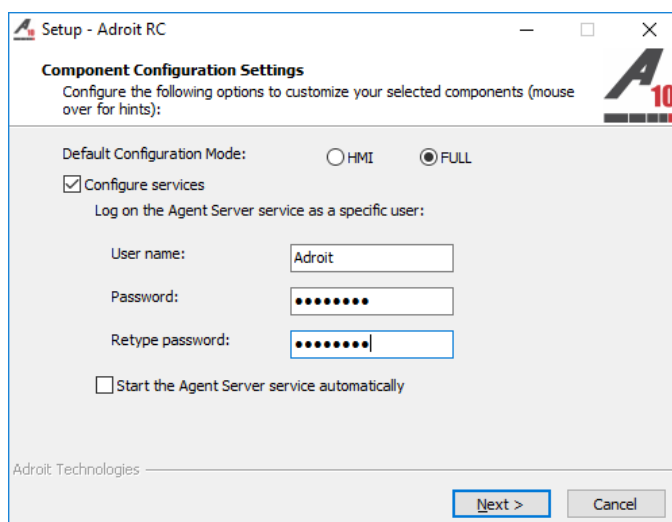


Figure 6 - Component Configuration Settings

6. The component configuration screen will give the user the option to setup the agent server and SmartUI server services.
7. Make sure that the Configure services is checked.
8. Set the Username to the current logged on user, supply the password in the corresponding text boxes.

NOTE: If the user requires the agent server and SmartUI server to start automatically then check the "Start the Agent Server service automatically".

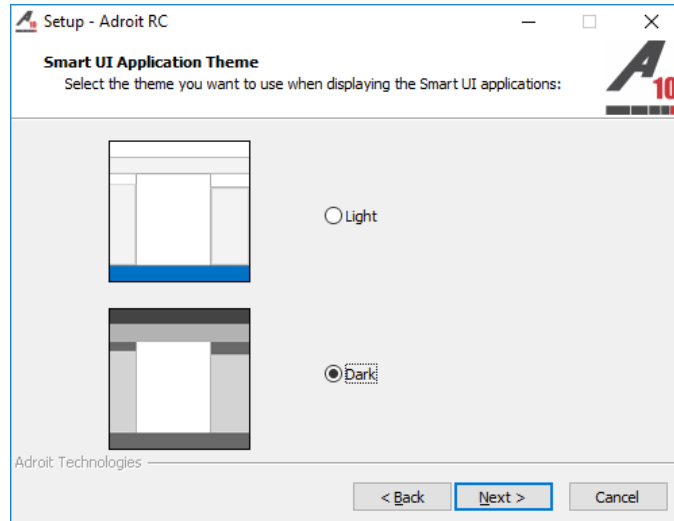


Figure 7 - SmartUI Theme

9. Select the preferred Theme, then click Next button.
The installation will begin.
10. Once the installation is complete restart the PC/server.

3. Configuring Adroit

3.1. New Configuration

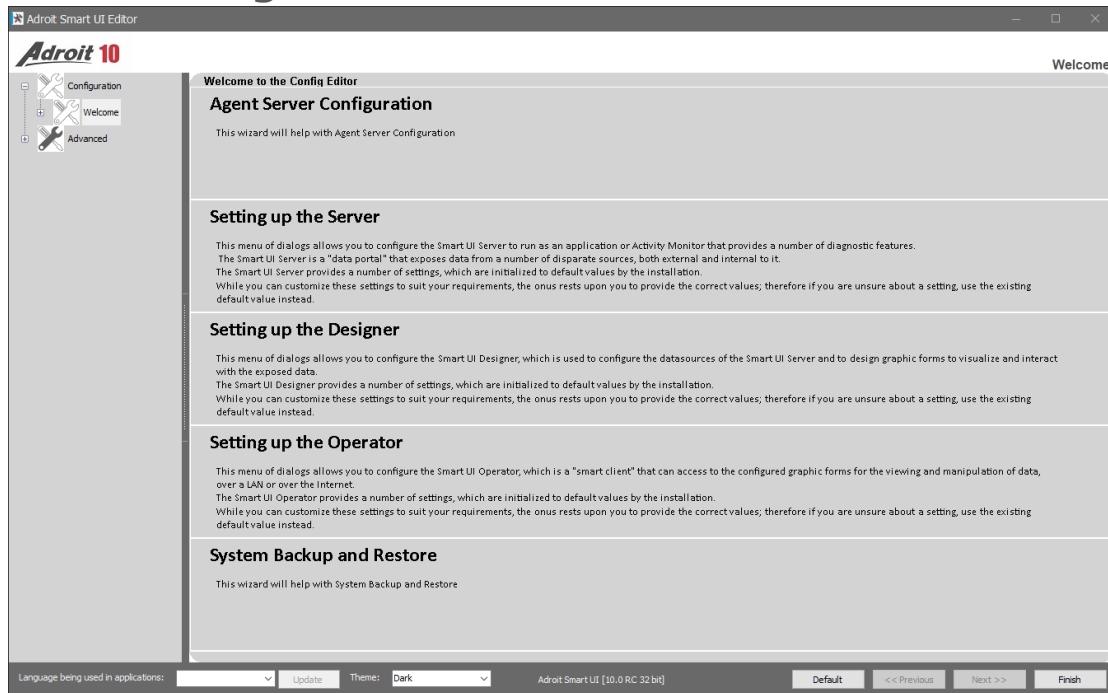


Figure 8 - Adroit Config Editor

The Adroit Config Editor application is used to customize the installed applications and/or services by modifying their default settings. First create a new configuration by following these steps:

1. Select the Configuration menu item on the top left and check on "Allow Multiple Configurations" option.

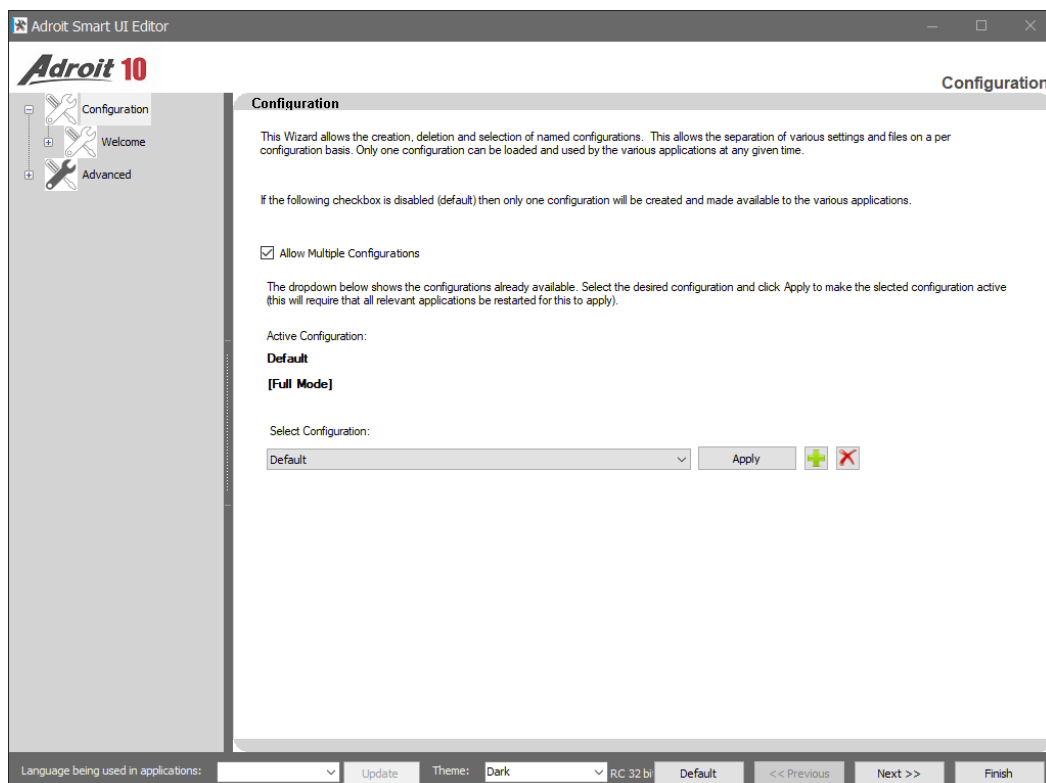


Figure 9 - Allow Multiple Configurations

2. Select the Add new configuration button. 
3. Give the new configuration a name. Then click the Ok button.

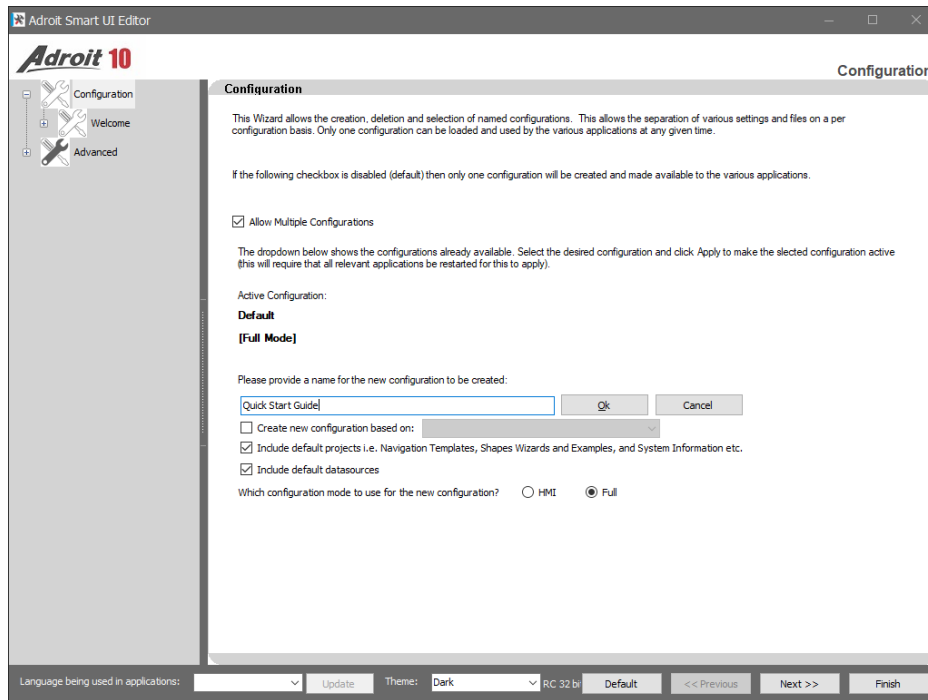


Figure 10 - Create a new configuration

4. Once the configuration has been created click the Ok button.

3.2. Creating a Device

Setup the OPC Client to the Adroit BatchOPC Server demo application. This application is part of the Adroit install.

1. Open the Driver configuration in the Adroit Config Editor, under the Agent Server Configuration.

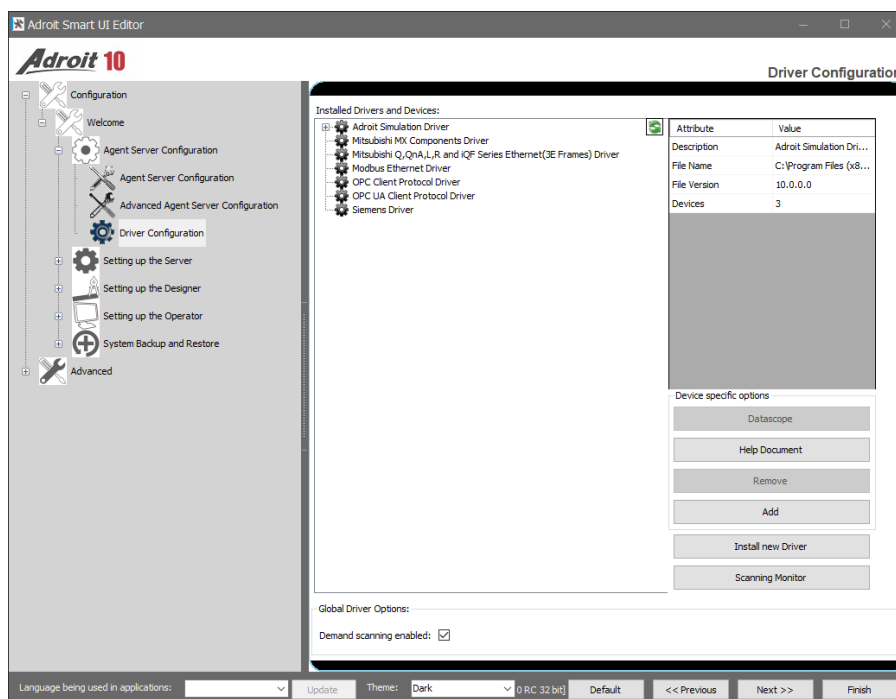


Figure 11 - Driver Configuration

2. Select the OPC Client Protocol driver, then click on the Add button.
3. Enter the device name BAT_01

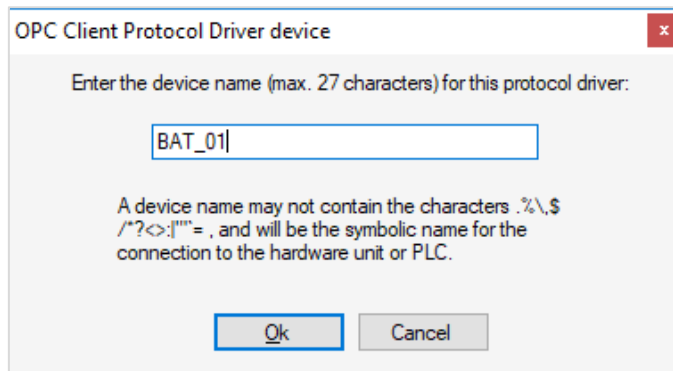


Figure 12 - Device Name

4. In the OPC client driver configuration select the Adroit Batch OPC Server in the OPC server drop down box.
5. Click Ok.
6. Click Ok on the performance counter installation.

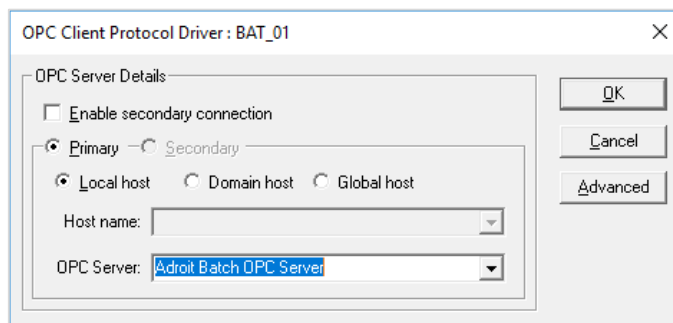
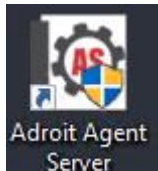


Figure 13 - OPC client configuration

4. Running Adroit

Adroit is a client/server application and as such in a distributed architecture, particularly in large systems the Agent Server and SmartUI Server would typically reside on a separate machine and all the Operators on separate PC's. In smaller stand-alone applications the Agent Server, SmartUI Server, Designer and Operator would reside on a single PC. For this reason you need to start The Agent Server and the Client Applications (Designer/Operator) separately. The SmartUI Server will start automatically when you start the Agent Server application.

1. On the desktop start the Adroit Agent Server.



2. If the PC does not have adroit Licensing, then the server will start with a timed limited demo license. Click OK on the agreement.

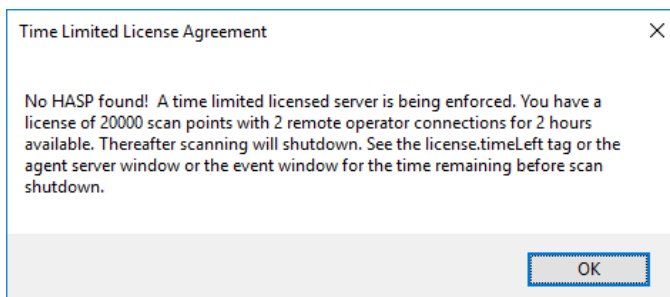


Figure 14 - Time Limited License Agreement

3. The Adroit Agent Server (AS) will load. Check that the server loads without any errors and that the AS displays a LOAD complete.

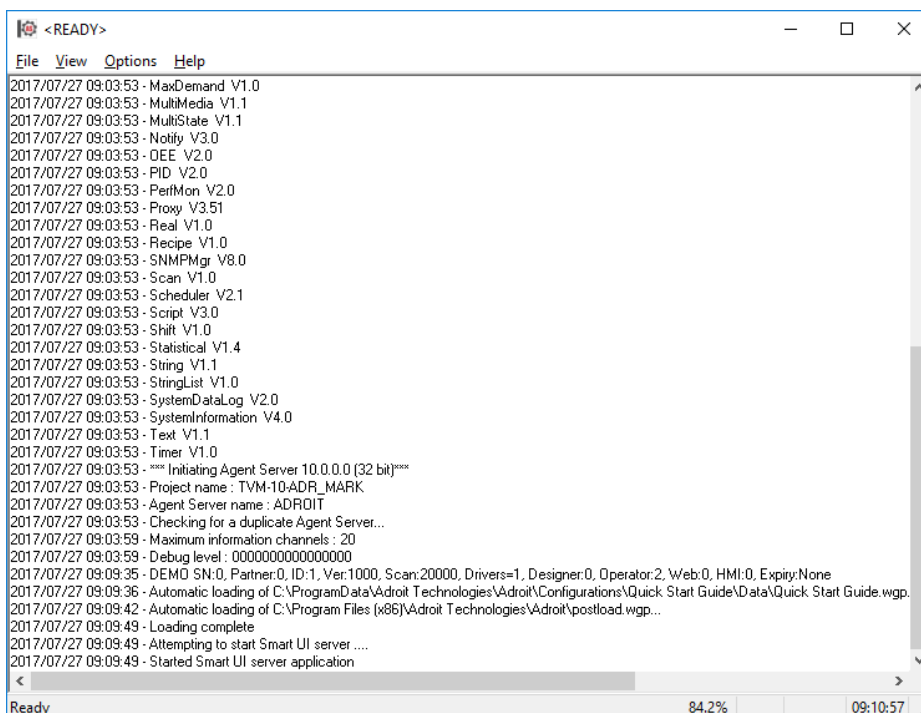


Figure 15 - Adroit Agent Server

4. Once the AS has finished loading the AS will start the SmartUI Server. Check to make sure that the SmartUI Server shows it is Running. This can be done by launching the SmartUI

Server application window from its icon on the desktop. In normal conditions you don't need to do this but for starters it's worthwhile understanding each component within the system.

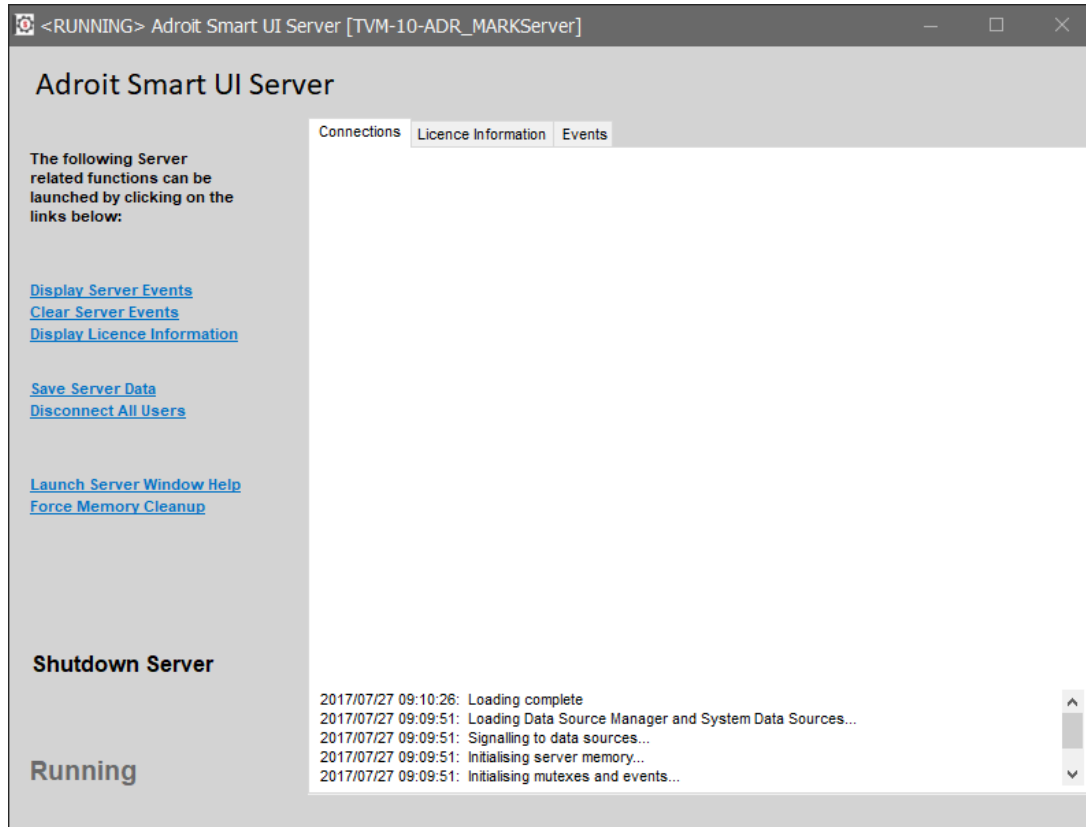
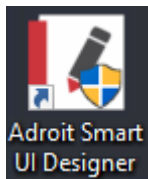


Figure 16 - Adroit SmartUI Server

5. Configuring a Project

5.1. Adroit SmartUI Designer

1. To begin creating a project the user will need to run the Adroit SmartUI Designer by clicking on the Icon on the desktop.



2. The user will then be prompted to login to the local SmartUI server. The user login is the same as the user's Windows OS credentials.
3. Enter the Login Name and Password, typically your Windows configured credentials.
4. Click on the Finish button.

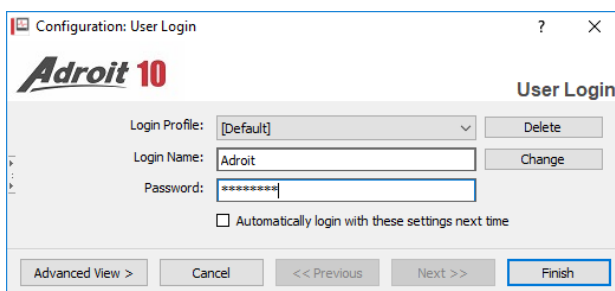


Figure 17 - SmartUI Designer User Login

Note: by checking the "Automatically Login" check box the designer will auto login in future launches.

The Designer environment is where the user will spend most of their time. It is a single engineering window to your entire project. The user will manage connections to datasources, access the Agent Server for Agent/Tag configuration, manage and apply security and build the graphical forms for the project.

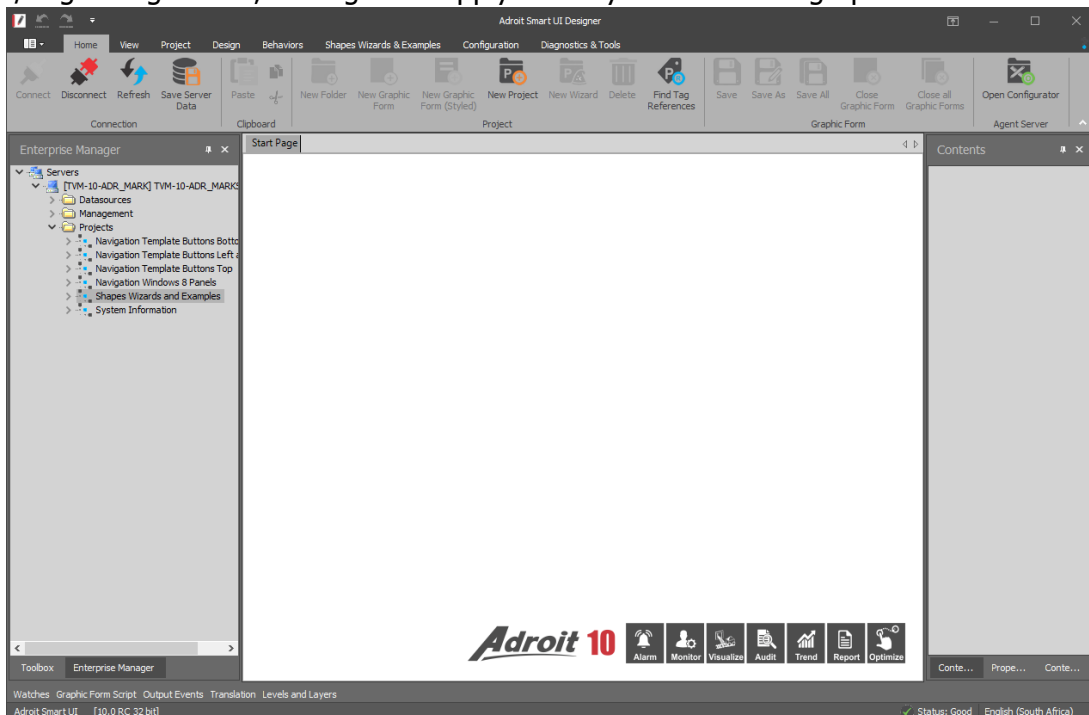
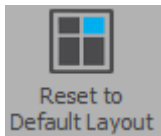


Figure 18 - SmartUI Designer

The Designer has views that are docked around the centre design area. The most important of these is the Enterprise Manager.

To reset the Designer layout, open the View ribbon and click on the "Reset to Default Layout" button.



5.1.1. Enterprise Manager

The Enterprise Manager view is where the user configures the Adroit Project.

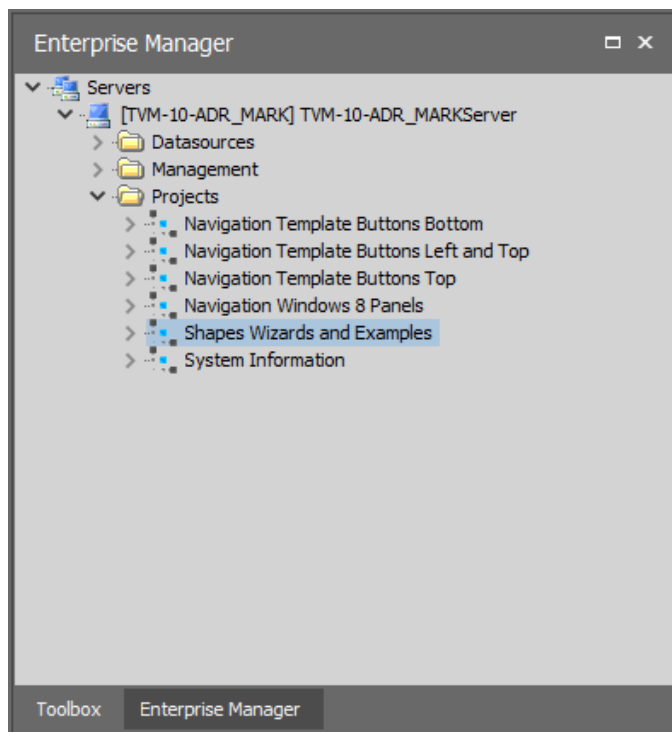


Figure 19 - Enterprise manager

The Enterprise Manager has three areas, they are:

Datasources

This area is where the user can create and manage the datasources. There are 3 default datasources which are created automatically, these are:

- Adroit – This datasource connects to the local Agent Server.
- Eventlog – This datasource connects to the local Windows event log.
- ObjectModel - The object model datasource enables you to enhance your existing wizards, by adding SCADA configuration to them. Its main function is to save you engineering time when bulk creating objects, such as items of equipment, which require similar HMI/SCADA configuration.

Management

Management consists of 3 sub-settings:

- a. Profile – a default profile is created at installation which is used to manage user-specific configuration of the SmartUI Designer and SmartUI Operator. The profile manages all user-specific settings like language, scripting, colour settings, menu settings and SmartUI Operator settings to the graphic form.

- b. Security – Security in SmartUI is user-centric and operates on top of the traditional Windows operating system security, using a configurable sub-set of the existing users and groups on each Server computer, known as the “allowed” users and groups. For instance, when a Client (Designer or Operator) is launched, it is necessary to login to a Server and only a user that is either an allowed or a member of an allowed group on this Server is able to log into it. In addition to controlling the access of these “allowed” users and groups to the Server, its configured datasources and their data, it is possible to control or limit the access that these users have within each Client (Designer or Operator).
- c. System – is mainly only for system monitoring reasons. This allows you to display which clients are connected, subscription pool, message queues, etc.

Projects

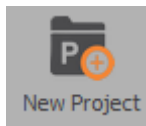
The Projects area is where you create, build and store your own Graphic Forms. The Projects directory by default will have Shapes Wizards and Examples and System Information graphic forms useful for incorporating for technicians to manage the HMI/SCADA project at runtime. (all the sample project layouts incorporate these system management elements)

Note: Projects can have sub-folders containing your graphic forms and it is important to give this structure some thought. We advise the use of the ISA95 as a guideline which defines the physical structure of your plant, including enterprise, plant area, site, etc.

5.1.2. Adding a New Project and Graphic Form

To create a new project:

1. Select the Projects folder in the Enterprise Manager.



2. On the Home ribbon click on the New Project icon.
3. Give the new project a name, Plant A.
 - a. Please note, although we are not using them in this Quick Start Guide we recommend choosing a template on which to base your project by checking “Show Project Navigation and Style Configuration” and selecting a project layout that suits the application you are building. This will give you a very good navigation and folder structure as a basis for an actual project implementation. We have set these up with correct Properties in order to deal with most scenarios where for example you are using different resolution screens for Operators and scaling is important (a whole complex subject by itself).
4. Click the Finish button.

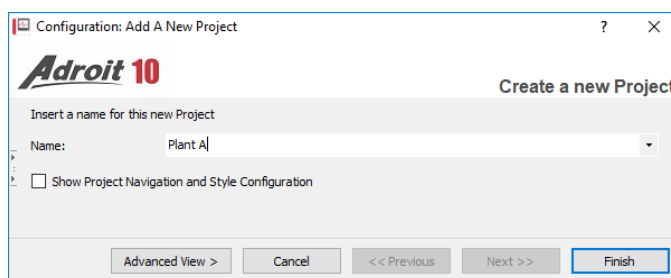


Figure 20 - Add a new project

Note: if the project does not appear straight away click on the Refresh icon on the Home ribbon.



- Select the new project Plant A. On the Home ribbon select the New Graphic Form Icon



- Name the graphic form "Overview". The new graphic form is now open in the design area.

Note: It is possible to rename by right clicking on the GF and selecting Rename in the menu.

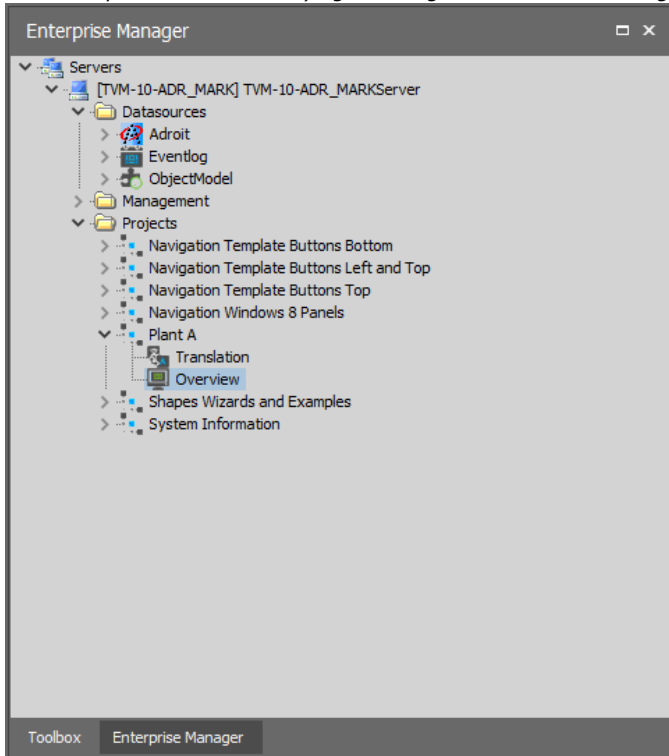


Figure 21 - Enterprise Manager with new project

5.1.3. Properties

The Properties view contains all properties of the selected object that is placed on the GF. The GF properties are displayed by default.

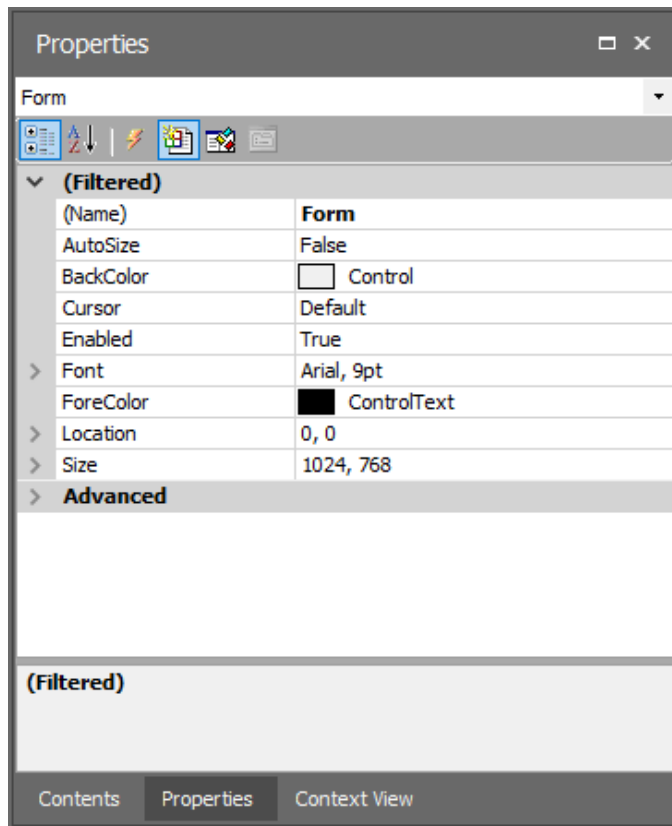


Figure 22 - Properties View

5.1.4. Toolbox

The Toolbox view contains all the base objects that the user will add to the graphic form. The Toolbox view can be found below the Enterprise Manager view.

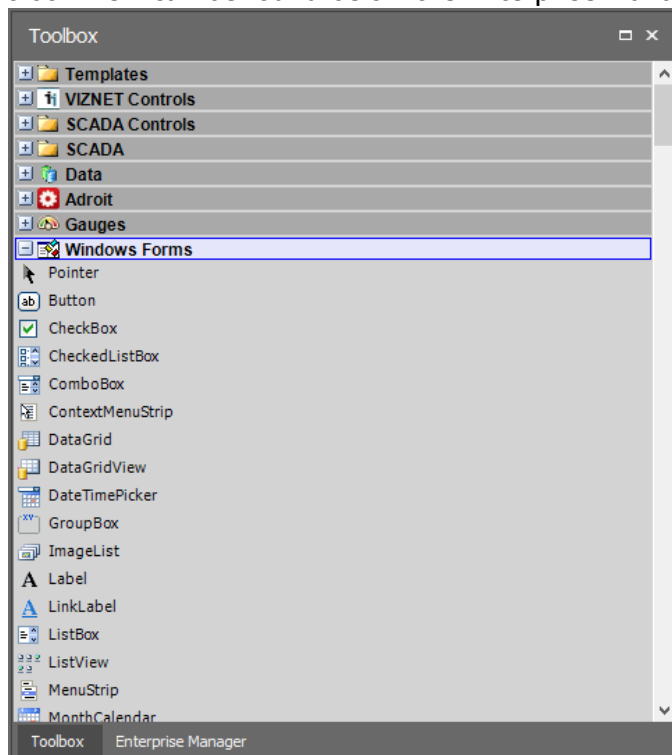


Figure 23 - Toolbox View

Note: Objects are grouped by their function and class.

Add an Object to the Graphic Form (GF)

To place a new Object on the GF "Overview":

1. Make sure that the GF "Overview" is open.
2. Under Windows Forms in the Toolbox select the control Label and click on the opened GF.
3. Set the following properties of the label.
 - (Name):lblActTempValue
 - AutoSize:True
 - Backcolor:White
 - Font:Arial, 9pt, style=Bold
 - Text:00.00 deg C
4. Clicking on the Save icon  on the top left of the design area. This will save the current selected GF.

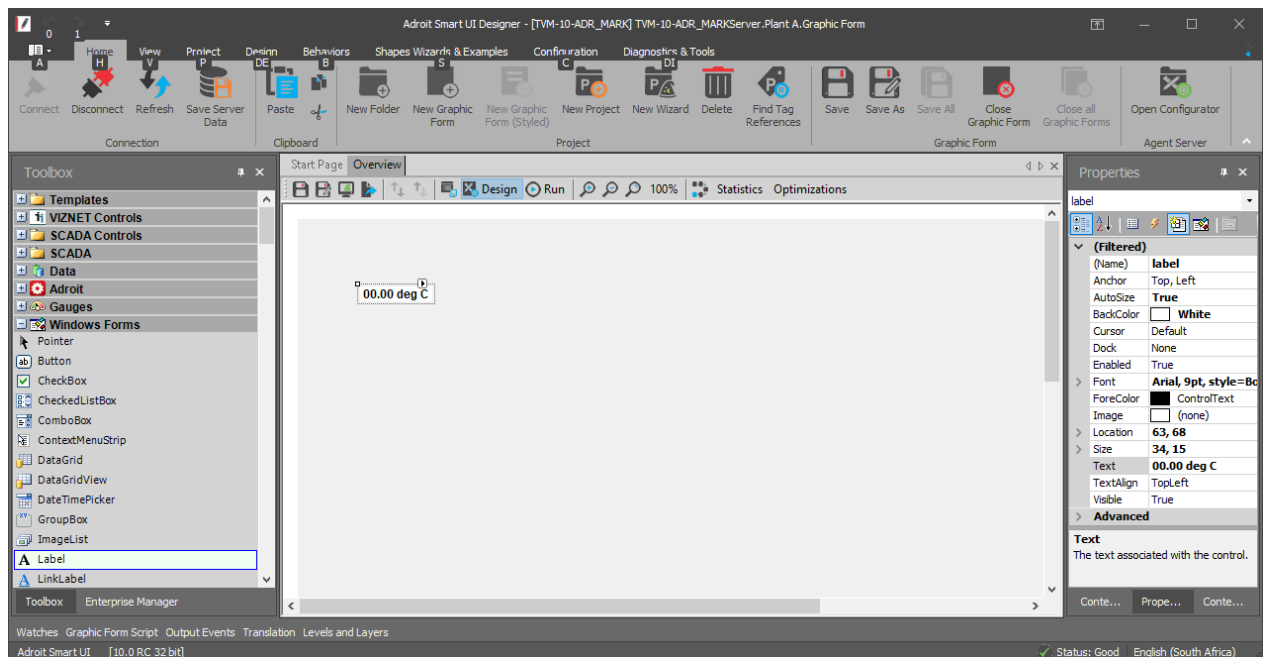


Figure 24 - Added New Object to GF

6. Configuring the Agent Server

To interact with the Agent Server (AS) the user will need to launch the Adroit Configurator by clicking on the Open Configurator icon on the Home ribbon.

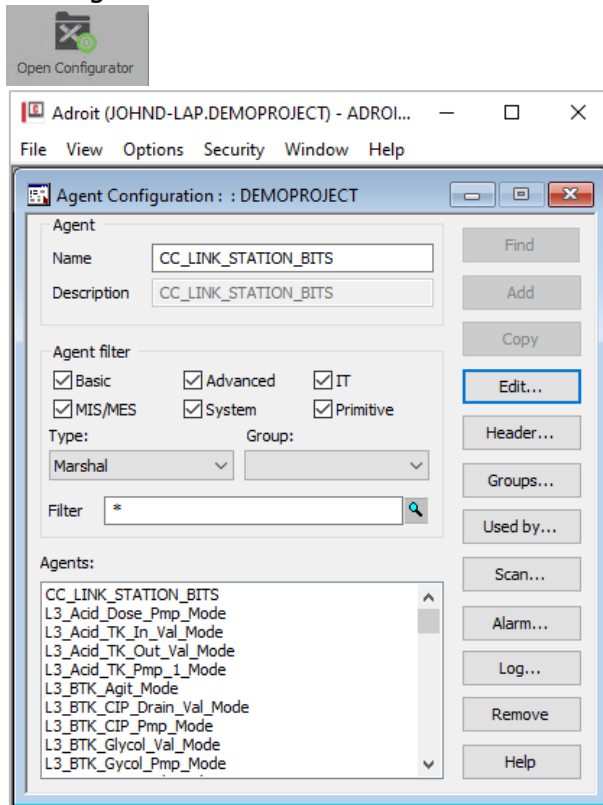


Figure 25 - Agent Server Configurator

6.1. Agents

The most fundamental building blocks of Adroit Agent Server are intelligent objects called Agents. In addition to being able to manipulate their own data, they can read and write from the FED and to other agents and so influence them. All Agents are grouped into three Agent groups, to allow easier access to Agents that are needed for a project, they are:

- **Primitive Agent types**
Boolean, Frame, Integer, Real, Text
- **Basic Agent types**
Analog, Counter, Date, Digital, Expression, Marshal, MultiState, String, StringList, Timer
- **Advanced Agent types**
AgentGroup, Alarm, AlarmList, AlarmManagement, ARec, Command, DBAccess, DBLog, DBQuery, EventLog, EventOutput, MultiMedia, Notify, Recipe, Scheduler, Script, Shift, Shift_Adv, Statistical Agent
- **MIS/MES Agent types**
Accumulator, MaxDemand, OEE, OEE_Adv, PID
- **IT/IoT Agent types**
Audit, DumpConfig, ICMP, IoT, Perfmon, SNMPMgr
- **System Agent types**
Alias, Beeper, DataLog, Device, Hasp, Proxy, Scan, SystemDataLog, SystemInformation

6.1.1. Adding an Agent

To create a new Analog agent in the AS:

1. Open the Configurator.
2. Check Basic Agents and expand the selection of the Agent Types that belong to this group.
3. In the Configurator change the selected agent Type to Analog
4. Using a pre-defined Naming strategy give the new agent the name:
BAT-01-MIX-01-TEM with a description: Batch Mixing Temperature.
5. Click on the Add button to create the agent.
6. Select File and Save, to save the agent server.

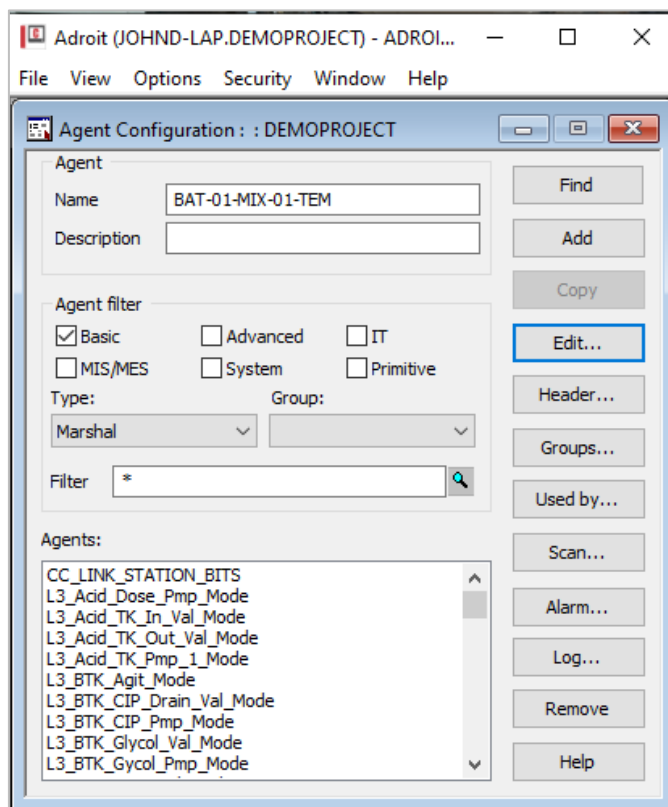


Figure 26 - New Analog Agent

7. Select the Agent BAT-01-MIX-01-TEM the click on the Edit.

8. Change the Analog set points as follows:

- a. Device Span
 - Minimum:0
 - Maximum:4095
- b. Engineering Span
 - Minimum:0
 - Maximum:45
- c. Alarms
 - High-high:35
 - High:25
 - Low:0
 - Low-Low:0

Figure 27 - Edit Analog Agent

6.1.2. Slots

Agents are made up of Slots. Slots of an Agent are values (attributes) or fields within an Agent that can be retrieved and/or set. The slots within an Agent can drive the logic/function of the Agent.

6.1.3. Tag

A fully qualified named value in Adroit made up of an agentName.slotName and in the Adroit world are then known as Tags All tags within Adroit can be driven, changed internally or externally

6.2. Scanning

Scanning values simply means communicating using a predefined protocol from a memory address of a FED to a TAG.

6.2.1. Scanning a Tag

To scan the RawValue slot of the of BAT-01-MIX-01-TEM Analog Agent to the Adroit Batch OPC Server:

1. Open the Adroit Configurator.
2. Select the Analog Agent BAT-01-MIX-01-TEM.
3. Click on the Scan button.
4. In the scanning configuration, select the device BAT_01 in the Device dropdown box.
5. The user will be prompted to create the device.
6. Click the Yes button. The Adroit Batch OPC Server will automatically start.

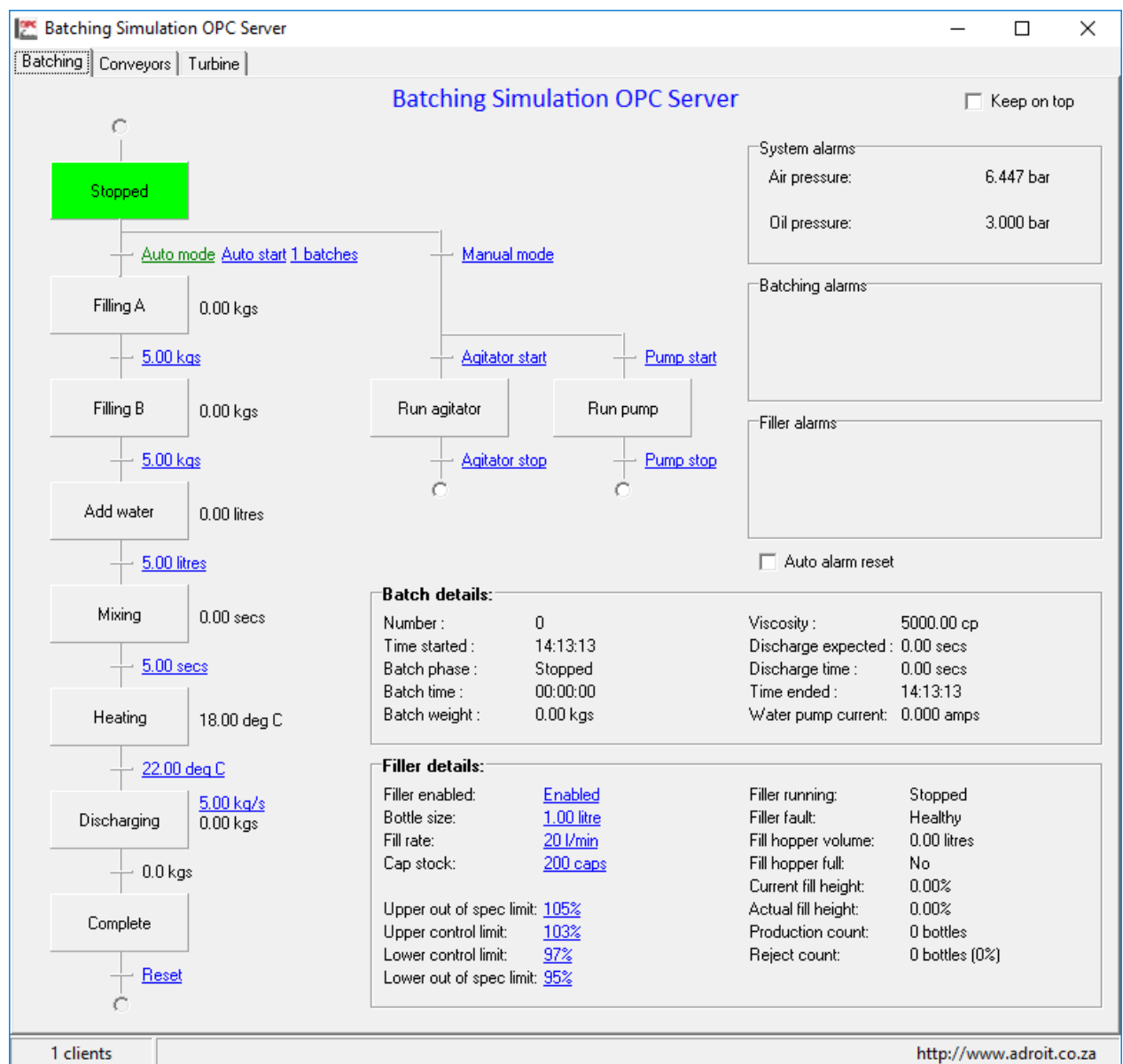


Figure 28 - Batch OPC Server

7. Enter the OPC address ActualMixTemp into the address field and change the Scan rate to 0.
8. Click on the Scan button to add the scan job to the device.
9. Select the Started radial button to start communicating with the OPC server.

10. Click OK on the scanning dialogue and save the Agent Server Configuration.

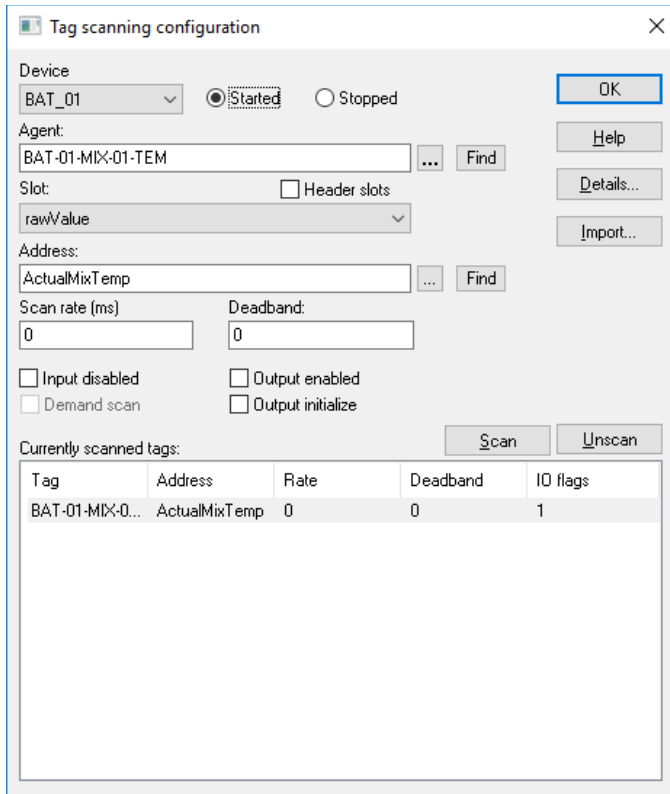


Figure 29 - TAG Scanning Configuration

6.3. Data logging

Adroit allows the value of a fully qualified named TAG value in Adroit AS (Agent.Slot) to be recorded or logged to either proprietary log files or an OLE DB-compliant database.

6.3.1. Datalog an Analog value

To datalog the value slot of the Analog agent BAT-01-MIX-01-TEM:

1. Select the agent BAT-01-MIX-01-TEM, then click on the Log button.
2. Set the datasource path by clicking on the browse button , then browse the path:
C:\ProgramData\Adroit Technologies\Adroit\Configurations\Quick Start Guide\Datalogs
3. Create the log file Temperature.LGD. Then click Open.

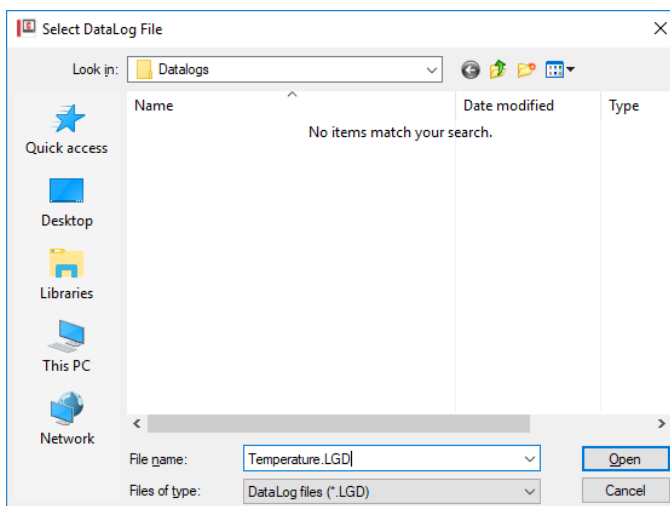


Figure 30 - Select DataLog File

4. Click on the length button and set the log length to 1 month.
5. Under Deadbands click the Time button and set the period to 1 second.
6. Click on the Start radial button to start the datalog. Then click on the OK button and save the Agent Server.

Figure 31 - Edit Datalog Agent

6.4. Alarming

The alarming capability of the Adroit SCADA is exceptionally powerful and needs careful attention. Alarming can simply be explained by breaking the system down in to two parts.

6.4.1. Alarm Routing

Alarm routing, which is configured in the Alarm agent, is where the user will configure the outputs of an alarm. Adroit Alarming supports multiple routing outputs such as Alarm Lists; SMSs; Emails; Event logs; Multimedia notifications.

Setting up an Alarm Agent Route

Configuring a route in the default alarm agent, which will send all configured alarms to an Alarm list:

1. Open the Adroit Configurator.
2. Select the agent type Alarm list.
3. Create a new alarm list agent called BAT-01-MIX-01-ALM-LST.

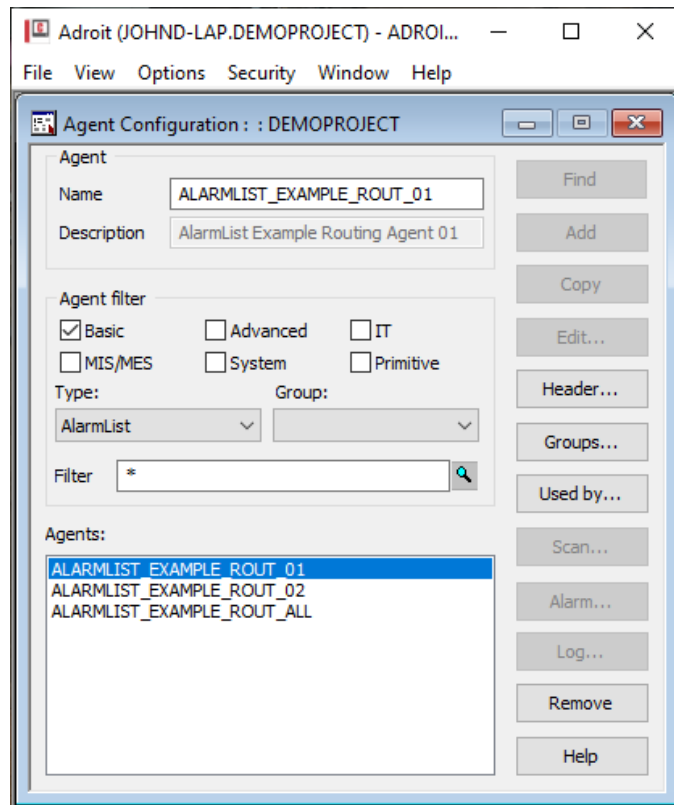


Figure 32 - Alarm List Agent

4. Select the Agent Type Alarm, edit the DEFAULTALARMAGENT. Make sure the selected route number is set to 2.
5. In the Alarm List route definition click on the browse button .
6. In the Agent browser select the Alarm list agent BAT-01-MIX-01-ALM-LST.
7. Click Ok.
8. Click on the defaultAlarmAgent agents' Ok button and save the Agent Server configuration.

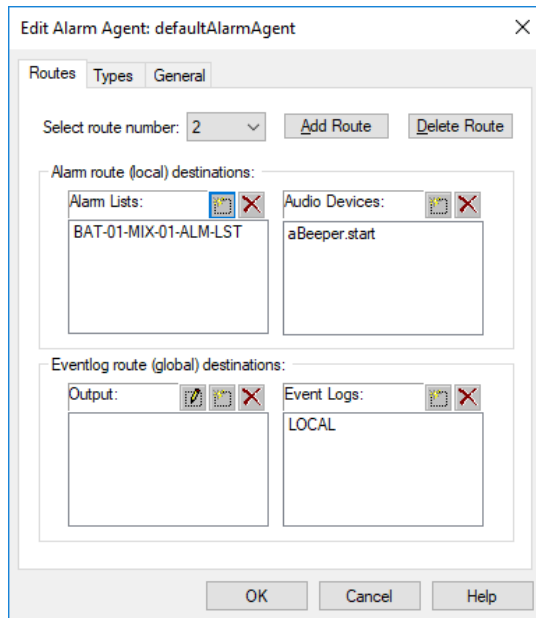


Figure 33 - Default Alarm Agent

6.4.2. Alarm Types

Alarm Agents can monitor other Agents with pre-set Alarm Types. An alarm type is simply the required condition or state of an Agent's header slots. A default Alarm Agent, created on start of a blank AS database, contains a number of pre-defined alarm types.

Alarming an Analog Agent

To alarm the high and High-high slots of the Analog Agent BAT-01-MIX-01-TEM, using the default alarm agent:

1. Open the Adroit Configurator.
2. Select the Analog Agent BAT-01-MIX-01-TEM.
3. Click on the Alarm button.
4. Move the Available Alarm type High from Available to Current by double clicking the alarm type. Make sure that the Select route is set to 2.
5. Repeat the process for the alarm type High-high.

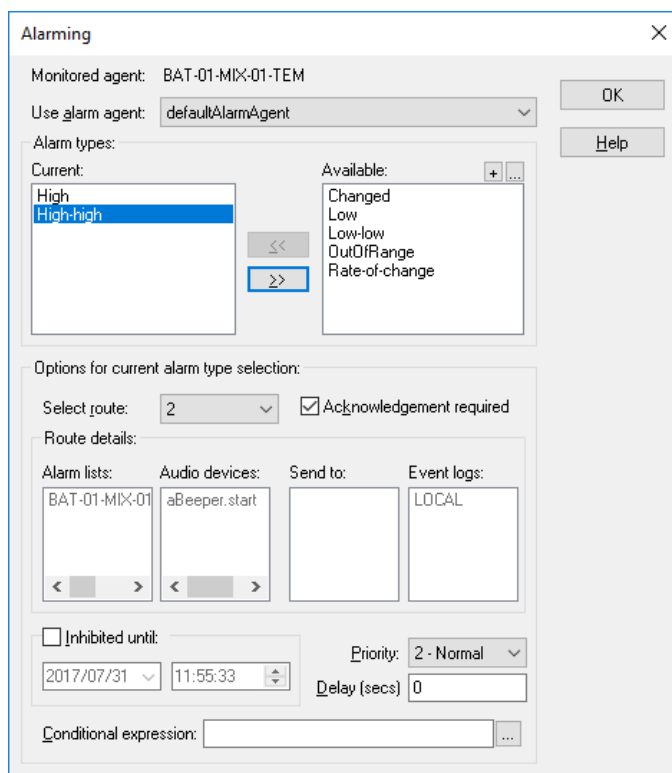


Figure 34 - Alarming an Analog Agent

7. Displaying Data

Once the Agent Server has been configured the user can now display and manipulating the data on a graphic form using behaviours. Behaviours are used to create the dynamics pertaining to the Tag and how Operators interact with the graphical representation on any screen.

7.1. Behaviours

Behaviours are used to display and manipulate data elements. The Adroit SmartUI supports the following behaviours:

- Bind Value - Drive a data element (value) to and/or from the value of a property of a control or vector.
- Color - Assign colors to the two states of a digital (Boolean) value; to blink a specific Color property or the VISIBILITY property either continuously or triggered by a value. Also define states of color based on specific value ranges to provide a visual indication of a value, as well as define states of color based on a bit mask - a specific sequence of bits that are set for up to 32 bits to provide a visual indication of each bit mask.
- Display Value - Display and if necessary, format a value.
- Execute Command - Perform commands, such as launching an application or opening, closing or printing a graphic form or logging a user on or off and/or switching users.
- Flip Bitmap - Create a defined sequence of images or a multi-image display, this behaviour can only be added to a Picture vector object.
- Location - Dynamically move the object linearly in a defined X-Y direction by means of a monitored value.
- Operator Action - Typically provides methods that allow end users to change a value at runtime.
- Percentage Fill - Dynamically fill an object by means of a monitored value.
- Rotation - Dynamically rotate the object by means of a monitored value.
- Size - Dynamically resize the object linearly by means of a monitored value.
- Tooltip - Display additional information when the mouse cursor hovers over the object.
- Visibility: Display or hide an object depending on a Boolean value.
- Database: To execute a database query from a graphical form, without writing a script

Note: The behaviour configuration dialogue provides an Advanced View button that displays more advanced configuration options.

7.1.1. Displaying a value

Display the analog value of the Agent BAT-01-MIX-01-TEM using a display value behaviour.

1. In the Designer open the graphic form Overview that you previously created.
2. Select the label placed in the previous exercise.
3. Select the Behaviours ribbon.
4. Click on the Display Value button.



5. In the Display Value dialog click on the Input Data Element browser button. Browse for the data element Adroit.Analog.BAT-01-MIX-01-TEM.value.
6. Click the Finish button.

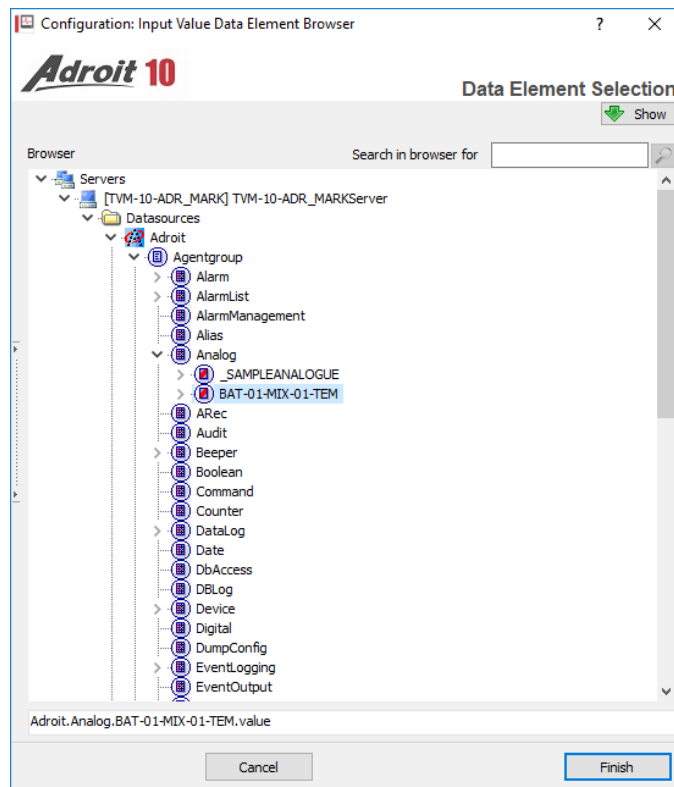


Figure 35 - Data Element Browser

7. Change the String format to {0:F2} deg C.
8. Click the Finish button.

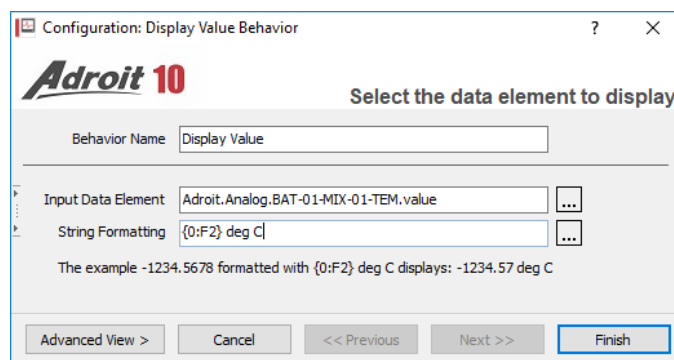
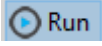


Figure 36 - Display Value Behaviour

9. Save the graphic form and test by clicking on the Run button , in the design area menu bar. The label should display the value 18.00 deg C. The user can run the batch plant simulator by clicking on the Auto start label in the OPC simulator.

Note if the value is not displaying correctly make sure that the time license on the agent server has not run. If so, restart the Agent Server.

7.1.2. Changing a value setpoint

Changing the Analog agents BAT-01-MIX-01-TEM alarm setpoints using the Operator Action behaviour.

- Open the graphic form Overview, place two more labels on the graphic form with the following properties:
 - (Name):lblActTempHihi
 - AutoSize:True
 - Backcolor:White
 - Font:Arial, 8pt
 - Text:High high alarm SP: 00.00 deg C
 - (Name):lblActTempHi
 - AutoSize:True
 - Backcolor:White
 - Font:Arial, 8pt
 - Text:High alarm SP: 00.00 deg C

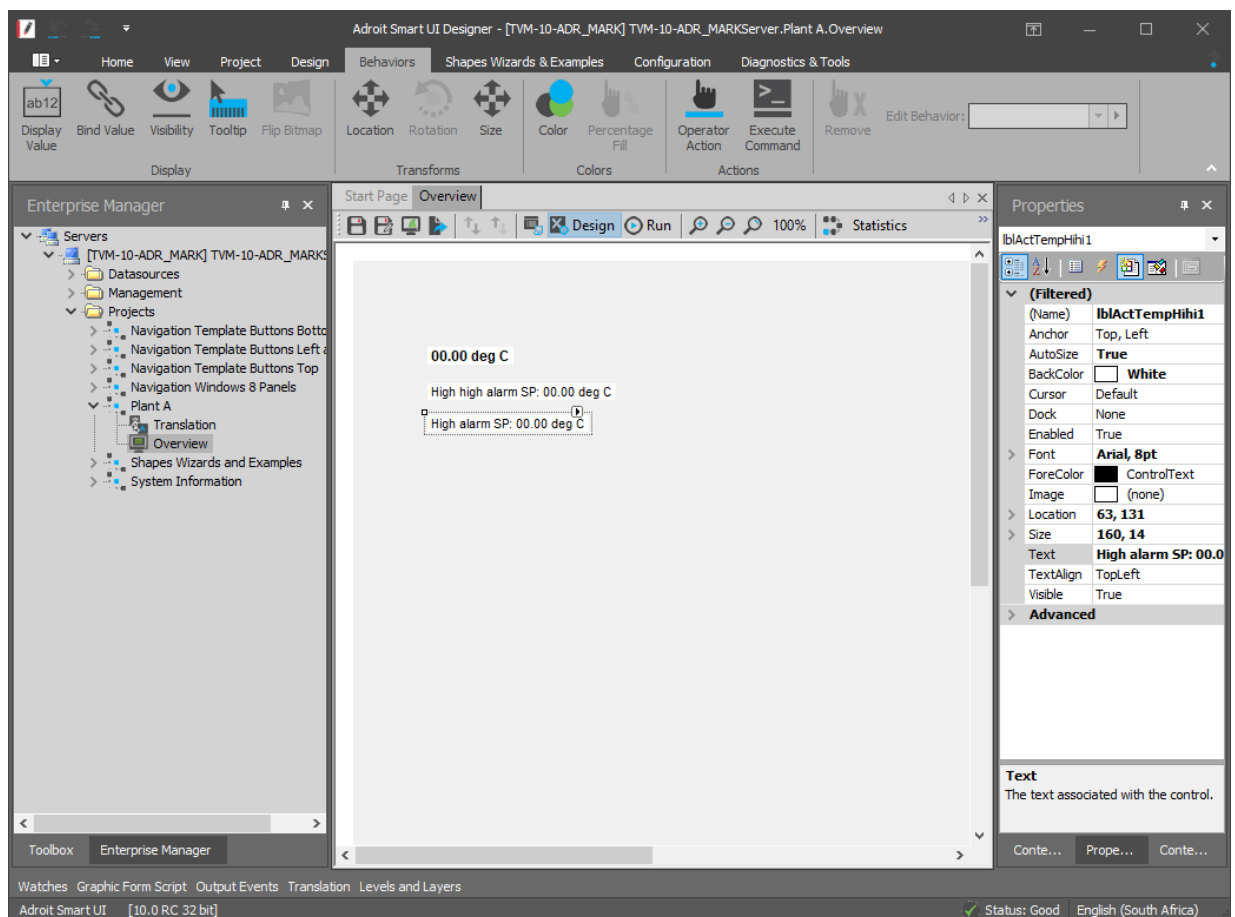


Figure 37 - Graphic Form Displaying Alarm Setpoints

- Select the label lblActTempHihi. Add a new Display Value behaviour to the object.
 - The Input Data Element is
 - Adroit.Analog.BAT-01-MIX-01-TEM.hiHi,
 - And the String formatting is
 - High high alarm SP: {0:F2} deg C
- Select the label lblActTempHi. Add a new Add a new Display Value behaviour to the object.
 - The Input Data Element is
 - Adroit.Analog.BAT-01-MIX-01-TEM.hi,
 - And the String formatting is
 - High alarm SP: {0:F2} deg C
- Select the label lblActTempHihi. Add a new Operator action behaviour, set the inputs as follows:
 - Data Element:Adroit.Analog.BAT-01-MIX-01-TEM.hiHi
 - Minimum DE:Adroit.Analog.BAT-01-MIX-01-TEM.hi
 - Maximum DE:Adroit.Analog.BAT-01-MIX-01-TEM.engMax
- For the Action Type Select Data Entry. Click the finish button.

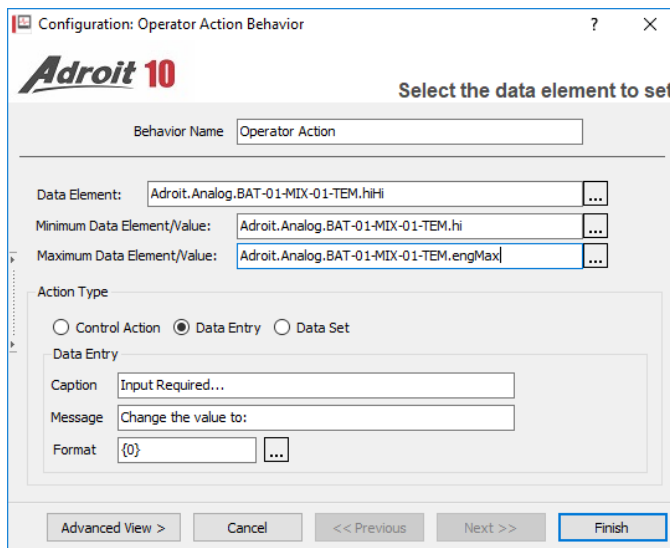


Figure 38 - Operator Action Behaviour for Alarm High-high Set Point

- Select the label lblActTemphi. Add a new Operator action behaviour, set the inputs as follows:
 - Data Element:Adroit.Analog.BAT-01-MIX-01-TEM.hi
 - Minimum DE:Adroit.Analog.BAT-01-MIX-01-TEM.lo
 - Maximum DE:Adroit.Analog.BAT-01-MIX-01-TEM.hiHi
 - For the Action Type Select Data Entry. Click the finish button.

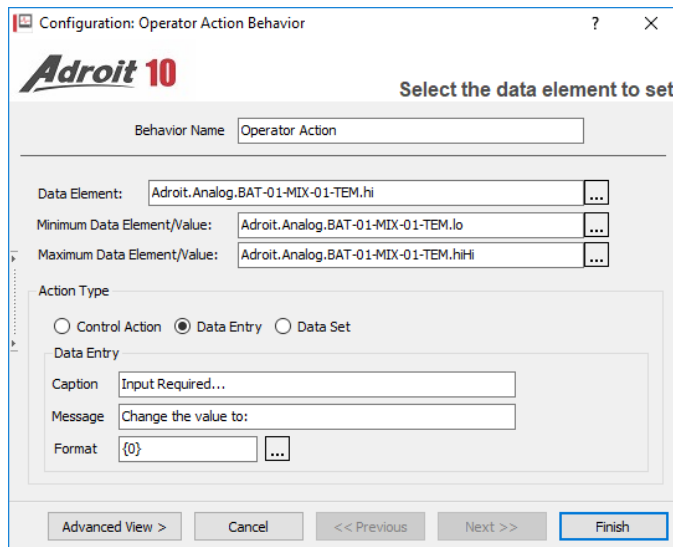


Figure 39 - Operator Action Behaviour For Alarm High SP

- Save and run the graphic form. Adjust the High Alarm SP by clicking the appropriate label and entering a new setpoint.

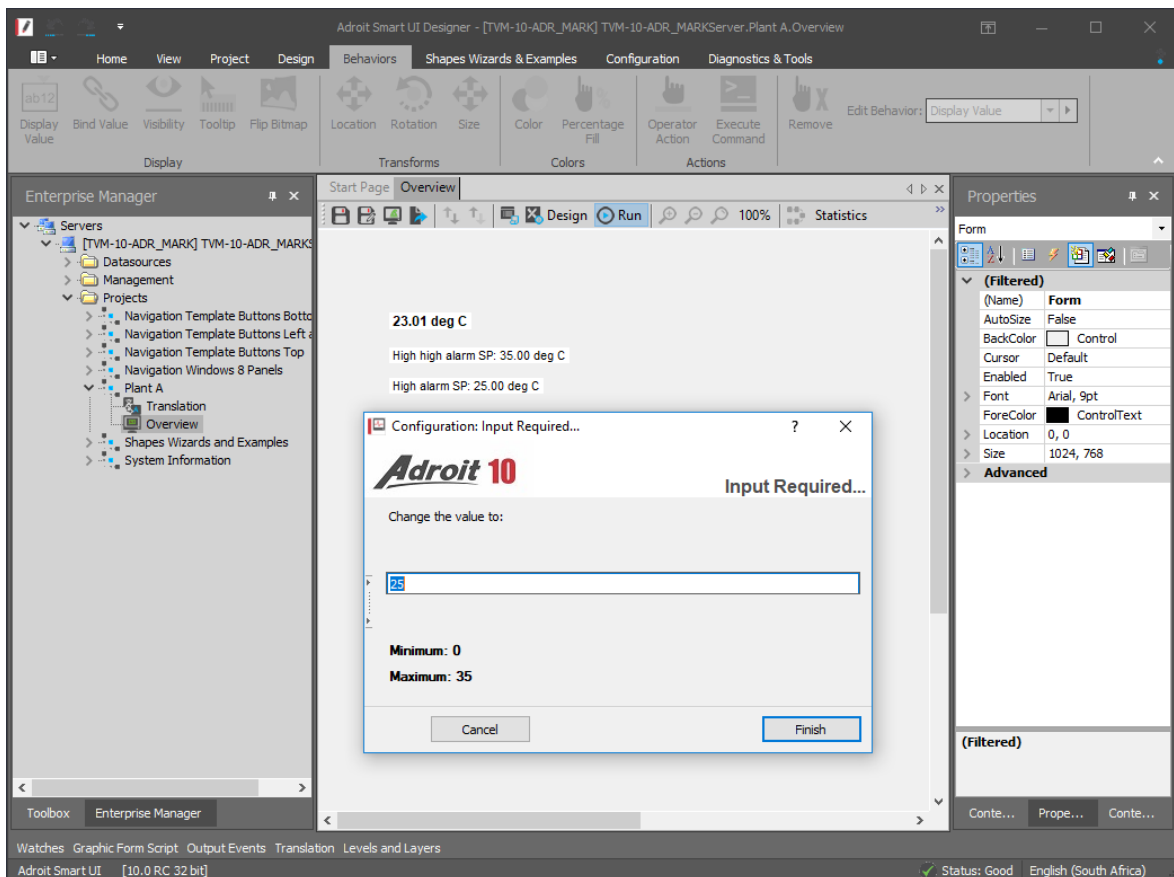


Figure 40 - Change Alarm High Setpoint

7.2. Line Charts

The line chart control is used to display live as well as logged data from the Adroit Agent Server.

7.2.1. Display Historical Data

Using the Line Chart control to display the logged data of the Analog Agent BAT-01-MIX-01-TEM.

1. Confirm that the graphic form Overview is open and not in run mode.
2. From the toolbox view under Data select the LineChart control and place it on the graphic form. Once the control has been placed the LineChart configuration will open.
3. Change the Title of the series from Line to Actual Mixing Temperature by double clicking on the series name Line.

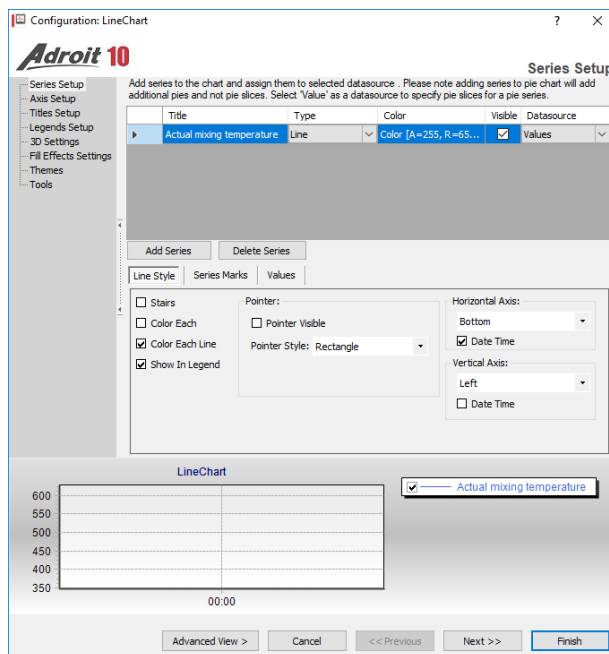


Figure 41 - Configuration Line Chart Series Name

4. Select the Values tab in the series setup. Then setup the values as follows.
 - Values:Adroit.Analog.BAT-01-MIX-01-TEM.value
 - Min:Adroit.Analog.BAT-01-MIX-01-TEM.engMin
 - Max:Adroit.Analog.BAT-01-MIX-01-TEM.engMax
 - Units:Adroit.Analog.BAT-01-MIX-01-TEM.unit
 - Description:Adroit.Analog.BAT-01-MIX-01-TEM.agentDescription

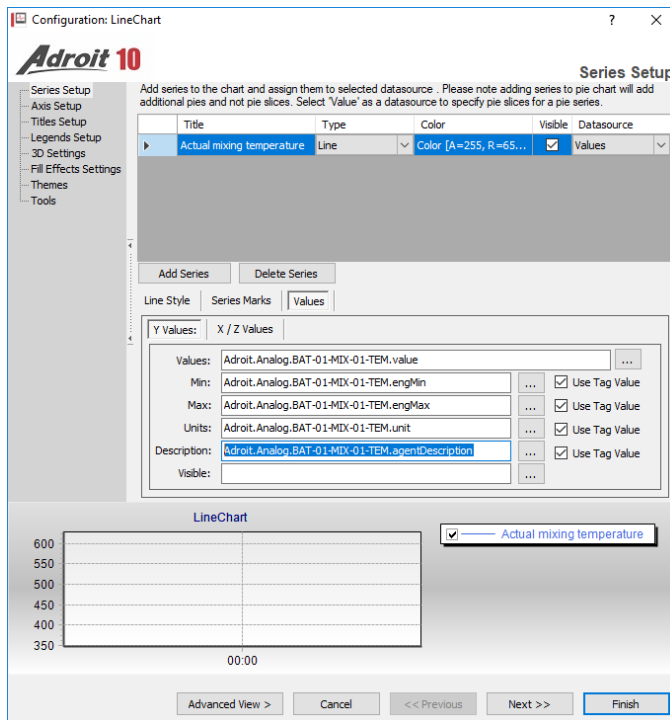


Figure 42 - Configuration Line Chart Series Values

5. Click the finish button save the graphic form.
6. Click on the Run button.
7. Start the batching process to change the Mixing Temperatures Value.

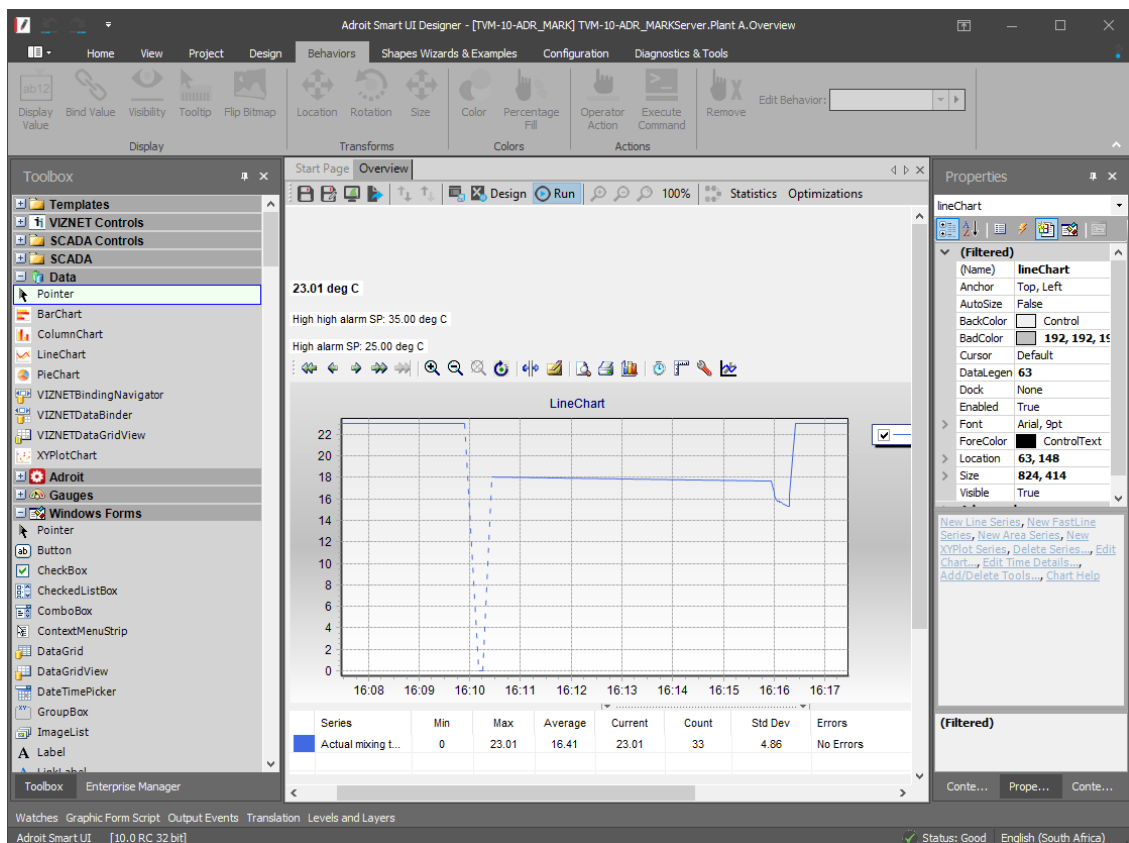


Figure 43 - Displaying Logged data

7.3. Alarm Viewer Control

The Alarm viewer control allows the user to connect to either an Alarm Agent or an Alarm list agent in the Adroit Datasource. The control, once connected to a valid alarm list, will display all routed alarms and allows the user to acknowledge and filter the displayed alarms.

7.3.1. Displaying an Alarm list

Using the Alarm viewer control to display alarms routed to the alarm list agent BAT-01-MIX-01-ALM-LST.

1. Confirm that the graphic form Overview is open and not in run mode.
2. From the toolbox view under Adroit select the AlarmViewer control and place it on the graphic form.
3. Select the task icon  on the top right of the alarm control, this will open the task menu.

Figure 44 - AdroitAlarmViewer Tasks menu

4. Click on the General Configuration, which will open the Adroit alarm viewer Configuration.
5. Change the Alarm type to AlarmListAgent.
6. Set the Alarm List / Alarm Agent to Adroit.AlarmList.BAT-01-MIX-01-ALM-LST.alarmList.



Figure 45 - Adroit Alarm Viewer Configuration

7. Click the Finish button, save and run the graphic form.
8. To test the Alarm view drop the High alarm set point below the value.

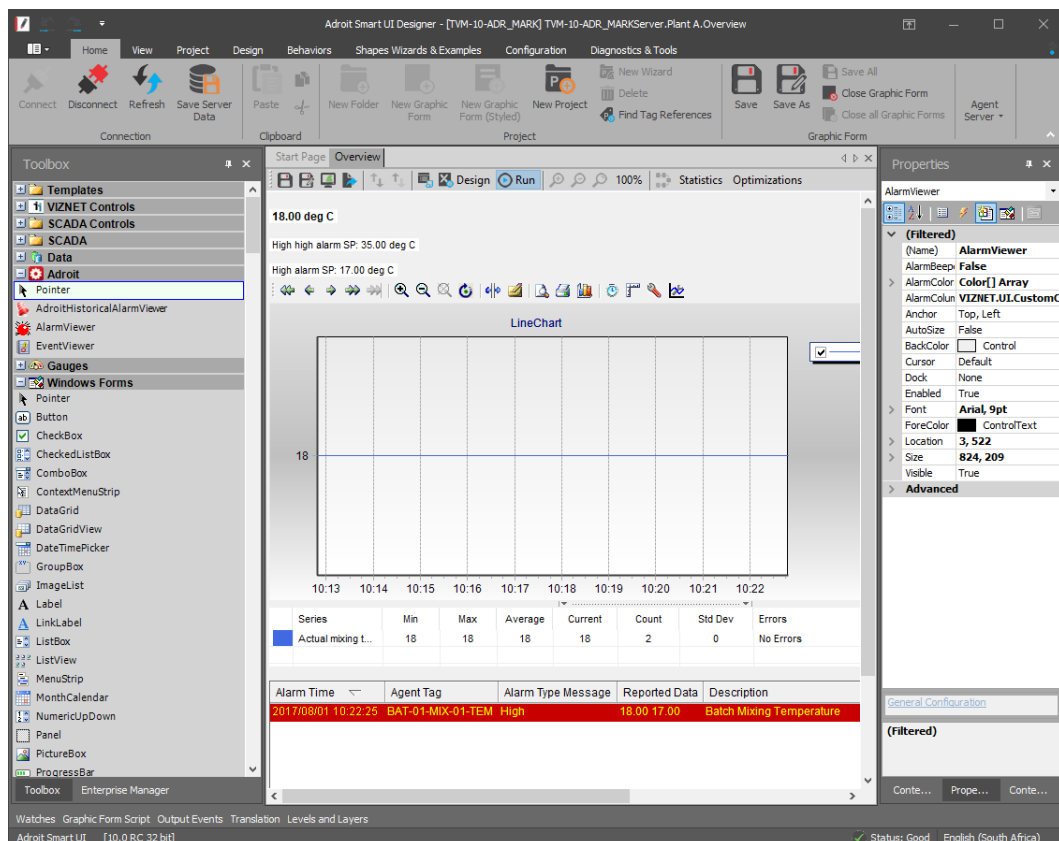


Figure 46 - Displaying Alarm Incident

8. Reusable Objects

Adroit has a two mechanism that allow for re-usable objects, Wizards and Templates.

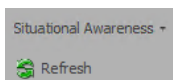
8.1. Wizards

Are user defined/created objects such as pumps; motors; analogue displays. The behaviours of a wizards can contain substitution. Adroit contains a library of Shapes Wizards and Examples that contain a number of pre-defined wizards.

8.1.1. Adding a Pre-defined Wizard

Adding the wizard `wzdAnalogueIndicator_Large_Horizontal_v01` from Situational awareness library to the Overview graphic form.

1. Confirm that the graphic form Overview is open and not in run mode.
2. Select the Shapes Wizards & Examples ribbon, Select the Situational Awareness in the drop down box on the left of the ribbon.



3. Click on the Indicators dropdown box, select the wizard `wzdAnalogueIndicator_Large_Horizontal_v01` then click on the Overview graphic form.
4. The user will then be prompted to supply a substitution for the Analogue Agent, Click the browse button and select the data element `Adroit.Analog.BAT-01-MIX-01-TEM` make sure that the data element does not contain a slot. The result should be green to display a valid data element.

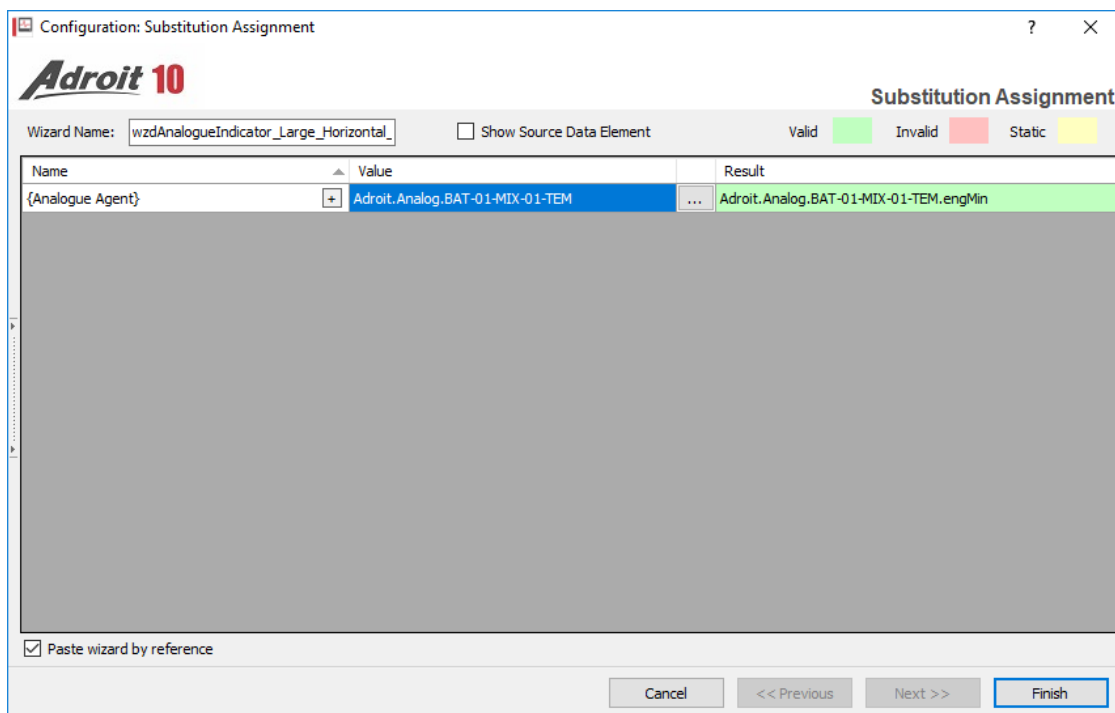


Figure 47 - Substitution Assignment

5. Click the Finish button, save and run the graphic form.

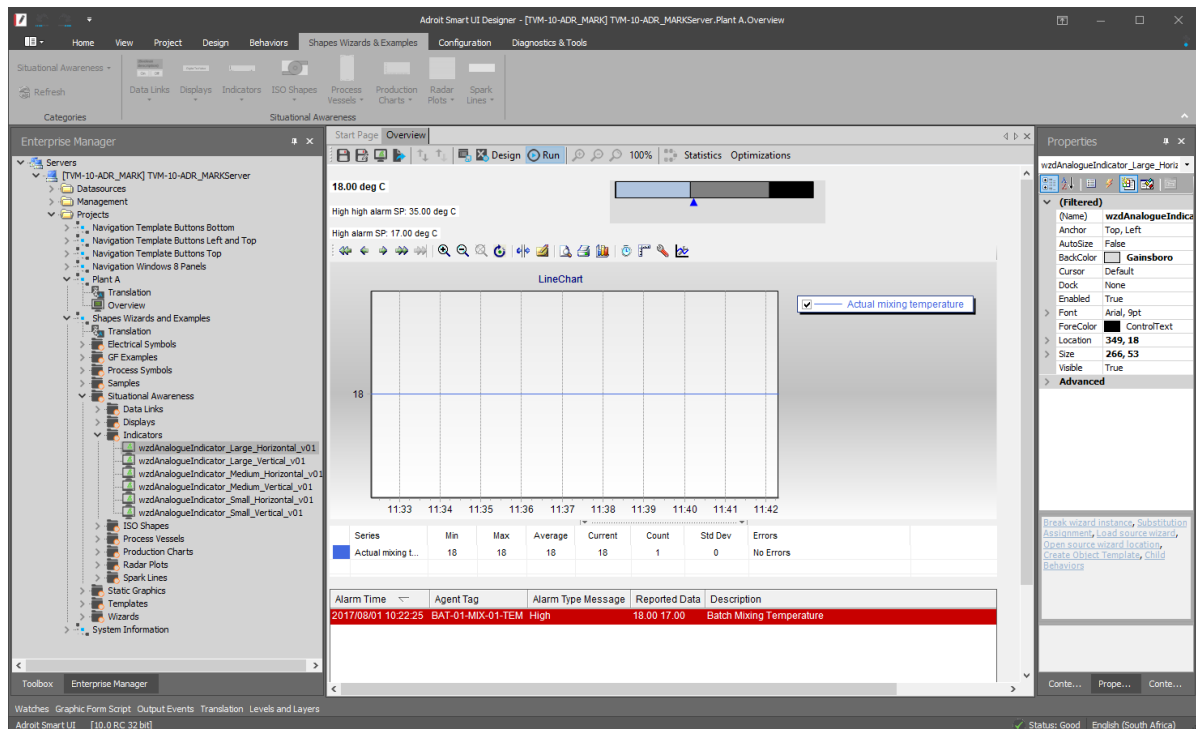


Figure 48 - Display the Analogue indicator Wizard.

8.2. Templates

Adroit Templates are re-usable graphic forms that can be used at run-time. The fundamental difference between a graphic form and a Template is that a Template has substitution abilities. This really means that wherever you have repeatability for displays, such as machine process values you can effectively create a single trend configured as a Template and at runtime when you click on a certain machine you can simply launch the Trend and substitute that machines values.

8.2.1. Opening a Template

Open the template Analogue Faceplate Template from a button on the graphic form Overview.

1. Confirm that the graphic form Overview is open and not in run mode.
2. From the toolbox view under Windows Form select the button control and place it on the graphic form. Set the following properties of the button
 - a. (Name):btnActTempValue
 - b. Font:Arial, 9pt
 - c. Size:107, 45
 - d. Text:Analog Faceplate
3. With the button btnActTempValue selected, add a new Execute Command behaviour.
4. Set the Command dropdown box to Open graphic form. Browse for the Graphic Form to Shapes Wizards and Examples.Templates.Analogues.Analogue Faceplate Template
5. Change the Open as: dropdown box to Modeless Form.
6. Click the Finish button.

Configuration: Execute Command Behavior

Adroit 10 Execute Command Behavior Configuration

Behavior Name: Execute Command

Command: Open graphic form

Open Graphic Form

General Settings

Graphic Form: ples.Templates.Analogues.Analogue Faceplate Template

Open As: Modeless Form

☐ Close on loss of focus

Template Set: Default

Level: level

Position

☐ Location

☐ Mouse Cursor

☒ Center Screen

Location

X: 0 pixels Y: 0 pixels

Size

Width: 0 pixels Height: 0 pixels ☐ Custom

Advanced View > Cancel << Previous Next >> Finish

Figure 49 - Execute Command Behaviour

- Click on the Advanced View > button, then select the Aliases tab. The Analogue Data Element Substitution should be available in the Alias list. If not click on the get Aliases button.
- Click on the input field and select the Browse button and browse the data element Adroit.Analog.BAT-01-MIX-01-TEM.

Configuration: Execute Command Behavior

Adroit 10 Execute Command Behavior Configuration

Behavior Name: Execute Command

Command: Open graphic form

Open Graphic Form

General Settings Aliases

Alias	Input	Use tag value
I Analogue Data Element	Adroit.Analog.BAT-01-MIX-01-TEM	☒

☐ Use parent form alias values

Get Aliases

Confirmation

☐ Log Action ☐ Confirm Action

Security Data Element/Value

Security

☐ Enable Security on Form for the associated component

Configure

Event Trigger Click

< Simple View Cancel << Previous Next >> Finish

Figure 50 - Execute Command Behaviour Substitution

- Click the Finish button, save and run the graphic form. When the user clicks the button, the user will see an error "This action is only available in the Operator".

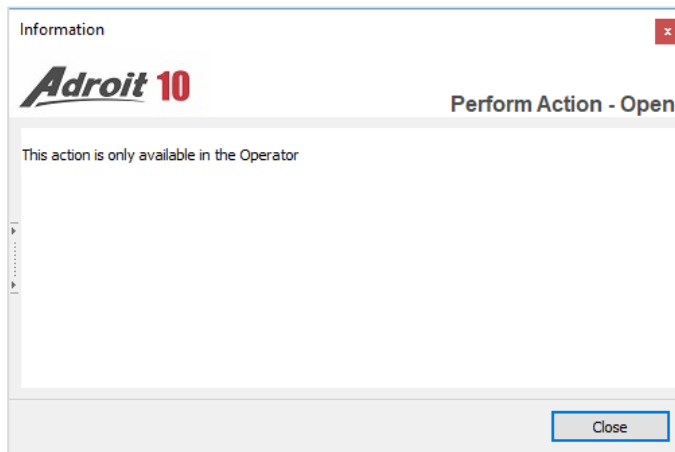
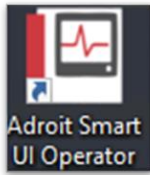


Figure 51 - Operator Action Error

The User will need run the SmartUI Operator application to start the Operator view.

9. SmartUI Operator

To view a project the user will need to run the Adroit SmartUI Operator by clicking on the Icon on the desktop.



The user will then be prompted to login to the local SmartUI server. The user login is the same as the users Windows credentials. Enter the login Name and Password. Click on the Finish button. Just like the Designer, the Operator has an Enterprise Manager view which will allow the user to open a run time version of the graphic forms created in the Designer.

9.1. Running the Operator

Open the graphic form Overview in the Operator.

1. Run the SmartUI operator by double clicking on the Icon on the desktop.
2. Login using the same user's credentials as used with the designer.
3. In the enterprise manager double click on the Overview graphic form in the Plant A project.
4. Click on the Button Analog Faceplate.

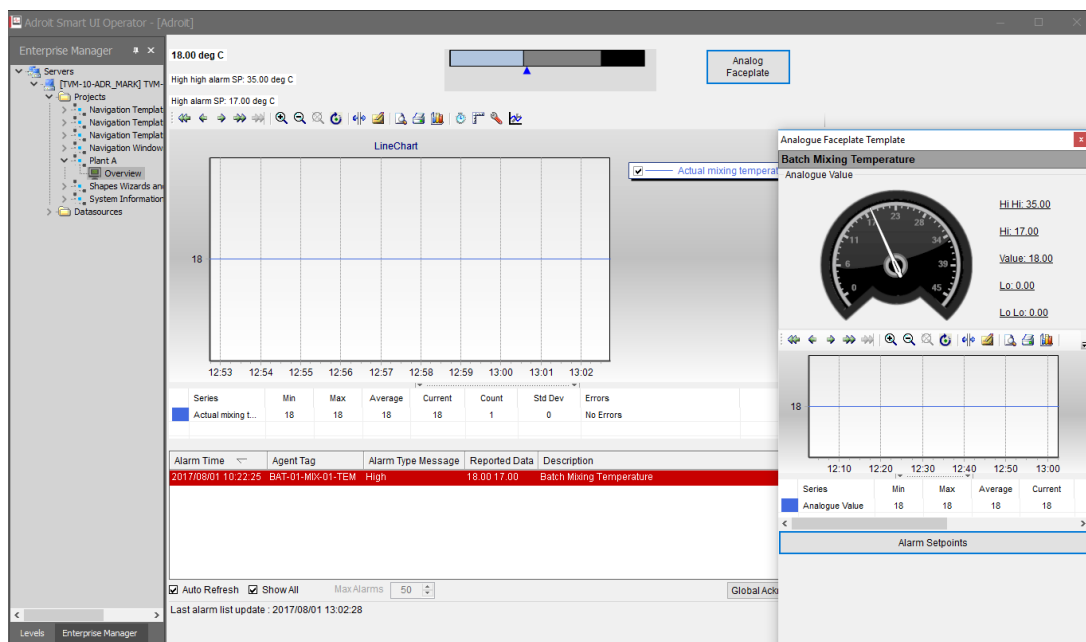


Figure 52 - SmartUI Operator

10. Adroit Product Suite Documentation

The following related documentation is also available on the Adroit website:-

<https://adroittech.co.za/downloads-tree-view/>

