



Adroit
Technologies



Performance Anywhere

User Manual

Adroit

 **MITSUBISHI
ELECTRIC**
FACTORY AUTOMATION

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1. Introduction

The Performance Anywhere Client enables a user to take Adroit SCADA mobile in a dashboard format. Users are able to use their smart phones to monitor process and production on the go, in the factory, mobile device or at home with supported browsers.

Users can take advantage of many different widgets to simply build mobile reports including graphs, gauges, alarm lists, analogue displays, buttons and updated screens of the plant. It uses Windows Security which allows users with the correct credentials to even change set points or stop and start plant from their mobile device. The Performance Anywhere Client can be configured to run internally or externally using Wi-Fi or Internet giving you access to your plant anywhere and anytime - which improves productivity, availability, quality and reliability.

1.1. Architecture

Adroit 10 Performance Anywhere Client uses HTML5 technology making it platform independent and mobile friendly. The Smart UI Web Server technology supports access to alarms, charts and bi-directional real-time data while supporting the built-in Adroit security and user profiles.

1.2. Licensing requirements

For trial purposes, one Performance Anywhere Client user license is provided when using the demo license. For actual use, the Performance Anywhere Client OEM code must be added to the product license.

The required number of remote node licenses need to be acquired to make sure that the required number of concurrent users will be supported (where each regular remote node corresponds to 5 Performance Anywhere Client licenses).

2. Installation Of Performance Anywhere

2.1. Before Starting the Installation

Ensure that the backward compatibility issues have been considered before upgrading an older version of Adroit to a newer version.

Ensure that the machine complies with the specified hardware and software requirements.

Close all other applications when installing Adroit.

Ensure that the logged on User has Administrator privileges but is not the Administrator.

2.2. Installation Package

If the Autorun feature is enabled for the DVD drive, the Adroit installation program will automatically be displayed, if not, run Setup.exe in the root folder on the Adroit DVD.

From the Adroit Installation menu, click the Install Adroit button to begin the installation of Adroit.

Follow the instructions displayed on the screen.

Advance through the installation by pressing the Next button and review the previous screens by pressing the Back button, where available.

NOTE: The installation procedure can be aborted at any time by pressing Cancel.

It is necessary to accept the terms of the Adroit license agreement in order to continue with the installation.

3. Deploying and Using Performance Anywhere

Performance Anywhere needs to be installed on a Web Server.

Then depending upon the number of licensed concurrent clients that you have, users can open the required URL to launch the Performance Anywhere dashboard in your Internet browser.

After logging in they can create numerous pages in they can place and configure widgets (controls) in **Design** mode so that they can display and, in some cases, configure the data in **Run** mode.

IMPORTANT: Performance Anywhere is NOT a replacement for a fully-fledged Operator but does allow for the limited viewing and configuration of typically SCADA data over the web.

3.1. Network architecture:

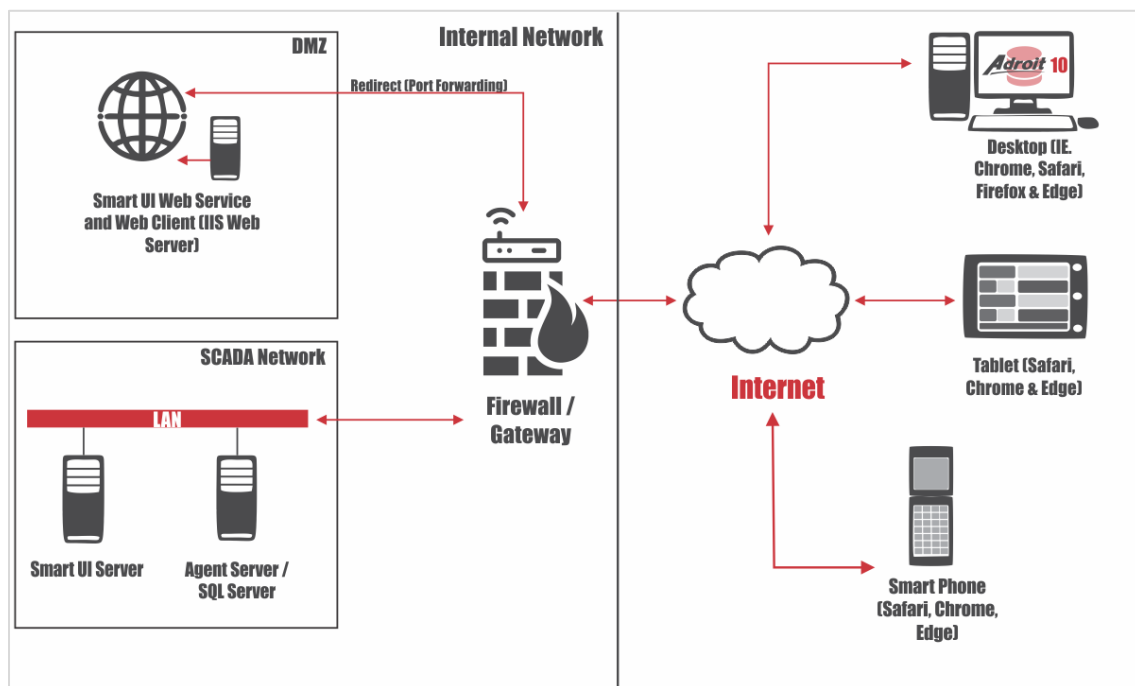
The necessary network configuration required depends upon how your clients will connect to Performance Anywhere, as follows, which determines the potential challenges and IT related issues:

3.2. External Web Connection

To configure an external Web connection the Web Server hosting both the Smart UI Web Service and Performance Anywhere needs to be made visible to the public Internet.

In other words you need a public IP address and use port forwarding for port 80 to your Web Server.

Note: This is not a simple configuration task since each router, firewall and network differs as to how this is setup.



3.2.1. Potential Challenges:

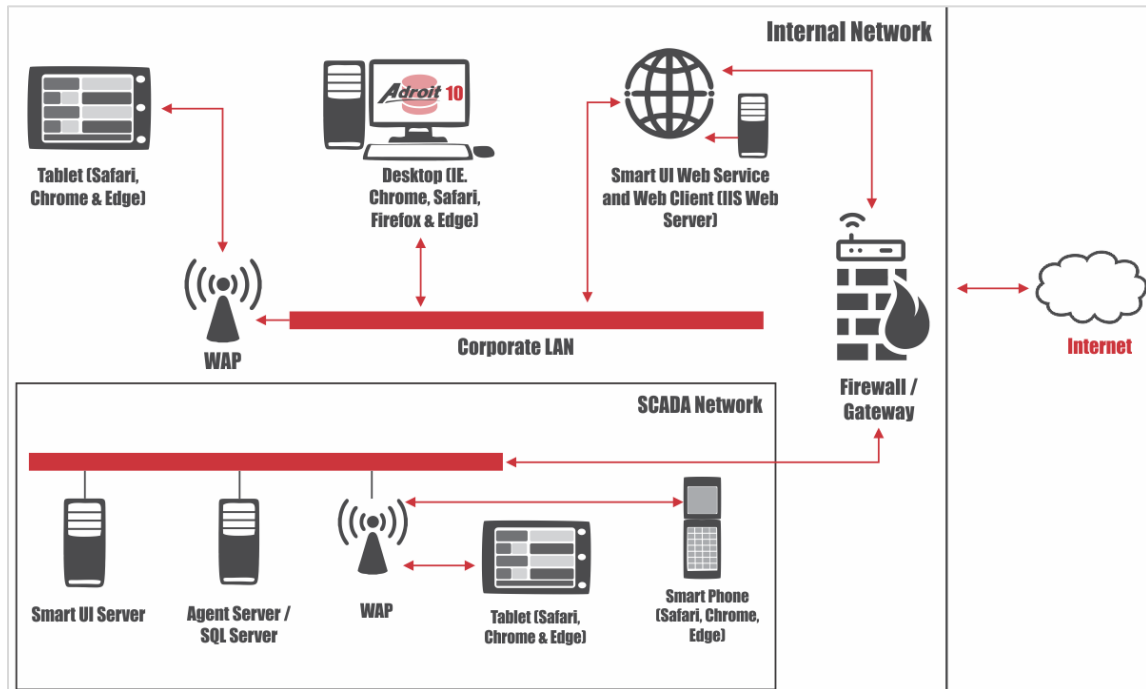
- Determine the number of Client Connections to Smart UI Server you may require.
- Determine the maximum amount of I/O that can be displayed per page on Web Client, keeping in mind the amount of bandwidth consumed by displaying that amount of I/O.

3.2.2. IT Related Issues:

- Invest in the best firewall product for your network and making sure it is configured correctly to protect your network from outside as well as from Denial of Service (DoS) attacks etc.

- Isolate your Smart UI Web Service and Web Client on IIS in a DMZ to protect access from it to other networks.
- Invest in securing the SCADA and/or Corporate networks through a properly configured Domain Controller enforcing policies designed to prevent unauthorised access.

3.3. Internal Web Connection



3.3.1. Potential Challenges:

- While network capacity is usually higher internally, number of concurrent connection can still be a factor, so network infrastructure must be designed to accommodate.
- While local networks have more bandwidth, the number of IO points displayed on each client is always a factor, especially since all data is polled at the same time.

3.3.2. IT Related Issues:

- Wireless Access Points to ensure highest security and communication standards. Not all wireless infrastructure provides stable, secure communication.
- Internal network routing configuration to adequately secure and separate the core SCADA network from the corporate network while still providing necessary access.

3.4. Installation Requirements:

Performance Anywhere needs to be installed on a Web Server - a computer that has IIS (Internet Information Services) installed.

You also need to install the Smart UI Web Service component, typically on the same computer on which you install Performance Anywhere.

Note: You ALSO need to ensure that the product version of the Web Service is the same as the version of Performance Anywhere, otherwise the clients will not be able to log in.

The Smart UI Web Service ALSO requires the ASP.NET sub-component of Internet Information Services (IIS), which is NOT installed by default, when adding the IIS feature to Windows, please ensure that this component is installed, as follows:

If you have Windows 7 / Windows Server 2008 R2 installed:

- 1. Launch Control Panel -> All Control Panel Items -> Programs and Features -> click the "Turn Windows features on or off" link on the left hand side:
- 2. In the displayed "Windows Features" dialog, scroll down to:
- 3. Internet Information Services -> World Wide Web Services -> Application Development Features -> ASP.NET (ensure that this check box is checked)
- 4. Click the OK button.

If you have Windows 8/8.1 / Windows Server 2012/R2 installed:

- 1. Launch Control Panel -> All Control Panel Items -> Programs and Features -> click the "Turn Windows features on or off" link on the left hand side:
- 2. In the displayed "Windows Features" dialog, scroll down to:
- 3. Internet Information Services -> World Wide Web Services -> Application Development Features -> ASP.NET 4.5 (ensure that this check box is checked)
- 4. Click the OK button.

If you have Windows 10 installed:

- 1. Launch Control Panel -> All Control Panel Items -> Programs and Features -> click the "Turn Windows features on or off" link on the left hand side:
- 2. In the displayed "Windows Features" dialog, scroll down to:
- 3. Internet Information Services -> World Wide Web Services -> Application Development Features -> ASP.NET 4.6 (ensure that this check box is checked)
- 4. Click the OK button.

3.5. Reset ASP.Net with Internet Information Services (IIS)

Sometimes the Microsoft .NET Framework will require a reset in order to update its files so that they are recognized by the web server and run the client side scripts. In such cases, exceptions can be encountered when using the Smart UI Web Service or logging in to the Performance Anywhere Dashboard.

These issues can be solved by re-registering ASP.NET, running the IIS Registration tool – aspnet_regiis.exe, which is installed in the Microsoft.NET Framework directory.

For 64-bit operating systems:

1. Open the command prompt as Administrator

2. Enter the following command (provided the system directory is C:\Windows) to open your Microsoft .NET Framework folder: `CD : C:\Windows\Microsoft.NET\Framework64\v4.0.30319 1.`
3. Enter this command to reset ASP.NET: `aspnet_regiis -i`
4. Close the command prompt window.

For 32-bit operating systems:

1. Open the command prompt as Administrator
2. Enter the following command (provided the system directory is C:\Windows) to open your Microsoft .NET Framework folder: `CD : C:\Windows\Microsoft.NET\Framework\v4.0.30319 1.`
3. Enter this command to reset ASP.NET: `aspnet_regiis -i`
4. Close the command prompt window.

3.6. Tweaking the Web Service Config file settings:

The Web Service Config file contains a number of settings that pertain to the operation of the Web Service.

Typically the default values of these settings should be adequate, although you may need to adjust the following settings by editing this file

yourself to resolve the following connection and performance issues:

Note: Be VERY careful when editing this file; since if you corrupt the file structure nothing will work. Please ask support for help if you need it and BACKUP the existing file before you start editing it.

File location: This file is called **Web.config** and is located in the root folder of the Smart UI Web Service component, which is typically:

C:\Program Files\Adroit Technologies\Adroit\SmartUI\WebService

IMPORTANT: After editing the Web.config file, you need to restart IIS, which you can do by opening the Command Prompt (Admin) and entering the following command: `iisreset`

- If the Smart UI Server is on another computer than the Smart UI Web Service.

Then edit the `<add key="server" value="localhost"/>` to specify the computer name or IP address of the Smart UI Server computer.

- If the Smart UI Server is running on a port other than 9010.

Then uncomment the `<add key="serverPort" value="9500"/>` and change the port value to the port value that the Smart UI Server is running on.

- If the Performance Anywhere clients are experiencing problems where the Charting widgets are taking too long update or do not have any data; or images take too long to load or the Data Element Browser either does not display any tags or takes too long to load etc.

Then edit the `<add key="ServiceRequestTimeout" value="60"/>` and increase this timeout which specifies the timeout in seconds for any requests made by the Web Service or Performance Anywhere to the Smart UI Server.

3.7. Performance Anywhere URL Parameters:

After installing, a Performance Anywhere shortcut is placed on the Desktop, which provides the URL for launching the Performance Anywhere dashboard in an Internet browser, which you can distribute to your users as needed.

If necessary, you can add the following parameters to the URL for launching the Performance Anywhere dashboard in an Internet browser:

IMPORTANT: When adding these URL parameters – the FIRST parameter must be prefaced by a “?” and any subsequent parameters EACH need to be prefaced by a “&”.

Specify the virtual directory of the Smart UI Webservice to use to connect to Performance Anywhere, by adding the **webservice** parameter in the URL e.g. <http://localhost/perfanyw?webservice=VIP>

Note: This parameter is automatically specified in the URL that is created by the Performance Anywhere install.

Specify the name of the page that you want to automatically display, by adding the **startuppage** page parameter in the URL

e.g. <http://localhost/perfanyw?startuppage=Page One>

Note: When the page name contains spaces, you can either specify spaces or the '%20' space escaped code.

You can also specify the optional **runmode** parameter in conjunction with the **startuppage** page parameter in the URL, which specifies whether you want this page to be opened in Run mode (runmode=true) or Design mode (runmode=false)

e.g. <http://localhost/perfanyw?startuppage=Page One&runmode=false>

Note: If this is not specified then the page will open in Design mode by default, unless this page has been explicitly configured to open in Run mode.

You can specify all of these parameters in the URL if you want to, for instance:

<http://ianf-pc/PerfAnyw/?webservice=VIP&startuppage=Page%20One&runmode=true>

3.8. Client Internet Browser Requirements:

After installing, a Performance Anywhere shortcut is placed on the Desktop, which provides the URL for launching the Performance Anywhere dashboard in an Internet browser, which you can distribute to your users as needed.

On Windows 10: Microsoft Edge by default is unable to connect to computer names in their URLs, also it is not easy to determine when MS Edge is the default Internet browser so we enforce the use of Internet Explorer to launch the Performance Anywhere shortcut on Windows 10, since Internet Explorer is not hamstrung by these issues.

In other words when you use Microsoft Edge to open the URL to Performance Anywhere it may not open, but you can use any other Internet browser, which is able to open this URL.

When using Internet Explorer, please ensure that you use Internet Explorer 11 or later.

IMPORTANT: Windows 7 does not come shipped with Internet Explorer 11, so you can either download the latest Google Chrome or download the Internet Explorer 11 update for Windows 7 via either Microsoft website or via Windows Update.

On Windows Server 2012 or higher, to open Performance Anywhere in Internet Explorer, you typically need to **add** the **Performance Anywhere URL** to the list of **Local Intranet** sites in Internet Explorer: **Internet Options** -> **Security** tab -> select **Local**

Intranet from the zone list -> click the **Sites** button -> Paste the Performance Anywhere URL into the **Add this website to the zone** edit field and click the **Add** button and then click **Close**. If this still does not work then download and use the latest Google Chrome instead.

3.9. Licensing Requirements:

You can use a single instance (ONE Performance Anywhere client) free of charge without any changes to your product license. If you require more than 1 concurrent Performance Anywhere client then you need to add the necessary number of **Web Clients** to your product license.

3.10. Typical usage procedure:

Note: For a new Smart UI installation, before you can save the dashboard configuration to a user's profile in Performance Anywhere you need to have logged into your Smart UI Server via the Smart UI Designer at least once.

1. Typically using the provided Performance Anywhere shortcut URL, launch the Performance Anywhere dashboard in an Internet browser. This shortcut also contains the virtual directory name of the Web Service, to prevent login issues.

Note: When using Microsoft Edge you may not be able to open the Performance Anywhere dashboard by using this URL for instance if the computer is not on the domain and therefore unable to resolve the IP Address from the specified computer name. Only the Microsoft Edge browser seems to suffer from this problem Internet Explorer does not.

2. Log in using the provided dialog.
3. Configure the required settings via the toolbar.
4. Create one or more pages via the toolbar.
5. Add widgets to these pages from the menu, which is displayed by clicking the  (hamburger) in the top left corner and configure them as needed.

Note: Simply click the required widget to add it to the currently selected page and to open its Configuration dialog or click **Cancel** to remove it.

Tip: For configuration assistance click the  button in the top right corner of the configuration dialog.

Tip: You can rearrange your added widgets by clicking their header toolbar and dragging them over another widget.

6. Change the viewing mode into Run via the menu to ensure that your data is being correctly displayed using the provided widgets.
7. If necessary, save these pages and/or download your configuration to a .JSON file via the toolbar, so that this configuration can be uploaded to another Performance Anywhere.

Note: For a new Smart UI installation, before you can save the dashboard configuration to a user's profile in Performance Anywhere you need to have logged into your Smart UI Server via the Smart UI Designer at least once.

Tip: We recommend that you limit the number of values (tags) referenced by all the widgets on a page to 25 to ensure consistent performance.

The Performance Anywhere help has been designed so that help topics are by and large self-contained, with minimal links to other topics.

3.11. Performance Anywhere Log on

Log into the associated Smart UI Server.

Each Smart UI Server maintains a list of the users and groups that are allowed to log onto it and access its data and stores their preferences in roaming user profiles.

Ensure that both the required Smart UI Server is running and the computer on which the Smart UI Web Service and Performance Anywhere were installed, since Performance Anywhere connects to the Smart UI Server via the Smart UI Web Service.

If necessary, click the **User** tab.

Specify the **Username** and **Password** of the required Allowed User (or member of an Allowed Group) of the Smart UI Server.

Each Smart UI Server maintains a list of the users and groups that are allowed to log onto it and access its data, which are configured in the Management -> Security section of the Enterprise Manager window in the Smart UI Designer.

Similarly each of these Allowed users and groups have an associated user profile, which is configured in the Management -> Profile section of the Enterprise Manager window in the Smart UI Designer.

IMPORTANT: Please ensure that each user who adds or configures Performance Anywhere pages has their own associated user profile, otherwise when they save their configuration, they will overwrite the configuration saved by the last user who uses their same profile.

If necessary, check the **Remember Me** checkbox so that this Internet browser will save this **Username**. This enables the **Auto Login** checkbox, which if checked also saves the encrypted **Password** - so that this user will automatically log into Performance Anywhere when its URL is opened in this Internet browser.

If necessary, check the **Run at login** checkbox to automatically set Performance Anywhere into **Run** mode (as opposed to **Design** mode), so that this user will view the data on the configured pages.

Click the **Login** button.

If successful, you will see the **Loading Dashboard** and a login success message in green at the bottom of the Performance Anywhere screen.

If unsuccessful, you will see the reason in the error message in red at the bottom of the Performance Anywhere dashboard.

Typically this error message will tell you exactly what the problem was preventing the login attempt. For instance, if you have exceeded the number of available Performance Anywhere client licenses, then you will see the following error: **Error fetching XXX dashboard! Error!**

Number of connections licensed exceeded (where XXX is the specified username).

You can use a single instance (ONE Performance Anywhere client) free of charge without any changes to your product license.

If you require more than 1 concurrent Performance Anywhere client then you need to add the necessary number of **Web Clients** to your product license.

However, if you get the following error message: **Cannot login user XXX** (where XXX is the specified username), this is a general error that indicates that there is a problem connecting to the Web Service. In this case, click the **Connection** tab and ensure that the specified **IP Address** and **Virtual Directory** of the Smart UI Web Service is correct.

While Performance Anywhere automatically detects the **IP Address** of the Smart UI Web Service (which is installed on the same Web Server as Performance Anywhere); it CANNOT detect the **Virtual Directory** name and so specifies the default name of **VIP**.

Therefore you need to change the **Virtual Directory** when a Virtual Directory name, other than "VIP" is used for the Web Service. For instance, for MAPS you typically will need to change this entry to **MAPS**. Similarly the **IP Address** of the Smart UIWeb Service will need to be specified if it is moved to another computer after installing Performance Anywhere.

If BOTH of these values are correct and you still are getting this error when logging in, then do the following to determine if the Smart UI Web Service is working:

Browse to the virtual directory of your Web Service using your Internet browser and open its Generic.asmx file, for instance: <http://localhost/vip/generic.asmx>

If this does NOT provide a list of available operations then your Web Service and/or the IIS on the computer on which it is not working and needs to be installed.

If this provides a list of available operations, click the **Servename** operation

When this page is displayed, click the **Invoke** button.

If this succeeds then this should display your current Smart UI Server name in HTML code and this indicates that your Web Service is working as it should.

Then display the list of available operations and click the **Login** operation and try to log in, if the log in attempt is successful it should returnTrue. If BOTH the **Servename** and **Login** operations succeed then the problem does not lie with the Smart UI Web Service.

If either of these operations fail, click the **More information** link to obtain the error that is being returned, which will typically be the **HTTP500 – Internal server error**. To obtain more detailed information concerning this error, you need to disable the **Show friendly HTTP error messages** option of your Internet browser, which is enabled by default, as follows:

Open your **Internet Options** applet (Start menu -> Control Panel -> Internet Options).

Click on the **Advanced** tab

Scroll down the list and uncheck the **Show friendly HTTP error messages** option

Click **OK** to close the applet.

Now, select the **Servename** and/or **Login** operation of the Web Service that previously failed and click the **Invoke** button and send the resultant informative error to your support to help you resolve this problem with your Web Service.

3.12. Performance Anywhere Dashboard

The Performance Anywhere dashboard allows a user to create numerous pages. On each page you can place and configure widgets in Design mode so that in Run mode these widgets can be displayed and, in some cases, configured.

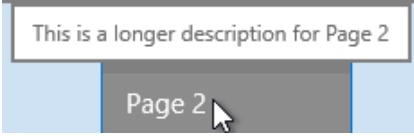
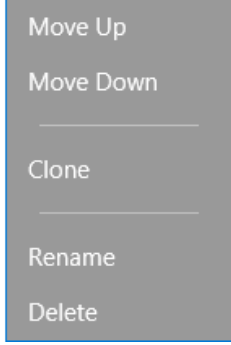
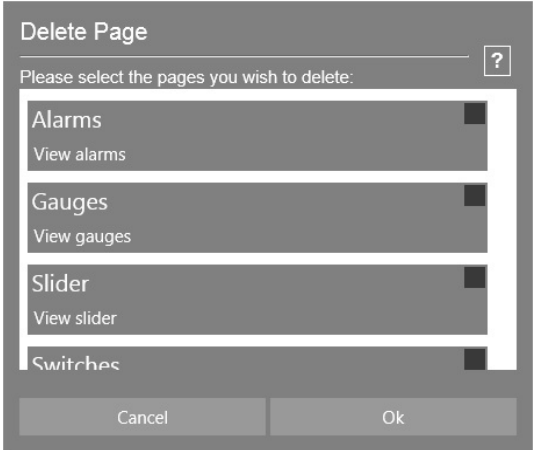
NOTE: *It is recommended that the number of values (tags) referenced by all the widgets on a page be limited to 25 to ensure consistent performance.*

3.12.1. Description of the Ribbon in Performance Anywhere Client

These are the buttons and their descriptions for the ribbon on Performance Anywhere.

Button	Name	Description
	Hamburger button	Click the hamburger button in the top left corner to display a menu down the left-hand side that allows toggling the Design or Run dashboard viewing modes and provides the list of available widgets in Design mode.
	Horizontal ellipse	Click the horizontal ellipse at the end to display the toolbar item descriptions and to access any hidden toolbar items, when the display width is too narrow to display all the available items.
	Configuration assistance	For configuration assistance, click the “?” button in the top right corner of the configuration dialog.
	Print Page	This button is only displayed in Run mode and will print the current page.
	Next Update	The Next Update is only displayed in Run mode.
	Waiting Notifications	The waiting notifications button is only displayed in Run mode.
	Add page	This adds a blank page to the dashboard required to specify a short Page Name to identify it, this is only displayed in Design mode.
	Previous page	Use the Previous page to move up the list of added pages, or if there is a long list of pages click the name of the current selected page (in between these buttons) to display a drop-down menu of the available pages and click the page required.
	Next page	Use the Next page buttons to move down the list of added pages, or if there is a long list of pages click the name of the current selected page (in between these buttons) to display a drop-down menu of the available pages and click the page required.

3.12.2. Pages in Performance Anywhere Client

Menu/Button	Description
	Hover the mouse pointer over a page, to display the specified Page Description of this page as a tool tip.
	Left click the page and then right click a page to display the menu.
Move Up	To change the page order in the list.
Move Down	To change the page order in the list.
Rename	1. Displays the Page Name dialog so that it can be renamed. 2. In addition to specifying the Page Name, you can also change the Page description of this page that is provided as a tool tip, when selecting which page to open from the page drop-down menu. 3. Currently the only Page Layout option available, which is the method used for displaying the widgets that are added to this page, is a Flow layout, in which the widgets are added to the page from left to right and top to bottom.
 Delete 	To delete this page (once OK is clicked to confirm deletion of this page). Allows a user to delete one or more of the available pages, simply check which page/s to be removed, then click the Delete button, this is only displayed in Design mode. All, but one page, will be deleted.

3.12.3. Performance Anywhere Client Settings

This displays a dialog that allows you to configure the available Performance Anywhere Client dashboard settings, which are grouped into the General and Appearance tabbed pages.

Button	Name	Description
	Settings button	Click the Settings button to change the General Settings and the Appearance.

3.12.4. General Tab

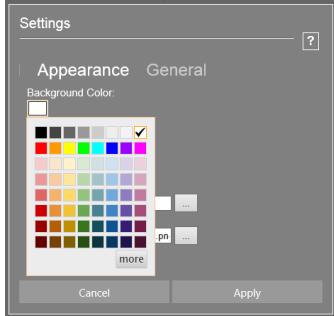
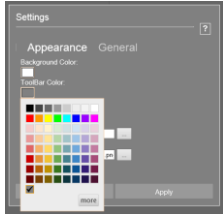
Specify the Start-up Page from the list of pages that you have created that is displayed when the Performance Anywhere Client dashboard is opened.

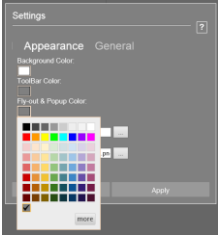
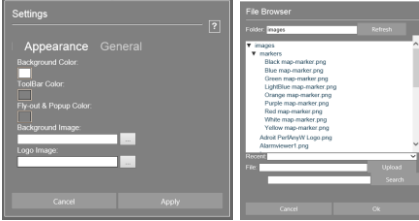
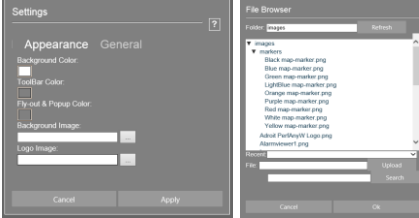
Specify the required Update Rate, in seconds that the Smart UI Server is requested for new data.

For security reasons check the Enable Inactivity Logoff checkbox and then specify the required Inactivity Logoff (m), which is how long, in minutes, after the last user action that the dashboard should automatically log the user out. This will free up connection licenses from those users not interacting with Performance Anywhere pages.

To ensure that the dashboard is saved whenever a user logs off, check the Save on Logoff checkbox, this also hides the confirmation that is otherwise displayed when a user logs off.

3.12.5. Appearance Tab

Name	Description
Background Color	Specify the background color of the page itself. 
Toolbar Color	Specify the background color of the toolbar and the menu. 

Name	Description
Fly-out and Popup Color	Specify the color of all the dialog boxes and other items that pop up, this is typically the same as the specified Toolbar Color. 
Background Image	If necessary, specify a watermark image for the pages of the dashboard. In this case, click the browse (...) button to the right of this edit box to display the File Browser to locate this image in or upload it to the \Images sub-folder of the Performance Anywhere installation folder. 
Logo image	This is typically only required to brand the dashboard with another logo, which is displayed immediately to the right of the  icon in the top left corner. In this case, click the browse (...) button to the right of this edit box to display the File Browser to locate this image in or upload it to the \Images folder of the Performance Anywhere installation folder. 

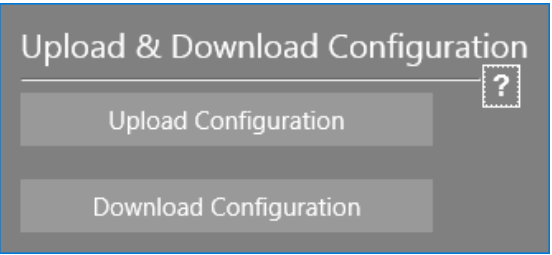
3.12.6. Save Settings

Button	Name	Description
	Save button	Saves the current dashboard settings and all the added pages and their configured widgets to the user profile associated with the logged on user of the Smart UI Server, this is only displayed in Design mode. NOTE: If multiple users share the same user profile then the last user will overwrite the settings used by previous users.

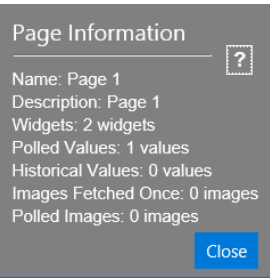
3.12.7. Logging Out

Button	Name	Description
	Log out button	The Performance Anywhere Client dashboard is cleared and displays the Login dialog so that another user can log in.

3.12.8. Managing Configuration of the Dashboard

Name	Description
 U/D Config 	Displays a dialog that allows a user to download the current dashboard settings and all the added pages and their configured widgets to a .JSON file, which can be saved in a specific location then be uploaded to any other Performance Anywhere Client to automatically configure them, this is only displayed in Design mode.
	- After logging in, click the U/D Config toolbar button, click the Upload Configuration button, locate the .JSON file, and click the Open button. - This will configure this Performance Anywhere Client dashboard with all the pages and their widgets and the settings. NOTE: This user requires access to the <u>SAME Smart UI Server</u> and all the referenced datasources, in order for these widgets to display their specified data.
	- Click the U/D Config toolbar button, click the Download Configuration button, this will generate a unique .JSON file prefaced by "dashboard_download", which the browser will prompt the user to open or save. - Save this file in an accessible location. - Distribute this file to your other Performance Anywhere clients' devices.

3.12.9. Page Information

Name	Description
 Page Information 	Click the Page Information button to display the information window. This provides information to assist those who are designing pages to keep track of each page and ensure that the pages do not become overloaded and potentially cause performance issues at runtime.
Name	Name of the current page.
Description	Description of the current page.
Widgets	The number of Widgets added to this page.
Polled Values	The number of real-time values (tags) referenced by the widgets on this page. These values are fetched when the Performance Anywhere Client dashboard is updated.
Historical Values	The number of values (tags) referenced by the widgets on this page that retrieve historical data. NOTE: Too many values can cause performance issues by slowing the page down and making it unresponsive. On Mobile devices this will also consume a lot of data. Limit the number of values (tags) referenced by all the widgets on a page to 25 to ensure consistent performance.

Images Fetched Once	The number of images that are only loaded when the page is displayed.
Polled Images	The number of images that are loaded each time the Performance Anywhere Client dashboard is updated. NOTE: <i>Images increase the time required to display the page, since the time taken to load an image depends upon its size. On Mobile devices this will also consume a lot of data, especially when large images are used.</i>

4. Performance Anywhere Menu

This menu is accessed by clicking the  (hamburger) in the top left corner of the Performance Anywhere dashboard.

The primary function of this menu is to allow you to toggle the **Design** or **Run** viewing modes provided by the Performance Anywhere dashboard. [More details:](#)

In **Design** mode the icon is displayed to indicate that it will change to **Run** mode when clicked. Similarly in **Run** mode the icon is displayed to indicate that it will change to **Design** mode when clicked.

By default the dashboard is in **Design** mode to allow you to create your pages of widgets. But if you check the **Run at login** checkbox on the **Login** dialog, this will force the Performance Anywhere into **Run** mode when it starts up.

The contents of this menu depend upon which viewing mode the Performance Anywhere dashboard is currently in, as follows:

In **Run** mode, this menu allows you to click the **Manual Refresh** button to immediately update the displayed data, without waiting for the next update cycle.

In **Design** mode, this menu displays the following list of the available widgets that you can typically add them to your pages to display and in some cases configure your data:

Note: Simply click the required widget to add it to the currently selected page and to open its Configuration dialog or click **Cancel** to remove it.

Tip: For configuration assistance click the button in the top right corner of the configuration dialog.

Tip: You can rearrange your added widgets by clicking their header toolbar and dragging them over another widget.

Blank: this widget is used as a spacing separator on pages because currently widgets use the Flow layout option, in which they are added to pages in order from left to right.

Alarm Viewer: this widget displays a list of alarms in a table of configurable columns and can automatically Acknowledge them and provides run-time tools to filter and/or search for specific alarms.

Trend Chart: this widget is typically used to trend live data by displaying one or more series of points that are usually connected to form lines, that may or may not be filled.

Bar Chart: this widget is typically used to report historical data by displaying one or more series of horizontal or vertical bars.

Pie Chart: this widget is typically used to report historical data by displaying a number of slices or segments that form a complete pie or circle.

Polar Chart: this widget is typically used to report historical data by typically displaying data in a polar coordinate system (as points around a central point).

SparkLine: this widget provides a simplified unlabelled trend of a tag, which can indicate by means of colored points when the minimum and maximum values of its normal operating range have been reached.

Circular Gauge: this widget graphically and numerically displays the value of an associated Analog tag in an arc or circle and can also display colored value ranges so that you can quickly determine the value without having to study the gauge closely.

Linear Gauge: this widget graphically and numerically displays the value of an associated Analog tag as a horizontal or vertical line and can also display colored value ranges so that you can quickly determine the value without having to study the gauge closely.

Slider: this widget either provides a slider or a spin (numeric up/down) control to allow you to change an Analog value, which is written back to the Smart UI Server on the next update.

Switch: this widget provides a number of graphics (a square or round button, a switch, a motor or valve) that allow users to click to change the state of the associated Digital value, which is written back to the Smart UI Server on the next update.

Analog Statistics: this widget can display the following statistics of up to 5 Analog tags (which have been configured to calculate rolling statistics): Minimum, Maximum and Average, in addition to the current value and unit (if specified), along with a graphical indication of the current value with respect to these recorded maximum and minimum values, which are each displayed in their own blocks.

Text Display: this widget displays text and allows you to report the values of your tags in this text and format these values and text as needed.

Data Grid: this widget displays dataset data elements in a table of rows and columns.

Gallery: this widget can either display a series of images like a slide show or change the displayed image based upon the current value of a tag.

4.1. Blank Widget

This is used as a spacing separator on pages because currently widgets use the Flow layout option, in which they are added to pages in order from left to right.

In **Run** mode: This does nothing.

In **Design** mode:

Add this widget to the current page. [More details:](#)

1. Ensure that the required page is currently selected in the Performance Anywhere dashboard.
2. Click the (hamburger) in the top left corner of the Performance Anywhere dashboard to open the menu.
3. Ensure that you are in **Design** mode (that is displayed and the list of available widgets is provided).
4. Click the required widget to add it to the current page, which opens its Configuration dialog.

Configure this widget, as follows:

In the **General** tab:

1. Specify the required **Widget Name**, which is a name that ONLY appears in the title bar of the widget in **Design** mode to quickly identify this widget.

2. Specify the required **Widget Size** by either selecting one of the pre-defined sizes from the list or clicking the **Custom** option to specify your own size. [More details:](#)

All widget sizes are relative to the Width and Height of the screen on which they are displayed and are therefore expressed as percentages of them.

Tip: The block diagram to the right of this list, provides a visual indication of the currently specified **Widget Size** by showing how many widgets of this specified size can be vertically and horizontally stacked in a single page of the dashboard.

3. If you want this widget to have border, then check the **Widget Border** checkbox. Typically widgets do not have a border so this is unchecked by default.

4.2. Alarm Viewer Widget

This displays a list of alarms in a table of configurable columns and can automatically Acknowledge them and provides run-time tools to filter and/or search for specific alarms.

In **Run** mode, this widget provides the following user interaction:

Typically, when opened on a mobile device or a small Internet Browser, this widget displays a compact view since in this case the full-size widget could be too difficult to view and/or interact with the listed alarms, unless this view is disabled.

In this case, the compact view of this widget displays each listed alarm on a separate page, which displays the various alarm details and coloring and provides a button to **Acknowledge** the alarm, if need be. You need to swipe to move from one listed alarm to another and when you get to the end of the listed alarms, an alarm list summary is provided by displaying all the listed alarms in a list that provides the following two columns: **Agent tag** and the **Alarm type msg**.

The normal (full size) view of this widget provides the following functionality:

Alarms in the specified alarm list are displayed in the grid and are by default sorted by the **Alarm Time** column so the most recent alarms are at the top of the list (descending order).

Click a column title to sort the list according to this column (the list can only be sorted by one column)
Double click a column title to change the toggle the sorting between ascending and descending order (or right click the column title and select the required sort order from the menu, which also allows you to clear the sorting from a column).

Right click the alarm viewer grid to display a number of options that allow you to acknowledge alarms, hide or display columns and provides various alarm filtering and searching options.

- If you select an alarm, the **Acknowledge Alarm** item appears which allows you to acknowledge this alarm so that this alarm will not reappear in the list when the list is next updated.
- **Refresh**: update the alarm viewer with the latest alarms.
- **Columns**: select this to display the **Column Chooser** list that allows you to drag column headings to or from this list to hide or display them, as needed.
- **Show Filter Row**: displays a row of search edit boxes beneath the column titles in which you can type partial filter strings to display all the alarms in which this column contains the specified text.
- **Show Header Filter**: displays a filter icon to the right of column title, which when clicked displays a list of all the available entries in this column so that you can select all of them or specific entries to only display the rows that contain the specified entries.
- **Show Search Panel**: if necessary this displays a header bar of this widget and adds the **Search...** edit box to the right of this header. Any text that you type into this will display all the rows that match this text in any column. In other words this acts like a custom filtering method.
- **Show Group Panel**: if necessary this displays a header bar of this widget and adds the grouping bar to the left of this header, in which you can drag a column title to group the available alarms according to the entries of the specified column.
- **Show Export**: if necessary this displays a header bar of this widget and displays the Export icon, typically in the right corner. When you click this icon, this exports the current contents of this widget into an Excel spreadsheet, which is called DataGrid.xlsx by default, which you can choose to Open or Save as needed.

In **Design** mode, this widget can be configured as follows:

Add this widget to the current page.

1. Ensure that the required page is currently selected in the Performance Anywhere dashboard.
2. Click the (hamburger) in the top left corner of the Performance Anywhere dashboard to open the menu.
3. Ensure that you are in **Design** mode (that is displayed and the list of available widgets is provided).
4. Click the required widget to add it to the current page, which opens its Configuration dialog.

Configure this widget, as follows:

In the **General** tab:

1. Specify the required **Widget Name**, which is a name that **ONLY** appears in the title bar of the widget in **Design** mode to quickly identify this widget.
2. Specify the required **Widget Size** by either selecting one of the pre-defined sizes from the list or clicking the **Custom** option to specify your own size.

All widget sizes are relative to the Width and Height of the screen on which they are displayed and are therefore expressed as percentages of them.

Tip: The block diagram to the right of this list, provides a visual indication of the currently specified **Widget Size** by showing how many widgets of this specified size can be vertically and horizontally stacked in a single page of the dashboard.

3. If you want this widget to have border, then check the **Widget Border** checkbox. Typically widgets do not have a border so this is unchecked by default.

4. Click the browse (...) button to the right of **Alarm List** / **Alarm agent** edit box to use the **Data Element Browser** to locate the required Alarm or AlarmList agent that contains the alarms that you want to display.

If necessary, select the required **Datasource Name** from the list of available datasources. For instance if you have more than one Adroit datasource connected to your Smart UI Server.

Note: The larger the list of agents that the specified Agent Server has the longer it will take to load this datasource.

The Adroit datasource list displays the list of available agent types.

Tip: Only the agent types that contain configured agents provide the icon to display them.

For ease of use, the **Recent** list stores all the data elements (agent and tags) that you have browsed to in the current session (after logging in).

Note: This list is cleared whenever you log out.

If you know the name of the agent (data element) that you want to browse in, type the full name into the search edit field and click the **Search** button, this will automatically browse to this agent (data element) and select its most common slot. For instance in the case of Analog agents this is the value slot:



Once the **Data Element Name** specifies the required fully qualified tag (Adroit datasource.AgentType.AgentName.SlotName) click the **OK** button.

Tip: You can also manually edit this name if needed.

5. If necessary select either the Alarm or AlarmList agent from the **Default Columns** list to specify which columns are available by default and their captions and their ordering as per the default configuration provided by these agent types. [More details:](#)

Both of these display the following columns with these headings by default:

Alarm Time, Agent Tag, Alarm Type Message, Description and Reported Data

Tip: The **Columns** tab provides you with greater flexibility in determining the available columns and their displayed order, width and naming.

Click a column in the **Columns** list:

Click the **Move Up** or **Move Down** button to change its order in the list.

Edit one or more of its **Column Properties**, as follows:

- Specify the required column title in the **Caption** edit box.
- Specify the required column width in pixels in the **Size** edit box.
- Check the **Autosize** checkbox for this column to automatically expand to fit its largest contents.
- Check the **Visible** checkbox to display this column or uncheck this to hide it.

6. By default **Paging** is checked which sub-divides the available alarms into pages each containing the specified **Number of Alarms per Page** to make it easier to browse the displayed alarms; when disabled then all the available alarms are displayed in the grid and you need to scroll to display the required alarm/s.

7. By default **Show Compact View** is checked to display a compact view of this widget when opened on a mobile device or on a small Internet Browser.

In this case the full-size widget could be too difficult to view and/or interact with the listed alarms and so this compact view has been designed to make this easier on a small screen. By clearing this checkbox then this widget will always display the normal (full size) view at all times.

8. If you want you can change the colors used to indicate the various statuses of your alarms in the **Colors** tab. More details:

The **Colors** tab allows you to specify the Active, Inactive, Acknowledged and Unacknowledged colors for the alarms, by default the classic colors are used. For more details, see [Alarm States and their Default Colors](#).

Each widget that has been added to a page provides a tool bar in the right corner of its title bar in **Design** mode, which does the following:

Help: displays this widget help topic that describes how to use and configure this widget.

Info: provides a quick view of the widget configuration.

Settings: displays the configuration dialog to configure its settings.

Delete: displays a confirmation dialog to remove this widget from this page.

The tool in the left corner of the title bar in **Design** mode, does the following:

Clone: to create a duplicate widget that has all of its current configuration settings.

Tip: You can also clone an entire page, by selecting the page in the list, right clicking and selecting **Clone**.

4.2.1. Alarm States and their Default Colors

The Alarm Viewer widget displays alarms as colored lines of text on a colored background.

By default, the **background color** indicates the **Active** status of the alarm, as follows:

Note: This state can be displayed in this window via the **Active** column.

- Active (A): the agent is still experiencing the alarmed condition specified by this alarm. By default this state is represented by a Red background color ().

- Inactive or cleared (I): the alarmed condition has returned to normal. By default this state is represented by a Green background color ().

By default, the **text color** indicates the **Acknowledge** status of the alarm, as follows:

Note: This state can be displayed in this window via the **Acknowledge** column.

- Unacknowledged (Unack): By default this state is represented by a Yellow text color (Sample).
- Acknowledged (Ack): By default this state is represented by a White text color ().

4.2.2. Possible Alarm Color Combinations

When an alarm does NOT require acknowledgement:

- Either the alarm is active (the default is White text on Red background)
- Or the alarm has as **cleared** itself (i.e. moved out of the alarm limit) and is therefore no longer displayed.

When an alarm DOES require acknowledgement:

The following four states (and their default representative colors) can exist:

Note: Please refer above for the abbreviations used for the various states.

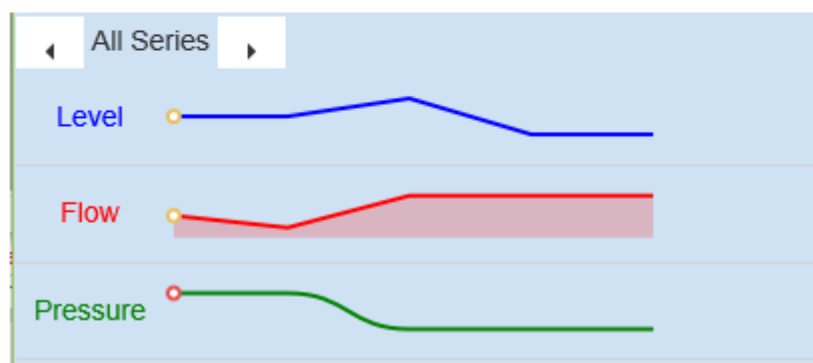
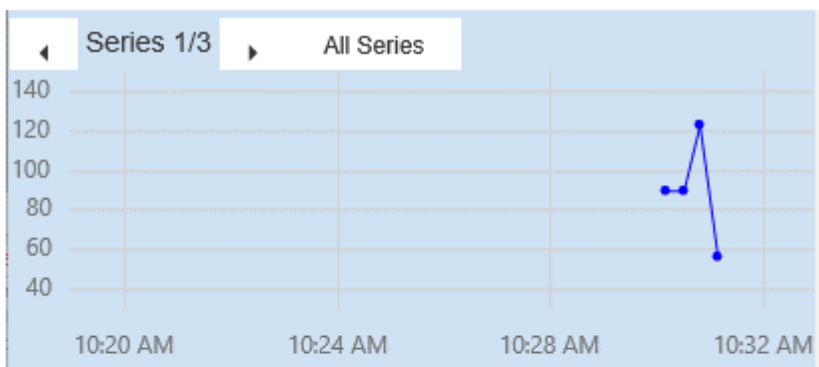
Text color: Background color	Acknowledged: Active state	Description
NO ALARM	Ack:I	alarm is removed from the alarm list
Yellow:Red	Unack:A	alarm is active and is unacknowledged
White:Red	Ack:A	alarm is active and has been locally or globally acknowledged
Yellow:Green	Unack:I	alarm has cleared but remains unacknowledged

4.3. Trend Chart Widget

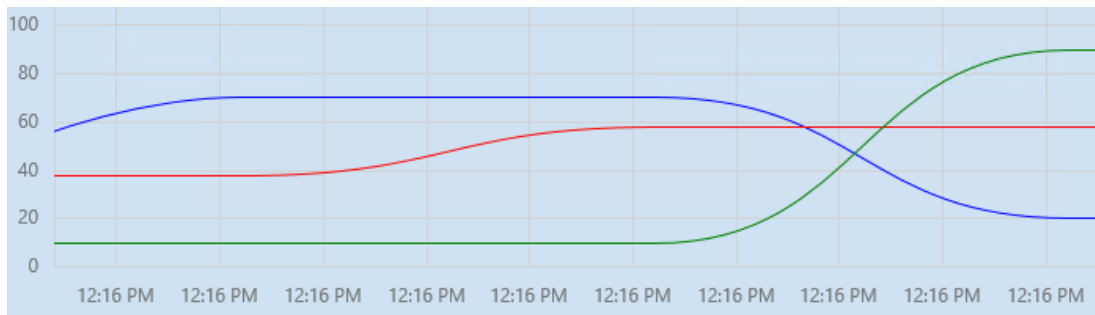
This widget is typically used to trend live data by displaying one or more series of points that are usually connected to form lines, that may or may not be filled.

In **Run** mode, this widget provides the following user interaction:

Typically, when opened on a mobile device or a small Internet Browser, this widget displays a compact view since in this case the full-size widget could be too difficult to view and/or interact with the series, unless this view is disabled. In this case, the compact view of this widget displays each charted series on a separate page. You need to swipe to move from one series to the next and when you get to the end of the series, all the series are displayed as sparklines along with their series name.



The normal (full size) view of this widget provides the following functionality:
Each series of data is charted in their own color and type over the specified TimeSpan.



Note: The order in which the legend items are displayed depends upon when their values are received and NOT upon their configured ordering.

Moving the mouse over a series displays its current value in a tool tip.

In **Design** mode, this widget can be configured as follows:

Add this widget to the current page.

1. Ensure that the required page is currently selected in the Performance Anywhere dashboard.
2. Click the (hamburger) in the top left corner of the Performance Anywhere dashboard to open the menu.
3. Ensure that you are in **Design** mode (that is displayed and the list of available widgets is provided).
4. Click the required widget to add it to the current page, which opens its Configuration dialog.

Configure this widget, as follows:

In the **General** tab:

1. Specify the required **Widget Name**, which is a name that ONLY appears in the title bar of the widget in **Design** mode to quickly identify this widget.
2. Specify the required **Widget Size** by either selecting one of the pre-defined sizes from the list or clicking the **Custom** option to specify your own size. [More details:](#)

All widget sizes are relative to the Width and Height of the screen on which they are displayed and are therefore expressed as percentages of them.

Tip: The block diagram to the right of this list, provides a visual indication of the currently specified **Widget Size** by showing how many widgets of this specified size can be vertically and horizontally stacked in a single page of the dashboard.

3. If you want this widget to have border, then check the **Widget Border** checkbox. Typically widgets do not have a border so this is unchecked by default.
4. If necessary, add a **Title**, in which case specify the required **Title Alignment** (whether at the top or bottom of the widget) and the required **Title Font**.
5. Specify the **TimeSpan(min)**, which is the length of the rolling time window, in minutes, during which the values are trended whose start is determined by: **Now - TimeSpan** and whose end is Now.
6. If necessary, specify the **Sample Rate(s)** which allows you to limit the retrieved number of historical data points to improve the performance of historical trending, by specifying the required data sampling rate in seconds. This is disabled by default.

Historical data sampling is AUTOMATICALLY DISABLED when the specified sample rate is SMALLER than 10 x your current time frame window. In other words, the default sample rate of 5 seconds is only applied when the time frame window is greater than 50 seconds.

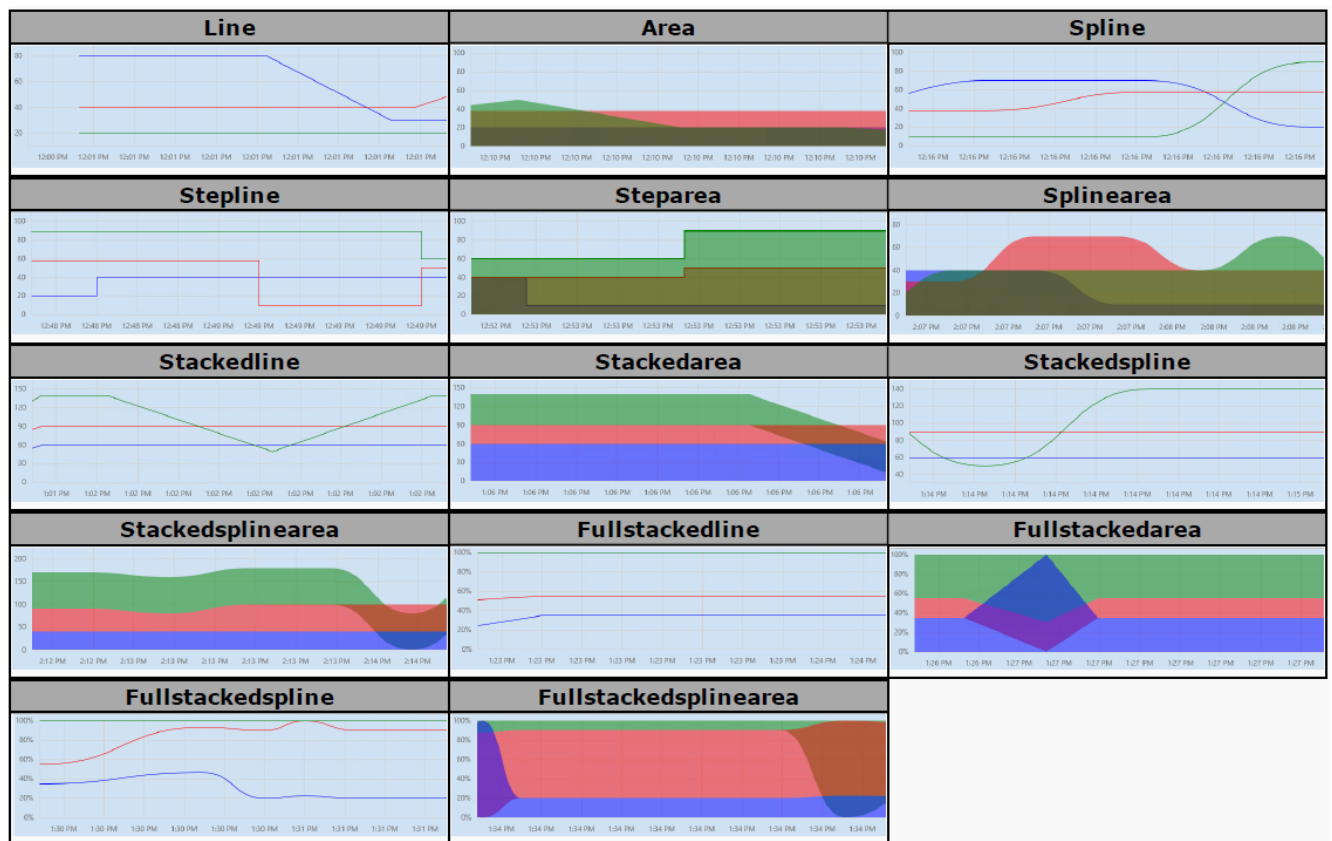
Setting this sample rate to 0 PERMANENTLY DISABLES historical data sampling and always returns all the available historical data.

8. By default **Show Compact View** is checked to display a compact view of this widget when opened on a mobile device or on a small Internet Browser.

In this case the full-size widget could be too difficult to view and/or interact with the series and so this compact view has been designed to make this easier on a small screen. By clearing this checkbox then this widget will always display the normal (full size) view at all times.

In the **Series** tab, for each of the series of data that you want to trend, specify a **Name**, a Color and a **Type**, which determines how the series is charted,

IMPORTANT: You must give a series a **Name** and **Data Element** in order to display it, if you specify one or the other then this is ignored and NOT displayed!



Then click the browse (...) button to the right of **Data Element** edit box to use the **Data Element Browser** to locate the required tag that you want to trend.

If necessary, select the required **Datasource Name** from the list of available datasources. For instance if you have more than one Adroit datasource connected to your Smart UI Server.

Note: The larger the list of agents that the specified Agent Server has the longer it will take to load this datasource.

The Adroit datasource list displays the list of available agent types.

Tip: Only the agent types that contain configured agents provide the icon to display them.

For ease of use, the **Recent** list stores all the data elements (agent and tags) that you have browsed to in the current session (after logging in).

Note: This list is cleared whenever you log out.

If you know the name of the agent (data element) that you want to browse in, type the full name into the search edit field and click the **Search** button, this will automatically browse to this agent (data element) and select its most common slot. For instance in the case of Analog agents this is the value slot:



Once the **Data Element Name** specifies the required fully qualified tag (Adroit datasource.AgentType.AgentName.SlotName) click the **OK** button.

Tip: You can also manually edit this name if needed.

Note: By default the axes are automatically configured for this widget, however you can use the **Axes** tab to hide/show them and/or to manually configure the Minimum and Maximum values of the Y (value) axis and/or if necessary specify a Title for this axis too, if need be.

The **Legend** tab configures how the series legend is displayed, as follows:

Note: The order in which the legend items are displayed depends upon when their values are received and NOT upon their configured ordering.

If you want you can hide the series legend by unchecking the **Visible** checkbox. If you choose to display the series legend, then select the required options of the following settings:

Legend Orientation: choose **Vertical** if you want to series names to be displayed in a vertical column or **Horizontal** if you want them to be displayed in a horizontal row.

Legend Position: choose whether you want the series legend **Inside** or **Outside** the charting area

Legend Horizontal Alignment: choose whether you want the series legend to be displayed in the **Center** (the middle of the chart) or at the **Left** or **Right** edge of the chart.

Legend Vertical Alignment: choose whether you want the series legend displayed at the **Bottom** or the **Top** of the chart.

Each widget that has been added to a page provides a tool bar in the right corner of its title bar in **Design** mode, which does the following:

Help: displays this widget help topic that describes how to use and configure this widget.

Info: provides a quick view of the widget configuration.

Settings: displays the configuration dialog to configure its settings.

Delete: displays a confirmation dialog to remove this widget from this page.

The tool in the left corner of the title bar in **Design** mode, does the following:

Clone: to create a duplicate widget that has all of its current configuration settings.

Tip: You can also clone an entire page, by selecting the page in the list, right clicking and selecting **Clone**.

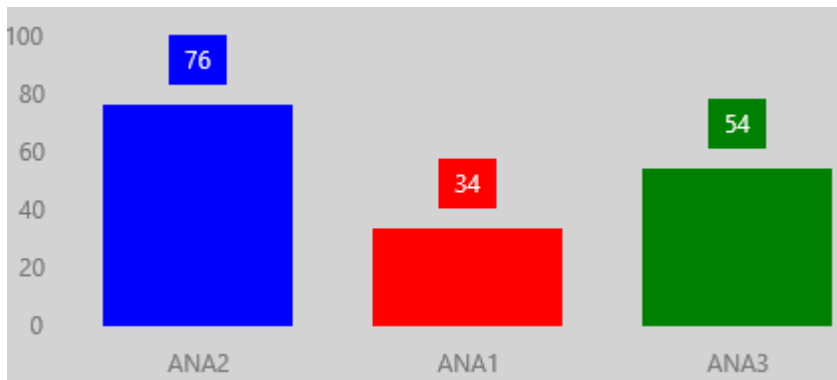
4.4. Bar Chart Widget

This widget is typically used to report historical data by displaying one or more series of horizontal or vertical bars.

Note: All the bars are charted in the same color.

In **Run** mode, this widget provides the following user interaction:

Each series of data represents a bar displayed in their own color.



Moving the mouse over a series displays its current value in a tool tip.
In **Design** mode, this widget can be configured as follows:

Add this widget to the current page.

1. Ensure that the required page is currently selected in the Performance Anywhere dashboard.
2. Click the (hamburger) in the top left corner of the Performance Anywhere dashboard to open the menu.
3. Ensure that you are in **Design** mode (that is displayed and the list of available widgets is provided).
4. Click the required widget to add it to the current page, which opens its Configuration dialog.

Configure this widget, as follows:

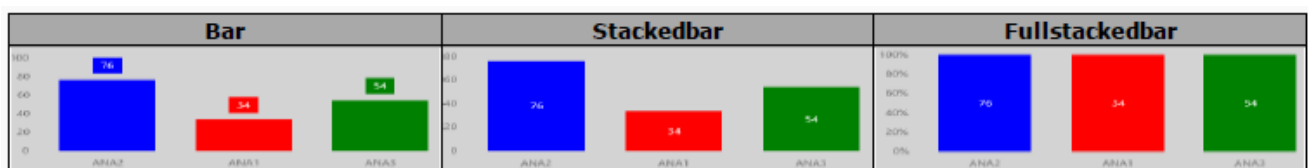
In the **General** tab:

1. Specify the required **Widget Name**, which is a name that ONLY appears in the title bar of the widget in **Design** mode to quickly identify this widget.
2. Specify the required **Widget Size** by either selecting one of the pre-defined sizes from the list or clicking the **Custom** option to specify your own size. [More details:](#)

All widget sizes are relative to the Width and Height of the screen on which they are displayed and are therefore expressed as percentages of them.

Tip: The block diagram to the right of this list, provides a visual indication of the currently specified **Widget Size** by showing how many widgets of this specified size can be vertically and horizontally stacked in a single page of the dashboard.

3. If you want this widget to have border, then check the **Widget Border** checkbox. Typically widgets do not have a border so this is unchecked by default.
4. If necessary, add a **Title**, in which case specify the required **Title Alignment** (whether at the top or bottom of the widget) and the required **Title Font**.
5. Specify the **Series Type**, which determines how these bars are represented,



6. If necessary, check the **Horizontal Bar** checkbox if you want these bars to be horizontal, by default this is unchecked so the bars are vertical.

In the **Bar Segments** tab, for each value (bar) that you require, specify the **Segment Name** and **Segment Color**.

IMPORTANT: You must give a bar segment both a **Segment Name** and **Data Element** in order to display it, if you specify one or the other then this is ignored and NOT displayed!

Then click the browse (...) button to the right of **Data Element** edit box to use the **Data Element Browser** to locate the required tag that you want to chart.

If necessary, select the required **Datasource Name** from the list of available datasources. For instance if you have more than one Adroit datasource connected to your Smart UI Server.

Note: The larger the list of agents that the specified Agent Server has the longer it will take to load this datasource.

The Adroit datasource list displays the list of available agent types.

Tip: Only the agent types that contain configured agents provide the icon to display them.

For ease of use, the **Recent** list stores all the data elements (agent and tags) that you have browsed to in the current session (after logging in).

Note: This list is cleared whenever you log out.

If you know the name of the agent (data element) that you want to browse in, type the full name into the search edit field and click the **Search** button, this will automatically browse to this agent (data element) and select its most common slot. For instance in the case of Analog agents this is the value slot:



Once the **Data Element Name** specifies the required fully qualified tag (Adroit datasource.AgentType.AgentName.SlotName) click the **OK** button.

Tip: You can also manually edit this name if needed.

Each widget that has been added to a page provides a tool bar in the right corner of its title bar in **Design** mode, which does the following:

Help: displays this widget help topic that describes how to use and configure this widget.

Info: provides a quick view of the widget configuration.

Settings: displays the configuration dialog to configure its settings.

Delete: displays a confirmation dialog to remove this widget from this page.

The tool in the left corner of the title bar in **Design** mode, does the following:

Clone: to create a duplicate widget that has all of its current configuration settings.

Tip: You can also clone an entire page, by selecting the page in the list, right clicking and selecting **Clone**.

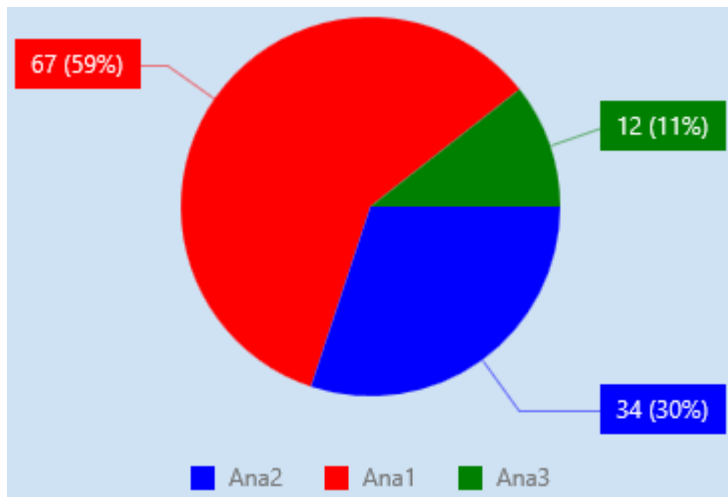
4.5. Pie Chart Widget

This widget is typically used to report historical data by displaying a number of slices or segments that form a complete pie or circle.

Note: All the bars are charted in the same color.

In **Run** mode, this widget provides the following user interaction:

Each series of data represents a slice or segment of the whole pie in their own color.



Note: The order in which the legend items are displayed depends upon when their values are received and NOT upon their configured ordering.

Moving the mouse over a segment displays its current value in a tool tip.

In **Design** mode, this widget can be configured as follows:

Add this widget to the current page.

1. Ensure that the required page is currently selected in the Performance Anywhere dashboard.
2. Click the (hamburger) in the top left corner of the Performance Anywhere dashboard to open the menu.
3. Ensure that you are in **Design** mode (that is displayed and the list of available widgets is provided).
4. Click the required widget to add it to the current page, which opens its Configuration dialog.

Configure this widget, as follows:

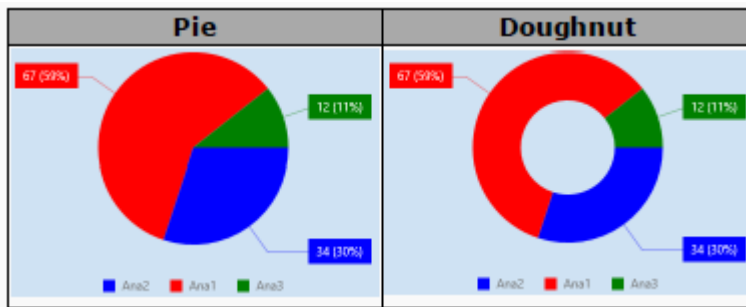
In the **General** tab:

1. Specify the required **Widget Name**, which is a name that ONLY appears in the title bar of the widget in **Design** mode to quickly identify this widget.
2. Specify the required **Widget Size** by either selecting one of the pre-defined sizes from the list or clicking the **Custom** option to specify your own size. [More details:](#)

All widget sizes are relative to the Width and Height of the screen on which they are displayed and are therefore expressed as percentages of them.

Tip: The block diagram to the right of this list, provides a visual indication of the currently specified **Widget Size** by showing how many widgets of this specified size can be vertically and horizontally stacked in a single page of the dashboard.

3. If you want this widget to have border, then check the **Widget Border** checkbox. Typically widgets do not have a border so this is unchecked by default.
4. If necessary, add a **Title**, in which case specify the required **Title Alignment** (whether at the top or bottom of the widget) and the required **Title Font**.
5. Specify the **Series Type**, which determines how this chart is represented, [as follows:](#)



In the **Pie Segments** tab, for each segment of slice that you require, specify the **Segment Name** and **Segment Color**.

IMPORTANT: You must give a pie segment both a **Segment Name** and **Data Element** in order to display it, if you specify one or the other then this is ignored and NOT displayed!

Then click the browse (...) button to the right of **Data Element** edit box to use the **Data Element Browser** to locate the required tag that you want to chart.

If necessary, select the required **Datasource Name** from the list of available datasources. For instance if you have more than one Adroit datasource connected to your Smart UI Server.

Note: The larger the list of agents that the specified Agent Server has the longer it will take to load this datasource.

The Adroit datasource list displays the list of available agent types.

Tip: Only the agent types that contain configured agents provide the icon to display them.

For ease of use, the **Recent** list stores all the data elements (agent and tags) that you have browsed to in the current session (after logging in).

Note: This list is cleared whenever you log out.

If you know the name of the agent (data element) that you want to browse in, type the full name into the search edit field and click the **Search** button, this will automatically browse to this agent (data element) and select its most common slot. For instance in the case of Analog agents this is the value slot:

Data Element Name:

Once the **Data Element Name** specifies the required fully qualified tag (Adroit datasource.AgentType.AgentName.SlotName) click the **OK** button.

Tip: You can also manually edit this name if needed.

The **Legend** tab configures how the series legend is displayed, as follows:

Note: The order in which the legend items are displayed depends upon when their values are received and NOT upon their configured ordering.

If you want you can hide the series legend by unchecking the **Visible** checkbox. If you choose to display the series legend, then select the required options of the following settings:

Legend Orientation: choose **Vertical** if you want to series names to be displayed in a vertical column or **Horizontal** if you want them to be displayed in a horizontal row.

Legend Position: choose whether you want the series legend **Inside** or **Outside** the charting area

Legend Horizontal Alignment: choose whether you want the series legend to be displayed in the **Center** (the middle of the chart) or at the **Left** or **Right** edge of the chart.

Legend Vertical Alignment: choose whether you want the series legend displayed at the **Bottom** or the **Top** of the chart.

Each widget that has been added to a page provides a tool bar in the right corner of its title bar in **Design** mode, which does the following:

Help: displays this widget help topic that describes how to use and configure this widget.

Info: provides a quick view of the widget configuration.

Settings: displays the configuration dialog to configure its settings.

Delete: displays a confirmation dialog to remove this widget from this page.

The tool in the left corner of the title bar in **Design** mode, does the following:

Clone: to create a duplicate widget that has all of its current configuration settings.

Tip: You can also clone an entire page, by selecting the page in the list, right clicking and selecting **Clone**.

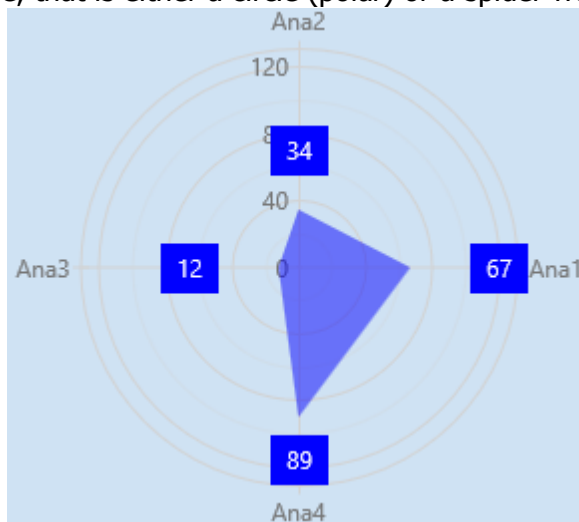
4.6. Polar Chart Widget

This widget is typically used to report historical data by typically displaying data in a polar coordinate system (as points around a central point).

Note: All the points are charted in the same color.

In **Run** mode, this widget provides the following user interaction:

Each series of data represents a point displayed in the SAME color and each point has its own associated line, that is either a circle (polar) or a spider web (radar plot).



Moving the mouse over a series displays its current value in a tool tip.

In **Design** mode, this widget can be configured as follows:

Add this widget to the current page.

1. Ensure that the required page is currently selected in the Performance Anywhere dashboard.
2. Click the (hamburger) in the top left corner of the Performance Anywhere dashboard to open the menu.
3. Ensure that you are in **Design** mode (that is displayed and the list of available widgets is provided).
4. Click the required widget to add it to the current page, which opens its Configuration dialog.

Configure this widget, as follows:

In the **General** tab:

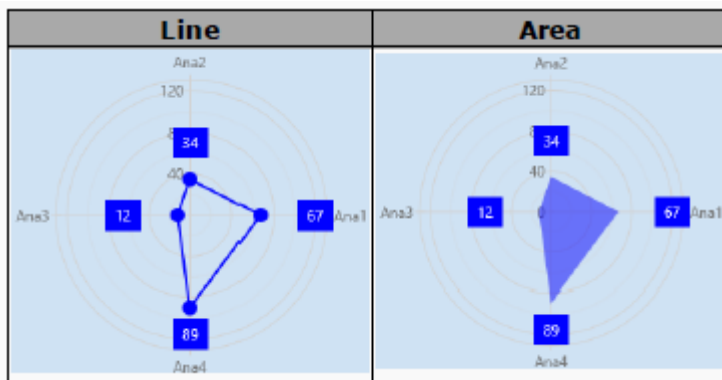
1. Specify the required **Widget Name**, which is a name that ONLY appears in the title bar of the widget in **Design** mode to quickly identify this widget.
2. Specify the required **Widget Size** by either selecting one of the pre-defined sizes from the list or clicking the **Custom** option to specify your own size.

All widget sizes are relative to the Width and Height of the screen on which they are displayed and are therefore expressed as percentages of them.

Tip: The block diagram to the right of this list, provides a visual indication of the currently specified **Widget Size** by showing how many widgets of this specified size can be vertically and horizontally stacked in a single page of the dashboard.

3. If you want this widget to have border, then check the **Widget Border** checkbox. Typically widgets do not have a border so this is unchecked by default.
4. If necessary, add a **Title**, in which case specify the required **Title Alignment** (whether at the top or bottom of the widget) and the required **Title Font**.
5. Specify the **Series Color** for all the points that are charted in this widget and also specify their

Series Type, which determines how these points are represented, as follows:



6. If necessary, check the **Radar Plot** checkbox if you want each point to have an associated spider web line (straight lines between each axis), by default this is unchecked so that each point has an associated circular line.

In the **Polar Segments** tab, for each value that you require, specify the **Segment Name**.

IMPORTANT: You must give a polar segment both a **Segment Name** and **Data Element** in order to display it, if you specify one or the other then this is ignored and NOT displayed!

Then click the browse (...) button to the right of **Data Element** edit box to use the **Data Element Browser** to locate the required tag that you want to chart.

If necessary, select the required **Datasource Name** from the list of available datasources. For instance if you have more than one Adroit datasource connected to your Smart UI Server.

Note: The larger the list of agents that the specified Agent Server has the longer it will take to load this datasource.

The Adroit datasource list displays the list of available agent types.

Tip: Only the agent types that contain configured agents provide the icon to display them.

For ease of use, the **Recent** list stores all the data elements (agent and tags) that you have browsed to in the current session (after logging in).

Note: This list is cleared whenever you log out.

If you know the name of the agent (data element) that you want to browse in, type the full name into the search edit field and click the **Search** button, this will automatically browse to this agent (data element) and select its most common slot. For instance in the case of Analog agents this is the value slot:



Once the **Data Element Name** specifies the required fully qualified tag (Adroit datasource.AgentType.AgentName.SlotName) click the **OK** button.

Tip: You can also manually edit this name if needed.

The **Axes** tab allows you to configure the axes of this chart, which typically start from the center point and extend outward to the maximum value for each segment. However:

- If the **Inverted** checkbox for the **Value Axis** is checked then the maximum value is the central point and the values diminish outward until they reach 0.
- If the **Inverted** checkbox for the **Argument Axis** is checked this flips the labeling, in other words this changes the ordering of the labels at the edge of the chart - so the chart becomes a mirror image of itself.

Each widget that has been added to a page provides a tool bar in the right corner of its title bar in **Design** mode, which does the following:

Help: displays this widget help topic that describes how to use and configure this widget.

Info: provides a quick view of the widget configuration.

Settings: displays the configuration dialog to configure its settings.

Delete: displays a confirmation dialog to remove this widget from this page.

The tool in the left corner of the title bar in **Design** mode, does the following:

Clone: to create a duplicate widget that has all of its current configuration settings.

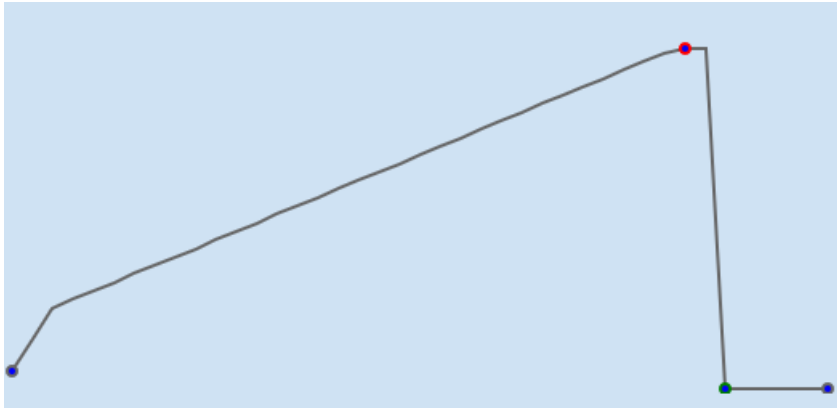
Tip: You can also clone an entire page, by selecting the page in the list, right clicking and selecting **Clone**.

4.7. SparkLine Widget

This widget provides a simplified unlabelled trend of a tag, which can indicate by means of colored points when the minimum and maximum values of its normal operating range have been reached.

In **Run** mode, this widget provides the following user interaction:

The specified tag is charted as an unlabelled trend that can display different colored points that represent minimum and maximum values of its normal operating range (if these are reached) and other colored points when in the normal operating range.



In **Design** mode, this widget can be configured as follows:
Add this widget to the current page.

1. Ensure that the required page is currently selected in the Performance Anywhere dashboard.
2. Click the (hamburger) in the top left corner of the Performance Anywhere dashboard to open the menu.
3. Ensure that you are in **Design** mode (that is displayed and the list of available widgets is provided).
4. Click the required widget to add it to the current page, which opens its Configuration dialog.

Configure this widget, as follows:

In the **General** tab:

1. Specify the required **Widget Name**, which is a name that **ONLY** appears in the title bar of the widget in **Design** mode to quickly identify this widget.
2. Specify the required **Widget Size** by either selecting one of the pre-defined sizes from the list or clicking the **Custom** option to specify your own size.

All widget sizes are relative to the Width and Height of the screen on which they are displayed and are therefore expressed as percentages of them.

Tip: The block diagram to the right of this list, provides a visual indication of the currently specified **Widget Size** by showing how many widgets of this specified size can be vertically and horizontally stacked in a single page of the dashboard.

3. If you want this widget to have border, then check the **Widget Border** checkbox. Typically widgets do not have a border so this is unchecked by default.
4. Specify the required **Series Type**, which determines how this tag is chart is displayed, as follows:

Line	Spline	Stepline
Area	Splinearea	Steparea
Bar	Winloss	

5. Click the browse (...) button to the right of **Tag** edit box to use the **Data Element Browser** to locate the required tag that you want to trend.

If necessary, select the required **Datasource Name** from the list of available datasources. For instance if you have more than one Adroit datasource connected to your Smart UI Server.

Note: The larger the list of agents that the specified Agent Server has the longer it will take to load this datasource.

The Adroit datasource list displays the list of available agent types.

Tip: Only the agent types that contain configured agents provide the icon to display them.

For ease of use, the **Recent** list stores all the data elements (agent and tags) that you have browsed to in the current session (after logging in).

Note: This list is cleared whenever you log out.

If you know the name of the agent (data element) that you want to browse in, type the full name into the search edit field and click the **Search** button, this will automatically browse to this agent (data element) and select its most common slot. For instance in the case of Analog agents this is the value slot:



Once the **Data Element Name** specifies the required fully qualified tag (Adroit datasource.AgentType.AgentName.SlotName) click the **OK** button.

Tip: You can also manually edit this name if needed.

6. Specify the TimeSpan(min), which is the length of the rolling time window, in minutes, during which the values are trended whose start is determined by: **Now - TimeSpan** and whose end is Now.

7. If necessary, specify the **Sample Rate(s)** which allows you to limit the retrieved number of historical data points to improve the performance of historical trending, by specifying the required data sampling rate in seconds. This is disabled by default.

Historical data sampling is AUTOMATICALLY DISABLED when the specified sample rate is SMALLER than 10 x your current time frame window. In other words, the default sample rate of 5 seconds is only applied when the time frame window is greater than 50 seconds.

Setting this sample rate to 0 PERMANENTLY DISABLES historical data sampling and always returns all the available historical data.

The **Min / Max** tab allows you to configure the **Minimum** and **Maximum** values that define the normal operating range for the **Tag** and allow you to configure the colors of the points that are added when these values are reached along with the normal **Point** color and the trend **Line** color.

Each widget that has been added to a page provides a tool bar in the right corner of its title bar in **Design** mode, which does the following:

Help: displays this widget help topic that describes how to use and configure this widget.

Info: provides a quick view of the widget configuration.

Settings: displays the configuration dialog to configure its settings.

Delete: displays a confirmation dialog to remove this widget from this page.

The tool in the left corner of the title bar in **Design** mode, does the following:

Clone: to create a duplicate widget that has all of its current configuration settings.

Tip: You can also clone an entire page, by selecting the page in the list, right clicking and selecting **Clone**.

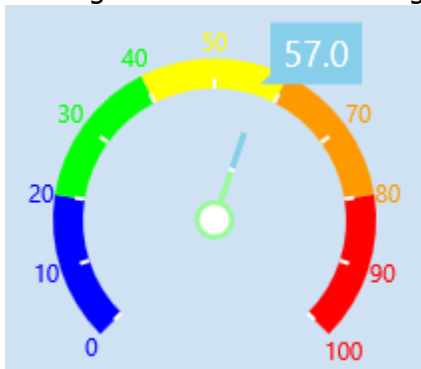
4.8. Circular Gauge Widget

This widget graphically and numerically displays the value of an associated Analog tag in an arc or circle, typically this value should be scaled between 0 and 100.

If you like you can add colored value ranges to this gauge so that you can immediately determine in which general range of values the current value is in without having to study the gauge closely and/or you can also specify the required value limits.

In **Run** mode, [this widget provides the following user interaction:](#)

This gauge control both graphically and numerically displays the current associated value and any colored value ranges that have been configured.



In **Design** mode, this widget can be configured as follows:

Add this widget to the current page.

1. Ensure that the required page is currently selected in the Performance Anywhere dashboard.
2. Click the (hamburger) in the top left corner of the Performance Anywhere dashboard to open the menu.
3. Ensure that you are in **Design** mode (that is displayed and the list of available widgets is provided).
4. Click the required widget to add it to the current page, which opens its Configuration dialog.

Configure this widget, as follows:

In the **General** tab:

1. Specify the required **Widget Name**, which is a name that ONLY appears in the title bar of the widget in **Design** mode to quickly identify this widget.
2. Specify the required **Widget Size** by either selecting one of the pre-defined sizes from the list or clicking the **Custom** option to specify your own size. [More details:](#)

All widget sizes are relative to the Width and Height of the screen on which they are displayed and are therefore expressed as percentages of them.

Tip: The block diagram to the right of this list, provides a visual indication of the currently specified **Widget Size** by showing how many widgets of this specified size can be vertically and horizontally stacked in a single page of the dashboard.

3. If you want this widget to have border, then check the **Widget Border** checkbox. Typically widgets do not have a border so this is unchecked by default.

4. If necessary, add a **Title**, in which case specify the required **Title Alignment** (whether at the top or bottom of the widget) and the required **Title Font**.
5. Click the browse (...) button to the right of **Tag** edit box to use the **Data Element Browser** to locate the required tag that you want to display in this gauge.

If necessary, select the required **Datasource Name** from the list of available datasources. For instance if you have more than one Adroit datasource connected to your Smart UI Server.

Note: The larger the list of agents that the specified Agent Server has the longer it will take to load this datasource.

The Adroit datasource list displays the list of available agent types.

Tip: Only the agent types that contain configured agents provide the icon to display them.

For ease of use, the **Recent** list stores all the data elements (agent and tags) that you have browsed to in the current session (after logging in).

Note: This list is cleared whenever you log out.

If you know the name of the agent (data element) that you want to browse in, type the full name into the search edit field and click the **Search** button, this will automatically browse to this agent (data element) and select its most common slot. For instance in the case of Analog agents this is the value slot:

Search

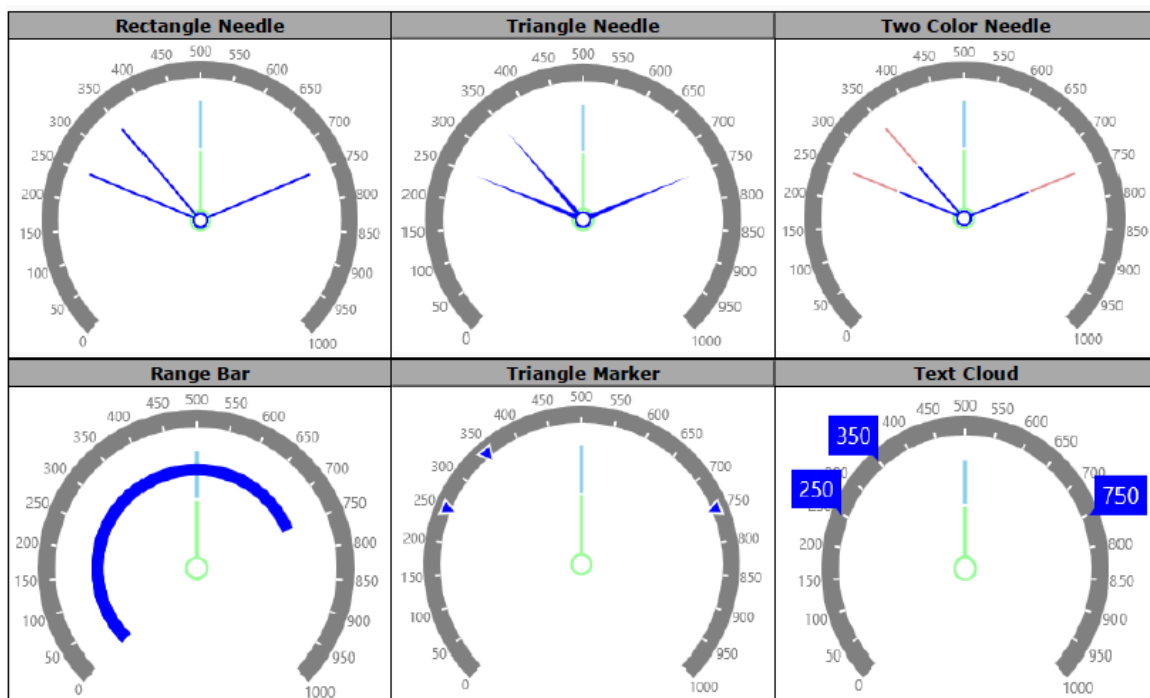
Data Element Name:

Adroit.Analog.ANA2.value

Once the **Data Element Name** specifies the required fully qualified tag (Adroit datasource.AgentType.AgentName.SlotName) click the **OK** button.

Tip: You can also manually edit this name if needed.

In the **Sub Values** tab, specify the required means by which the gauge should indicate the sub value/s from the **Sub Value Indicator** list.



Then select the required **Sub Value Indicator Color** and in the **Sub Value\Data Element** list either type in the required static Sub Value directly or click the browse (...) button to the right of the required edit box to use the **Data Element Browser** to locate the required tag to specify a dynamic Sub Value.

If necessary, select the required **Datasource Name** from the list of available datasources. For instance if you have more than one Adroit datasource connected to your Smart UI Server.

Note: The larger the list of agents that the specified Agent Server has the longer it will take to load this datasource.

The Adroit datasource list displays the list of available agent types.

Tip: Only the agent types that contain configured agents provide the icon to display them.

For ease of use, the **Recent** list stores all the data elements (agent and tags) that you have browsed to in the current session (after logging in).

Note: This list is cleared whenever you log out.

If you know the name of the agent (data element) that you want to browse in, type the full name into the search edit field and click the **Search** button, this will automatically browse to this agent (data element) and select its most common slot. For instance in the case of Analog agents this is the value slot:



Once the **Data Element Name** specifies the required fully qualified tag (Adroit datasource.AgentType.AgentName.SlotName) click the **OK** button.

Tip: You can also manually edit this name if needed.

In the **Scale Setup** tab, specify the **Minimum** and **Maximum** ranges for this value and their associated **Start Angle** (for the **Minimum** value) and the **End Angle** (for the **Maximum** value) in degrees.

In the **Range Setup** tab, specify the **Start Value** and the **End Value** ranges and its **Color** for each of the ranges of values that this gauge should display.

Each widget that has been added to a page provides a tool bar in the right corner of its title bar in **Design** mode, which does the following:

Help: displays this widget help topic that describes how to use and configure this widget.

Info: provides a quick view of the widget configuration.

Settings: displays the configuration dialog to configure its settings.

Delete: displays a confirmation dialog to remove this widget from this page.

The tool in the left corner of the title bar in **Design** mode, does the following:

Clone: to create a duplicate widget that has all of its current configuration settings.

Tip: You can also clone an entire page, by selecting the page in the list, right clicking and selecting **Clone**.

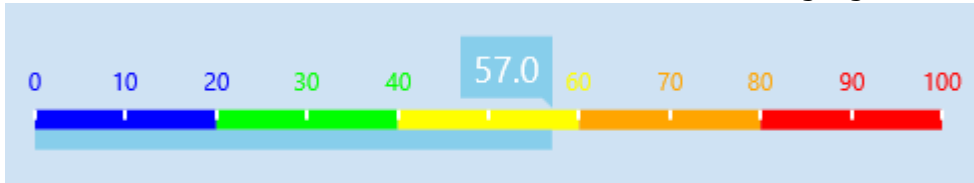
4.9. Linear Gauge Widget

This widget graphically and numerically displays the value of an associated Analog tag as a horizontal or vertical line, typically this value should be scaled between 0 and 100.

If you like you can add colored value ranges to this gauge so that you can immediately determine in which general range of values the current value is in without having to study the gauge closely and/or you can also specify the required value limits.

In **Run** mode, this widget provides the following user interaction:

This gauge control both graphically and numerically displays the current associated value and any colored value ranges that have been configured, as a horizontal or vertical line. The current value is indicated by means of the number and another bar next to the bar of the gauge.



In **Design** mode, this widget can be configured as follows:

Add this widget to the current page. [More details:](#)

1. Ensure that the required page is currently selected in the Performance Anywhere dashboard.
2. Click the (hamburger) in the top left corner of the Performance Anywhere dashboard to open the menu.
3. Ensure that you are in **Design** mode (that is displayed and the list of available widgets is provided).
4. Click the required widget to add it to the current page, which opens its Configuration dialog.

Configure this widget, as follows:

In the **General** tab:

1. Specify the required **Widget Name**, which is a name that ONLY appears in the title bar of the widget in **Design** mode to quickly identify this widget.
2. Specify the required **Widget Size** by either selecting one of the pre-defined sizes from the list or clicking the **Custom** option to specify your own size.

All widget sizes are relative to the Width and Height of the screen on which they are displayed and are therefore expressed as percentages of them.

Tip: The block diagram to the right of this list, provides a visual indication of the currently specified **Widget Size** by showing how many widgets of this specified size can be vertically and horizontally stacked in a single page of the dashboard.

3. If you want this widget to have border, then check the **Widget Border** checkbox. Typically widgets do not have a border so this is unchecked by default.
4. If necessary, add a **Title**, in which case specify the required **Title Alignment** (whether at the top or bottom of the widget) and the required **Title Font**.
5. Click the browse (...) button to the right of **Tag** edit box to use the **Data Element Browser** to locate the required tag that you want to display in this gauge.

If necessary, select the required **Datasource Name** from the list of available datasources. For instance if you have more than one Adroit datasource connected to your Smart UI Server.

Note: The larger the list of agents that the specified Agent Server has the longer it will take to load this datasource.

The Adroit datasource list displays the list of available agent types.

Tip: Only the agent types that contain configured agents provide the icon to display them.

For ease of use, the **Recent** list stores all the data elements (agent and tags) that you have browsed to in the current session (after logging in).

Note: This list is cleared whenever you log out.

If you know the name of the agent (data element) that you want to browse in, type the full name into the search edit field and click the **Search** button, this will automatically browse to this agent (data element) and select its most common slot. For instance in the case of Analog agents this is the value slot:

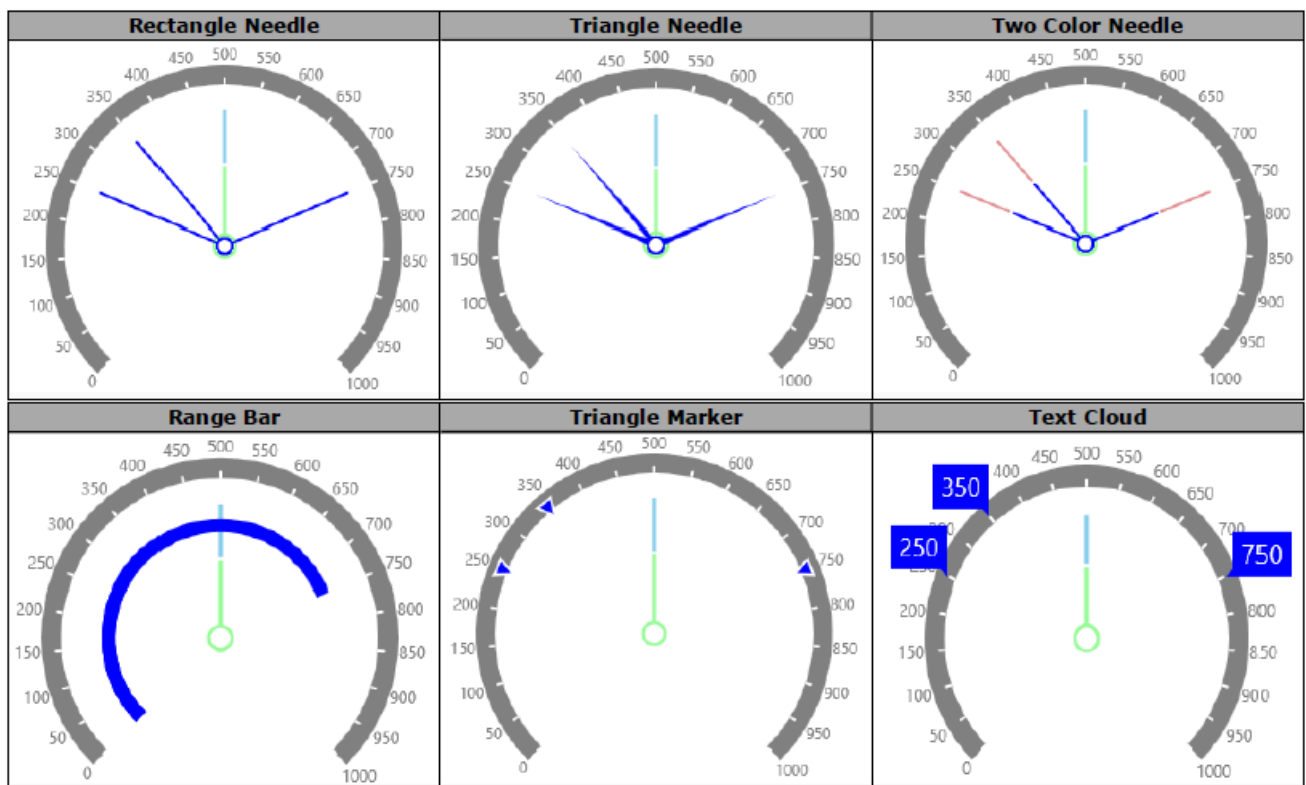
ana2	Search
Data Element Name:	
Adroit.Analog.ANA2.value	

Once the **Data Element Name** specifies the required fully qualified tag (Adroit datasource.AgentType.AgentName.SlotName) click the **OK** button.

Tip: You can also manually edit this name if needed.

If necessary, specify the required Gauge Orientation to create either a Horizontal or Vertical gauge.

In the **Sub Values** tab, specify the required means by which the gauge should indicate the sub value/s from the **Sub Value Indicator** list



Then select the required **Sub Value Indicator Color** and in the **Sub Value\Data Element** list either type in the required static Sub Value directly or click the browse (...) button to the right of the required edit box to use the **Data Element Browser** to locate the required tag to specify a dynamic Sub Value.

If necessary, select the required **Datasource Name** from the list of available datasources. For instance if you have more than one Adroit datasource connected to your Smart UI Server.

Note: The larger the list of agents that the specified Agent Server has the longer it will take to load this datasource.

The Adroit datasource list displays the list of available agent types.

Tip: Only the agent types that contain configured agents provide the icon to display them.

For ease of use, the **Recent** list stores all the data elements (agent and tags) that you have browsed to in the current session (after logging in).

Note: This list is cleared whenever you log out.

If you know the name of the agent (data element) that you want to browse in, type the full name into the search edit field and click the **Search** button, this will automatically browse to this agent (data element) and select its most common slot. For instance in the case of Analog agents this is the value slot:



The screenshot shows a search interface with a text input field containing 'ana2' and a 'Search' button. Below the input field, the text 'Data Element Name:' is displayed, followed by a text field containing 'Adroit.Analog.ANA2.value'.

Once the **Data Element Name** specifies the required fully qualified tag (Adroit datasource.AgentType.AgentName.SlotName) click the **OK** button.

Tip: You can also manually edit this name if needed.

In the **Scale Setup** tab, specify the **Minimum** and **Maximum** ranges for this value.

In the **Range Setup** tab, specify the **Start Value** and the **End Value** ranges and its **Color** for each of the ranges of values that this gauge should display.

Each widget that has been added to a page provides a tool bar in the right corner of its title bar in **Design** mode, which does the following:

Help: displays this widget help topic that describes how to use and configure this widget.

Info: provides a quick view of the widget configuration.

Settings: displays the configuration dialog to configure its settings.

Delete: displays a confirmation dialog to remove this widget from this page.

The tool in the left corner of the title bar in **Design** mode, does the following:

Clone: to create a duplicate widget that has all of its current configuration settings.

Tip: You can also clone an entire page, by selecting the page in the list, right clicking and selecting **Clone**.

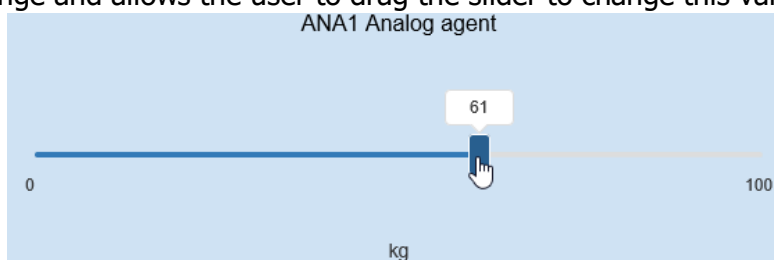
4.10. Slider Widget

This widget either provides a slider or a spin (numeric up/down) control to allow you to change an Analog value, which is written back to the Smart UI Server on the next update.

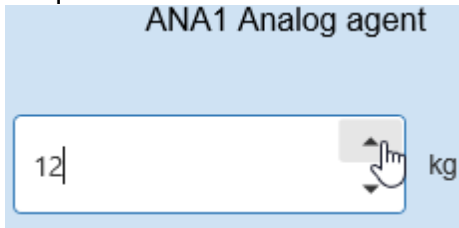
In **Run** mode, [this widget provides the following user interaction](#):

This control always displays the Title and units (if specified) for this Analog tag.

In **Slider** mode, this specifies the minimum and maximum values and the current value within this range and allows the user to drag the slider to change this value accordingly



In **Numeric UpDown** mode, this provides a spin control, which is an edit box that allows you to use the up/down arrows to increment or decrement the specified value in increments of 1 or simply type in the required value.



In **Design** mode, this widget can be configured as follows:

Add this widget to the current page.

1. Ensure that the required page is currently selected in the Performance Anywhere dashboard.
2. Click the (hamburger) in the top left corner of the Performance Anywhere dashboard to open the menu.
3. Ensure that you are in **Design** mode (that is displayed and the list of available widgets is provided).
4. Click the required widget to add it to the current page, which opens its Configuration dialog.

Configure this widget, as follows:

In the **General** tab:

1. Specify the required **Widget Name**, which is a name that ONLY appears in the title bar of the widget in **Design** mode to quickly identify this widget.
2. Specify the required **Widget Size** by either selecting one of the pre-defined sizes from the list or clicking the **Custom** option to specify your own size. [More details:](#)

All widget sizes are relative to the Width and Height of the screen on which they are displayed and are therefore expressed as percentages of them.

Tip: The block diagram to the right of this list, provides a visual indication of the currently specified **Widget Size** by showing how many widgets of this specified size can be vertically and horizontally stacked in a single page of the dashboard.

3. If you want this widget to have border, then check the **Widget Border** checkbox. Typically widgets do not have a border so this is unchecked by default.
4. Specify the required **Slider Type**, as follows:
 - either as a **Slider**, which displays a slider that needs to be dragged left or right to change the value as needed
 - or a **Numeric UpDown** or spin control that allows you to use the up/down arrows to increment or decrement the specified value in increments of 1 or simply type in the required value.
5. Click the browse (...) button to the right of **Tag** edit box to use the **Data Element Browser** to locate the required Analog tag that you want to change its value.

If necessary, select the required **Datasource Name** from the list of available datasources. For instance if you have more than one Adroit datasource connected to your Smart UI Server.

Note: The larger the list of agents that the specified Agent Server has the longer it will take to load this datasource.

The Adroit datasource list displays the list of available agent types.

Tip: Only the agent types that contain configured agents provide the icon to display them.

For ease of use, the **Recent** list stores all the data elements (agent and tags) that you have browsed to in the current session (after logging in).

Note: This list is cleared whenever you log out.

If you know the name of the agent (data element) that you want to browse in, type the full name into the search edit field and click the **Search** button, this will automatically browse to this agent (data element) and select its most common slot. For instance in the case of Analog agents this is the value slot:



Once the **Data Element Name** specifies the required fully qualified tag (Adroit datasource.AgentType.AgentName.SlotName) click the **OK** button.

Tip: You can also manually edit this name if needed.

This will automatically configure the **Title** with the Agent Description slot of the specified Analog agent; likewise the **Unit** has the unit slot of the specified Analog agent.

Tip: If you also want to automatically configure the **Minimum Value** with the minimum engineering value (engMin) slot and the **Maximum Value** with the maximum engineering value (engMax) slot of this Analog agent, then delete the default values from these edit boxes before browsing the Analog agent into the **Tag** edit box.

If necessary, you can browse in other data elements to specify the **Title**, **Unit**, **Minimum Value** and **Maximum Value** fields and/or specify the required **Title Font**.

Each widget that has been added to a page provides a tool bar in the right corner of its title bar in **Design** mode, which does the following:

Help: displays this widget help topic that describes how to use and configure this widget.

Info: provides a quick view of the widget configuration.

Settings: displays the configuration dialog to configure its settings.

Delete: displays a confirmation dialog to remove this widget from this page.

The tool in the left corner of the title bar in **Design** mode, does the following:

Clone: to create a duplicate widget that has all of its current configuration settings.

Tip: You can also clone an entire page, by selecting the page in the list, right clicking and selecting **Clone**.

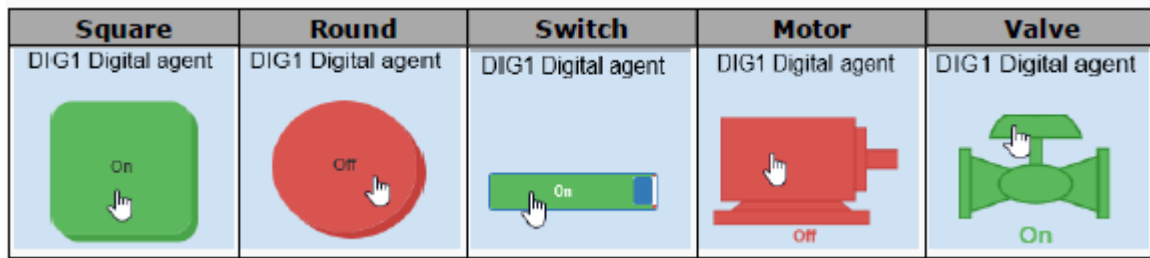
4.11. Switch Widget

This widget provides a number of graphics (a square or round button, a switch, a motor or valve) that allow users to click to change the state of the associated Digital value, which is written back to the Smart UI Server on the next update.

For each state you can specify the appropriate text and color, in addition to a default color, which indicates that this switch is currently waiting to receive a value or is currently in design mode.

In **Run** mode, this widget provides the following user interaction:

This control always displays the Title of this Digital tag and following graphic which can be clicked to change the Digital value and display the associated color and text:



In **Design** mode, this widget can be configured as follows:

Add this widget to the current page.

1. Ensure that the required page is currently selected in the Performance Anywhere dashboard.
2. Click the (hamburger) in the top left corner of the Performance Anywhere dashboard to open the menu.
3. Ensure that you are in **Design** mode (that is displayed and the list of available widgets is provided).
4. Click the required widget to add it to the current page, which opens its Configuration dialog.

Configure this widget, as follows:

In the **General** tab:

1. Specify the required **Widget Name**, which is a name that ONLY appears in the title bar of the widget in **Design** mode to quickly identify this widget.
2. Specify the required **Widget Size** by either selecting one of the pre-defined sizes from the list or clicking the **Custom** option to specify your own size.

All widget sizes are relative to the Width and Height of the screen on which they are displayed and are therefore expressed as percentages of them.

Tip: The block diagram to the right of this list, provides a visual indication of the currently specified **Widget Size** by showing how many widgets of this specified size can be vertically and horizontally stacked in a single page of the dashboard.

3. If you want this widget to have border, then check the **Widget Border** checkbox. Typically widgets do not have a border so this is unchecked by default.
4. Specify the required **Switch Type**, which specifies the required graphical representation of this switch, as follows: a **Square** button, a **Round** button, an electrical **Switch**, a **Motor** or a **Valve**.
5. Click the browse (...) button to the right of **Tag** edit box to use the **Data Element Browser** to locate the required Digital tag that you want to display and/or change its value.

If necessary, select the required **Datasource Name** from the list of available datasources. For instance if you have more than one Adroit datasource connected to your Smart UI Server.

Note: The larger the list of agents that the specified Agent Server has the longer it will take to load this datasource.

The Adroit datasource list displays the list of available agent types.

Tip: Only the agent types that contain configured agents provide the icon to display them.

For ease of use, the **Recent** list stores all the data elements (agent and tags) that you have browsed to in the current session (after logging in).

Note: This list is cleared whenever you log out.

If you know the name of the agent (data element) that you want to browse in, type the full name into the search edit field and click the **Search** button, this will automatically browse to this agent (data

element) and select its most common slot. For instance in the case of Analog agents this is the value slot:



Once the **Data Element Name** specifies the required fully qualified tag (Adroit datasource.AgentType.AgentName.SlotName) click the **OK** button.

Tip: You can also manually edit this name if needed.

This will automatically configure the **Title** with the Agent Description slot of the specified Digital agent, change this if needed and specify the required **Title Alignment** (whether at the top or bottom of the widget) and the required **Title Font**.

In the **Status** tab, specify the **Text** and **Color** that you want this switch to display when this Digital tag is **On** or **Off** and specify the **Default Color**, which indicates that this switch is currently waiting to receive a value or is currently in design mode.

Each widget that has been added to a page provides a tool bar in the right corner of its title bar in **Design** mode, which does the following:

Help: displays this widget help topic that describes how to use and configure this widget.

Info: provides a quick view of the widget configuration.

Settings: displays the configuration dialog to configure its settings.

Delete: displays a confirmation dialog to remove this widget from this page.

The tool in the left corner of the title bar in **Design** mode, does the following:

Clone: to create a duplicate widget that has all of its current configuration settings.

Tip: You can also clone an entire page, by selecting the page in the list, right clicking and selecting **Clone**.

4.12. Analog Statistics Widget

This is used to display the following statistics of up to 5 Analog tags (which have been configured to calculate rolling statistics): Minimum, Maximum and Average, in addition to the current value and unit (if specified), along with a graphical indication of the current value with respect to the recorded maximum and minimum values, which are each displayed in their own blocks.

IMPORTANT: Since the calculation of these statistics can affect performance if used excessively, please ensure that you ONLY calculate statistics for the Analog values you need them for. Setting the **Statistical period (mins), 0 to disable** field of the configuration dialog to 0 (the default value) disables the calculation of these statistics for an Analog agent.

Otherwise for those Analog value that require these statistics then configure the **Statistical period (mins), 0 to disable** field to specify the required rolling period, in minutes, to calculate these statistics, such as 2.

In **Run** mode, this widget provides the following user interaction:

This widget displays the current value and unit (if specified) and statistics of the specified Analog agent, along with a graphical indication of the current value with respect to the recorded maximum and minimum values, each in their own block and can also provide a scroll bar so that all of these blocks can be viewed, if necessary.



In **Design** mode, this widget can be configured as follows:

Add this widget to the current page.

1. Ensure that the required page is currently selected in the Performance Anywhere dashboard.
2. Click the (hamburger) in the top left corner of the Performance Anywhere dashboard to open the menu.
3. Ensure that you are in **Design** mode (that is displayed and the list of available widgets is provided).
4. Click the required widget to add it to the current page, which opens its Configuration dialog.

Configure this widget, as follows:

In the **General** tab:

1. Specify the required **Widget Name**, which is a name that ONLY appears in the title bar of the widget in **Design** mode to quickly identify this widget.
2. Specify the required **Widget Size** by either selecting one of the pre-defined sizes from the list or clicking the **Custom** option to specify your own size.

All widget sizes are relative to the Width and Height of the screen on which they are displayed and are therefore expressed as percentages of them.

Tip: The block diagram to the right of this list, provides a visual indication of the currently specified **Widget Size** by showing how many widgets of this specified size can be vertically and horizontally stacked in a single page of the dashboard.

3. If you want this widget to have border, then check the **Widget Border** checkbox. Typically widgets do not have a border so this is unchecked by default.
4. Specify the **Flow Direction** of the blocks of statistical values for the specified Analog agents, when **Horizontal** the blocks are added linearly in a row next to one another; when **Vertical** the blocks are added vertically in a column.
5. ONLY check the **Show Scrollbar** checkbox, if the size of this widget is such that a user is unable to view the blocks of statistical values for all the specified Analog agents.

In the **Analog Displays** tab, for each Analog tag whose statistics you want to display, specify the **Analog Name** and the **Analog Color**.

IMPORTANT: You must give an Analog a **Name** in order to display its statistics, if you do NOT then if even you browse in a data element this will be ignored and disregarded!

Then click the browse (...) button to the right of **Analog Agent** edit box to use the **Data Element Browser** to locate the required Analog value which has been configured to calculate rolling statistics.

If necessary, select the required **Datasource Name** from the list of available datasources. For instance if you have more than one Adroit datasource connected to your Smart UI Server.

Note: The larger the list of agents that the specified Agent Server has the longer it will take to load this datasource.

The Adroit datasource list displays the list of available agent types.

Tip: Only the agent types that contain configured agents provide the icon to display them.

For ease of use, the **Recent** list stores all the data elements (agent and tags) that you have browsed to in the current session (after logging in).

Note: This list is cleared whenever you log out.

If you know the name of the agent (data element) that you want to browse in, type the full name into the search edit field and click the **Search** button, this will automatically browse to this agent (data element) and select its most common slot. For instance in the case of Analog agents this is the value slot:



Once the **Data Element Name** specifies the required fully qualified tag (Adroit datasource.AgentType.AgentName.SlotName) click the **OK** button.

Tip: You can also manually edit this name if needed.

Each widget that has been added to a page provides a tool bar in the right corner of its title bar in **Design** mode, which does the following:

Help: displays this widget help topic that describes how to use and configure this widget.

Info: provides a quick view of the widget configuration.

Settings: displays the configuration dialog to configure its settings.

Delete: displays a confirmation dialog to remove this widget from this page.

The tool in the left corner of the title bar in **Design** mode, does the following:

Clone: to create a duplicate widget that has all of its current configuration settings.

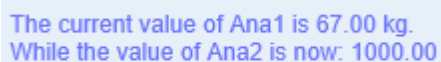
Tip: You can also clone an entire page, by selecting the page in the list, right clicking and selecting **Clone**.

4.13. Text Display Widget

This widget displays text and allows you to report the values of your tags in this text and format these values and text as needed.

In **Run** mode, this widget provides the following user interaction:

This displays the formatted text and the inserts the current values of the tags.



In **Design** mode, this widget can be configured as follows:

Add this widget to the current page.

1. Ensure that the required page is currently selected in the Performance Anywhere dashboard.
2. Click the (hamburger) in the top left corner of the Performance Anywhere dashboard to open the menu.
3. Ensure that you are in **Design** mode (that is displayed and the list of available widgets is provided).
4. Click the required widget to add it to the current page, which opens its Configuration dialog.

Configure this widget, as follows:

In the **General** tab:

1. Specify the required **Widget Name**, which is a name that ONLY appears in the title bar of the widget in **Design** mode to quickly identify this widget.
2. Specify the required **Widget Size** by either selecting one of the pre-defined sizes from the list or clicking the **Custom** option to specify your own size.

All widget sizes are relative to the Width and Height of the screen on which they are displayed and are therefore expressed as percentages of them.

Tip: The block diagram to the right of this list, provides a visual indication of the currently specified **Widget Size** by showing how many widgets of this specified size can be vertically and horizontally stacked in a single page of the dashboard.

3. If you want this widget to have border, then check the **Widget Border** checkbox. Typically widgets do not have a border so this is unchecked by default.

In the **Text Inputs** tab, specify the required text in the **Text** edit control and format this text according to the specified alignment (**Text Align**), font (**Text Font**) and color (**Text Color**).

In order to add tag values into this text, for each tag, you need to:

1. Specify the **Input Name**, which is the placeholder for this value in the text. In the **Text** edit control you need to enclose the specified **Input Name** in curly brackets. For instance if you specify an **Input Name** of value1, then you need to specify {value1} in the **Text** control to insert this value.
2. If necessary, specify the required **Text Format** for this value. This optional entry, if specified must ONLY contain the format specifier and NOT the {}. For instance, specify: f2 to format an Analog value to only provide two decimal points. For more details , see [Available format specifiers](#).
3. Then click the browse (...) button to the right of **Data Element** edit box to use the **Data Element Browser** to locate the required tag that you want to display in the text.

If necessary, select the required **Datasource Name** from the list of available datasources. For instance if you have more than one Adroit datasource connected to your Smart UI Server.

Note: The larger the list of agents that the specified Agent Server has the longer it will take to load this datasource.

The Adroit datasource list displays the list of available agent types.

Tip: Only the agent types that contain configured agents provide the icon to display them.

For ease of use, the **Recent** list stores all the data elements (agent and tags) that you have browsed to in the current session (after logging in).

Note: This list is cleared whenever you log out.

If you know the name of the agent (data element) that you want to browse in, type the full name into the search edit field and click the **Search** button, this will automatically browse to this agent (data element) and select its most common slot. For instance in the case of Analog agents this is the value slot:



The screenshot shows a search interface with a text input field containing 'ana2' and a 'Search' button. Below the input field, the text 'Data Element Name:' is displayed, followed by a text area containing 'Adroit.Analog.ANA2.value'.

Once the **Data Element Name** specifies the required fully qualified tag (Adroit datasource.AgentType.AgentName.SlotName) click the **OK** button.

Tip: You can also manually edit this name if needed.

Each widget that has been added to a page provides a tool bar in the right corner of its title bar in **Design** mode, which does the following:

Help: displays this widget help topic that describes how to use and configure this widget.

Info: provides a quick view of the widget configuration.

Settings: displays the configuration dialog to configure its settings.

Delete: displays a confirmation dialog to remove this widget from this page.

The tool in the left corner of the title bar in **Design** mode, does the following:

Clone: to create a duplicate widget that has all of its current configuration settings.

Tip: You can also clone an entire page, by selecting the page in the list, right clicking and selecting **Clone**.

4.13.1. Available format specifiers

When specifying the optional **Text Format** for a value that you want to display in your Text Display widget, the following data type specific format specifiers are available to customize the display of your values:

Note: ONLY specify the following format specifiers, do not try to encapsulate them in {} or add any other content to them other than the digits that they may require.

The following types of data can be formatted:

Numeric Format Specifiers:

This provides both the commonly used and custom numeric formats, along with examples.

Commonly used numeric format specifiers: These produce standard numeric formats.

These numeric format strings, take the form Axx, where:

- . A: is a single alphabetic character called the format specifier.
- . xx: is an optional integer called the precision specifier, which ranges from 0 to 99 and controls the number of significant digits or zeros to the right of a decimal.

Note: If the format string is longer than a three characters (even if the extra characters are white spaces), the format string is interpreted as a custom format string.

The following table describes these standard numeric format strings.

IMPORTANT: The example outputs specified in this table assume that a Double value of **1.42** is the **first value** and an Integer value of **-12400** is the **second value**.

Note1: The output produced by these format specifiers is influenced by the current **Regional Options** settings. Computers using different settings will generate different results.

Note2: These format specifiers can be typed in both upper and lower case.

Format Specifier	Name	Agent	Format string = Output
C or c	Currency	The resultant string is formatted according to the current currency settings. Note1: The currency format may vary. Note2: If the precision specifier is omitted, the default currency precision is used.	c1 = \$1.4 C = (\$12,400.00)
D or d	Decimal	The resultant string is a series of decimal digits (0-9), prefixed by a minus sign if the number is negative. The precision specifier indicates the minimum number of digits desired in the resulting string, if required, the number is padded with zeros to its left to produce this number. Note: This format is only supported for whole numbers.	D = Not allowed. d8 = -00012400
E or e	Scientific	The resultant string is of the form "-d.ddd...e+ddd", where each 'd' indicates a digit (0-9). The string starts with a minus sign if the number is negative. Note: One digit always precedes the decimal point.	e = 1.420000e+000 E3 = -1.240E+004
F or f	Fixed point	The resultant string is of the form "-ddd.ddd..." where each 'd' indicates a digit (0-9). The string starts with a minus sign if the number is negative. Note: If the precision specifier is omitted, the default numeric precision is used.	f4 = 1.4200 F = -12400.00
G or g	General	The number is converted to the most compact of either fixed-point or scientific notation, depending on the type of the number and whether a precision specifier is present. Note: If the precision specifier is omitted or zero, the type of the number determines the default precision.	g5 = 1.42 g1 = -1e+04 G = -12400
N or n	Number	The resultant string is of the form "-d,ddd,ddd.ddd...", where each 'd' indicates a digit (0-9). The string starts with a minus sign if the number is negative. Thousand separators are inserted between each group of three digits to the left of the decimal point. Note: If the precision specifier is omitted, the default numeric precision is used.	N = 1.42 n3 = -12,400.000
P or p	Percent	The resultant string represents a percent, which has been multiplied by 100 first. If the number is negative, the string starts with a minus sign. Note: If the precision specifier is omitted, the default numeric precision is used.	p = 142.00 % P0 = -1,240,000 %
R or r	Round-trip	The round-trip specifier guarantees that a numeric value converted to a string can be parsed back into the same numeric value. Any precision specifier appended to the round-trip format specifier is ignored. Note: This format is supported by floating-point types only.	R5 = 1.42 r = Not allowed.
X or x	Hexadecimal	The resultant string is a series of hexadecimal digits. The case of the format specifier indicates whether to use uppercase or lowercase characters for the hexadecimal digits greater	x = Not allowed. X7 = 000CF90

		than 9. The precision specifier indicates the minimum number of digits desired in the resulting string, if required, the number is padded with zeros to its left to produce this number. Note: This format is supported for whole numbers only.	
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Custom numeric format specifiers: If the commonly used numeric format specifiers do not provide the type of formatting you require, use these custom format strings to further enhance your output.

Note: A commonly used format string consists of a single alphabetic character optionally followed by a sequence of digits that form a value between 0 and 99; all other format strings are custom format strings.

The following table shows the characters you can use to create custom numeric format strings and their definitions.

Note1: The output produced by some of these characters is influenced by the current **Regional Options** settings. Computers using different settings will generate different results.

Note2: The example outputs specified in this table use a Double value of 1500.42

Format Specifier	Name	Description	Format string = Output
0	Zero placeholder	If the value being formatted has a digit in the position where the '0' appears in the format string, then that digit is copied to the resultant string. Note: The position of the leftmost '0' before the decimal point and the rightmost '0' after the decimal point determines the range of digits that are always present in the resultant string.	00.0000 = 1500.4200
#	Digit placeholder	If the value being formatted has a digit in the position where the '#' appears in the format string, then that digit is copied to the resultant string, otherwise, nothing is stored in that position in the resultant string. Note: This specifier never displays the '0' character if it is not a significant digit, even if '0' is the only digit in the string.	(#).## = (1500).42
.	Decimal point	The first '.' character in the format string determines the location of the decimal separator in the formatted value; any additional '.' characters are ignored. Note: The character used as a decimal separator may vary.	0.0 = 1500.4
,	Thousand separator	If the format string contains a ',' character between two digit placeholders (0 or #) and to the left of the decimal point if one is present, then the output will have thousand separators inserted between each group of three digits to the left of the decimal separator.	0,0 = 1,500
'.'	Number scaling	If the format string contains one or more ',' characters immediately to the left of the decimal point, then the number will be divided by the number of ',' characters multiplied by 1000 before it is formatted. Note1: The character used as a decimal separator may vary. Note2: Use of the ',' character to indicate scaling does not include thousand separators in the formatted number.	0,. = 2 Note: To scale a number by 1 million and insert thousand separators you would use the format string "#,##0,,".
%	Percentage placeholder	The presence of a '%' character in a format string causes a number to be multiplied by 100 before it is formatted.	0% = 150042%
;	Section separator	The ';' character is used to separate sections for positive, negative, and zero numbers in the format string. Note: The second section might be left empty (by having nothing between the semicolons), in which case the first section applies to all nonzero values.	\$\$,,\$;(\$,,\$);Zero = \$1,500 Note: It will output the same format but in parentheses if the number is negative and will output the string "Zero" if the number is zero.
E0 E+0 E-0 e0	Scientific notation	If any of the strings "E", "E+", "E-", "e", "e+", or "e-" are present in the format string and are followed immediately by at least one '0' character, then the number is formatted using	

e+0 e-0		scientific notation with an 'E' or 'e' inserted between the number and the exponent. The number of '0' characters following the scientific notation indicator determines the minimum number of digits to output for the exponent. The "E+" and "e+" formats indicate that a sign character (plus or minus) should always precede the exponent. The "E", "E-", "e", or "e-" formats indicate that a sign character should only precede negative exponents.	
'ABC' "ABC"	Literal string	Characters enclosed in single or double quotes are copied to the result string literally, and do not affect formatting.	
Other	All other characters	All other characters are copied to the result string as literals in the position they appear.	

b. Date and Time Format Specifiers: This provides both the commonly used and custom date and/or time formats, along with examples.

Commonly used date and time format specifiers: These produce standard date and time formats.

These date and time format strings, consist of a single format specifier character from the following table.

Note: If the format string is longer than a single character (even if the extra characters are white spaces), the format string is interpreted as a custom format string.

The following table describes these standard date and time format strings.

Note1: The output produced by some of these format specifiers is influenced by the current **Regional Options** settings. Computers using different settings will generate different results.

Note2: The example outputs specified in this table use a DateTime value of 8/20/2004 11:12:45 AM.

Format Specifier	Name	Notes	Format string = Output
d	Short date pattern	This formatting may vary.	d = 8/20/2004
D	Long date pattern	This formatting may vary.	D = Friday, August 20, 2004
t	Short time pattern	This formatting may vary.	t = 11:12 AM
T	Long time pattern	This formatting may vary.	T = 11:12:45 AM
f	Full date/time pattern (short time)	Displays a combination of the long date and short time patterns, separated by a space.	f = Friday, August 20, 2004 11:12 AM
F	Full date/time pattern (long time)	This formatting may vary.	F = Friday, August 20, 2004 11:12:45 AM
g	General date/time pattern (short time)	Displays a combination of the long date and short time patterns, separated by a space.	g = 8/20/2004 11:12 AM
G	General date/time pattern (long time)	Displays a combination of the long date and short time patterns, separated by a space.	G = 8/20/2004 11:12:45 AM
M or m	Month day pattern	This formatting may vary.	m = August 20

R or r	RFC1123 pattern	This formatting always adheres to the following defined standard pattern: "ddd, dd MMM yyyy HH:mm:ss GMT". Note: The time displayed is for local, rather than universal (GMT) time.	R = Fri, 20 Aug 2004 11:12:45 GMT
s	Sortable date/time pattern; conforms to ISO 8601	This formatting always adheres to the following custom pattern "yyyy-MM-ddTHH:mm:ss".	s = 2004-08-20T11:12:45
u	Universal sortable local date/time pattern	This formatting always adheres to the following defined standard pattern: "yyyy-MMdd HH:mm:ssZ". Note: The time displayed is for local, rather than universal (GMT) time.	u = 2004-08-20 11:12:45Z
U	Universal sortable GMT date/time pattern	Note: The time displayed is for the universal (GMT), rather than local time.	U = Friday, August 20, 2004 9:12:45 AM Note: This currently non-sortable format is caused by .NET.
Y or y	Year month pattern	This formatting may vary.	y = August, 2004

Custom date and time format specifiers: If the commonly used date and time format specifiers do not provide the type of formatting you require, you can use custom format strings to further enhance your output.

Combine one or more of the following custom format specifiers to construct a format that yields the output you prefer.

The following table describes the custom format specifiers and the results they produce.

Note1: The output produced by some of these format specifiers is influenced by the current **Regional Options** settings. Computers using different settings will generate different results.

Note2: The example outputs specified in this table assume that a DateTime value of 8/20/2004 1:14:48 PM is used.

Format Specifier	Name	Notes	Format string = Output
d	Single or double digit day	Displays the current day of the month, as a number between 1 and 31, inclusive. If the day is a single digit only (1-9), then it is displayed as a single digit. Note: If this single 'd' format specifier is used alone, without other custom format strings, it will be interpreted as the standard short date pattern format specifier.	%d = 20
dd	Double digit day	Displays the current day of the month, as a number between 1 and 31, inclusive. If the day is a single digit only (1-9), it is formatted with a preceding 0 (01-09).	dd = 20
ddd	Abbreviated day name	Displays the abbreviated name of the day.	ddd = Fri
dddd (or more d's)	Full day name	Displays the full name of the day.	dddd = Friday
f, ff, fff, ffff, fffff, ffffff, ffffffff	Second fractions	Displays seconds fractions represented by a number of digits, which are determined by the number of f's that are used (up to 7 digits). Note: If this single 'f' format specifier is used alone, without other custom format strings, it will be interpreted as the full (long date + short time) format specifier.	%f = 7 ffff = 7724
g (or more g's)	Era	Displays the era (A.D. for example). Note: If this single 'g' format specifier is used alone, without other custom format	gg = A.D.

		strings, it will be interpreted as the standard general format specifier.	
h	Single or double digit hour	Displays hours in the range 1-12, representing whole hours passed since either midnight (12) or noon (12). If this format is used alone, then the same hour before or after noon is indistinguishable. If the hour is a single digit (1-9), it is displayed as a single digit. Note: No rounding occurs when displaying the hour. For example, a time of 5:43 returns 5.	h = 1
hh (or more h's)	Double digit hour	Displays hours in the range 1-12, representing whole hours passed since either midnight (12) or noon (12). If this format is used alone, then the same hour before or after noon is indistinguishable. If the hour is a single digit (1-9), it is formatted with a preceding 0 (01-09).	hhh = 01
H	Single or double digit hour, 24hr format	Displays hours in the range 0-23, representing whole hours passed since midnight (0). If the hour is a single digit (0-9), it is displayed as a single digit.	H = 13
HH (or more H's)	Double digit hour, 24hr format	Displays hours in the range 0-23, representing whole hours passed since midnight (0). If the hour is a single digit (0-9), it is formatted with a preceding 0 (01-09).	HHHHH = 13
m	Single or double digit minute	Displays minutes in the range 0-59, representing whole minutes passed since the last hour. If the minute is a single digit (0-9), it is displayed as a single digit. Note: If this single 'm' format specifier is used alone, without other custom format strings, it will be interpreted as the standard month day pattern format specifier.	%m = 14
mm (or more m's)	Double digit minute	Displays minutes in the range 0-59, representing whole minutes passed since the last hour. If the minute is a single digit (0-9), it is formatted with a preceding 0 (01-09).	mmmm = 14
M	Single or double digit month	Displays the month, as a number between 1 and 12, inclusive. If the month is a single digit (1-9), it is displayed as a single digit. Note: If this single 'M' format specifier is used alone, without other custom format strings, it will be interpreted as the standard month day pattern format specifier.	%M = 8
MM	Double digit month	Displays the month, as a number between 1 and 12, inclusive. If the minute is a single digit (0-9), it is formatted with a preceding 0 (01-09).	MM = 08
MMM	Abbreviated month name	Displays the abbreviated name of the month.	MMM = Aug
MMMM (or more M's)	Full month name	Displays the full name of the month.	MMMM = August
s	Single or double digit second	Displays seconds in the range 0-59, representing whole seconds passed since the last minute. If the second is a single digit (0-9), it is displayed as a single digit only. Note: If this single 's' format specifier is used alone, without other custom format strings, it will be interpreted as the standard sortable date/time pattern format specifier.	%s = 48
ss (or more s's)	Double digit second	Displays seconds in the range 0-59, representing whole seconds passed since the last minute. If the second is a single digit (0-9), it is formatted with a preceding 0 (01-09).	sss = 48
t	Abbreviated A.M./P.M. designator	Displays the first character of the A.M./P.M. designator. If the total number of whole hours passed is less than 12, then the P.M. designator is used. Otherwise, the P.M. designator is used.	%t = P

		Note: If this single 't' format specifier is used alone, without other custom format strings, it will be interpreted as the standard long time pattern format specifier.	
tt (or more t's)	Full A.M./P.M. designator	Displays the full A.M./P.M. designator. If the total number of whole hours passed is less than 12, then the P.M. designator is used. Otherwise, the P.M. designator is used.	ttttt = PM
y	Single or double digit year	Displays years, by omitting the first two digits of the year. If the year is a single digit (1-9), it is displayed as a single digit. Note: If this single 'y' format specifier is used alone, without other custom format strings, it will be interpreted as the standard short date pattern format specifier.	%y = 4
yy	Double digit year	Displays years, by omitting the first two digits of the year. If the year is a single digit (1-9), it is formatted with a preceding 0 (01-09).	yy = 04
yyyy	Four digit year	Displays years, including the century. If the year is less than four digits in length, then preceding zeros are appended as necessary to make the displayed year four digits long.	yyyy = 2004
z	Single or double digit time zone offset in hours.	Displays the time zone offset for the system's current time zone in whole hours only. The offset is always displayed with a leading or trailing sign (zero is displayed as "+00"), indicating hours ahead of Greenwich mean time (+) or hours behind Greenwich mean time (-). The range of values is -12 to +13. If the offset is a single digit (0-9), it is displayed as a single digit with the appropriate leading sign. The displayed offset is affected by daylight savings time.	z = +2
zz	Double digit time zone offset in hours.	Displays the time zone offset for the system's current time zone in whole hours only. The offset is always displayed with a leading or trailing sign (zero is displayed as "+00"), indicating hours ahead of Greenwich mean time (+) or hours behind Greenwich mean time (-). The range of values is -12 to +13. If the offset is a single digit (0-9), it is formatted with a preceding 0 (01-09) with the appropriate leading sign. The displayed offset is affected by daylight savings time.	zz = +02
zzz (or more z's)	Full time zone offset (hours and minutes)	Displays the full time zone offset for the system's current time zone in hours and minutes. The offset is always displayed with a leading or trailing sign (zero is displayed as "+00:00"), indicating hours ahead of Greenwich mean time (+) or hours behind Greenwich mean time (-). The range of values is -12:00 to +13:00. If the offset is a single digit (0-9), it is formatted with a preceding 0 (01-09) with the appropriate leading sign. The displayed offset is affected by daylight savings time.	zzzz = +02:00
:	Time separator	Separates the components within a displayed time.	hh:mm:ss = 01:14:48
/	Date separator	Separates the components within a displayed date.	dd/mm/yyyy = 20/14/2004
%c	Standard format specifier usage override for identical custom format specifier characters.	Where 'c' is both a standard format specifier and a custom format specifier, this will display the custom format pattern associated with the format specifier. Otherwise 'c' would be interpreted as a standard format specifier.	%d = 20

4.14. Data Grid Widget

This displays dataset data elements in a table of rows and columns.

This widget can only display data elements that return a dataset. Examples of dataset data elements:

Any LIST slot provided by an Adroit agent e.g. the listOfStrings slot of the StringList agent.

An event log of the EventViewer datasource e.g. Eventlog.HealthMonitorService displays the events in this event log.

A table of a database connected to an OLEDB datasource.

In **Run** mode, this widget provides the following user interaction:

The rows of data are displayed in the table beneath the column titles, which allow users to sort this list by a specific column.

Click a column title to sort the list according to this column (the list can only be sorted by one column)

Double click a column title to change the toggle the sorting between ascending and descending order (or right click the column title and select the required sort order from the menu, which also allows you to clear the sorting from a column).

Right click the data grid to display a number of options that allow you to hide or display columns and provides various filtering and searching options.

- **Refresh:** update the table with the latest data.
- **Columns:** select this to display the Column Chooser list that allows you to drag column headings to or from this list to hide or display them, as needed.
- **Show Filter Row:** displays a row of search edit boxes beneath the column titles in which you can type partial filter strings to display all the rows in which this column contains the specified text.
- **Show Header Filter:** displays a filter icon to the right of column title, which when clicked displays a list of all the available entries in this column so that you can select all of them or specific entries to only display the rows that contain the specified entries.
- **Show Search Panel:** if necessary this displays a header bar of this widget and adds the **Search...** edit box to the right of this header. Any text that you type into this will display all the rows that match this text in any column. In other words this acts like a custom filtering method.
- **Show Group Panel:** if necessary this displays a header bar of this widget and adds the grouping bar to the left of this header, in which you can drag a column title to group the available rows according to the entries of the specified column.
- **Show Export:** if necessary this displays a header bar of this widget and displays the Export icon, typically in the right corner. When you click this icon, this exports the current contents of this widget into an Excel spreadsheet, which is called DataGrid.xlsx by default, which you can choose to Open or Save as needed.

Type ↓	Time	Source	Category	EventID	User	Computer
Warning	2016/10/27 07:56:37	HealthMonitor (0)		0000	Empty	IANF-PC.adroi
Warning	2016/10/27 09:09:50	Health	Refresh	0	Empty	IANF-PC.adroi
Warning	2016/10/27 09:10:21	Health	Columns	0	Empty	IANF-PC.adroi
Warning	2016/10/27 09:11:31	Health	Show Filter Row	0	Empty	IANF-PC.adroi
Warning	2016/10/27 09:13:41	Health	Show Header Filter	0	Empty	IANF-PC.adroi
Warning	2016/10/27 09:40:02	Health		0	Empty	IANF-PC.adroi
Warning	2016/10/27 09:46:33	Health	Show Search Panel	0	Empty	IANF-PC.adroi
Warning	2016/10/27 10:32:05	Health	Show Group Panel	0	Empty	IANF-PC.adroi
Warning	2016/10/27 10:38:28	Health	Show Export	0	Empty	IANF-PC.adroi

In Design mode, this widget can be configured as follows:

In **Design** mode:

Add this widget to the current page.

1. Ensure that the required page is currently selected in the Performance Anywhere dashboard.
2. Click the (hamburger) in the top left corner of the Performance Anywhere dashboard to open the menu.
3. Ensure that you are in **Design** mode (that is displayed and the list of available widgets is provided).
4. Click the required widget to add it to the current page, which opens its Configuration dialog.

Configure this widget, as follows:

In the **General** tab:

1. Specify the required **Widget Name**, which is a name that ONLY appears in the title bar of the widget in **Design** mode to quickly identify this widget.
2. Specify the required **Widget Size** by either selecting one of the pre-defined sizes from the list or clicking the **Custom** option to specify your own size.

All widget sizes are relative to the Width and Height of the screen on which they are displayed and are therefore expressed as percentages of them.

Tip: The block diagram to the right of this list, provides a visual indication of the currently specified **Widget Size** by showing how many widgets of this specified size can be vertically and horizontally stacked in a single page of the dashboard.

3. If you want this widget to have border, then check the **Widget Border** checkbox. Typically widgets do not have a border so this is unchecked by default.

4. Click the browse (...) button to the right of **Dataset Data Element** edit box to use the **Data Element Browser** to locate the required data element that returns a dataset.

If necessary, select the required **Datasource Name** from the list of available datasources. For instance if you have more than one Adroit datasource connected to your Smart UI Server.

Note: The larger the list of agents that the specified Agent Server has the longer it will take to load this datasource.

The Adroit datasource list displays the list of available agent types.

Tip: Only the agent types that contain configured agents provide the icon to display them.

For ease of use, the **Recent** list stores all the data elements (agent and tags) that you have browsed to in the current session (after logging in).

Note: This list is cleared whenever you log out.

If you know the name of the agent (data element) that you want to browse in, type the full name into the search edit field and click the **Search** button, this will automatically browse to this agent (data element) and select its most common slot. For instance in the case of Analog agents this is the value slot:



Once the **Data Element Name** specifies the required fully qualified tag (Adroit datasource.AgentType.AgentName.SlotName) click the **OK** button.

Tip: You can also manually edit this name if needed.

5. By default **Paging** is checked which sub-divides the available rows into pages each containing the specified **Number of Rows per Page** to make it easier to browse the displayed rows; when disabled then all the available rows are displayed in the grid and you need to scroll to display the required row/s. The **Columns** tab allows you to specify which of the available columns you want to display and/or to change their displayed order, width and naming.

Click a column in the **Columns** list:

Click the **Move Up** or **Move Down** button to change its order in the list.

Edit one or more of its **Column Properties**, as follows:

- . Specify the required column title in the **Caption** edit box.
- . Specify the required column width in pixels in the **Size** edit box.
- . Check the **Autosize** checkbox for this column to automatically expand to fit its largest contents.
- . Check the **Visible** checkbox to display this column or uncheck this to hide it.

Each widget that has been added to a page provides a tool bar in the right corner of its title bar in **Design** mode, which does the following:

Help: displays this widget help topic that describes how to use and configure this widget.

Info: provides a quick view of the widget configuration.

Settings: displays the configuration dialog to configure its settings.

Delete: displays a confirmation dialog to remove this widget from this page.

The tool in the left corner of the title bar in **Design** mode, does the following:

Clone: to create a duplicate widget that has all of its current configuration settings.

Tip: You can also clone an entire page, by selecting the page in the list, right clicking and selecting **Clone**.

4.15. Gallery Widget

This widget can either display a series of images like a slide show or display one or more images based upon the current value of a tag.

In **Run** mode, this widget provides the following user interaction:

The specified images need to be loaded initially before this widget can be displayed, the time this takes depends upon the number and size of the images and your connection speed.

Once the images have been loaded, the user experience typically depends upon whether this widget was configured to display a series of images or display one or more images based upon the current value of a tag (image flip), as follows:

Slide Show: the widget provides a number of images that users can either cycle through using the previous (<) and next (>) navigational buttons on the sides and/or select the required image using the indicators (horizontal radio buttons beneath the images) - depending upon which of these navigational options have been configured.



Image Flip: the images this widget displays depends upon the current value of the specified tag. The example below demonstrates the use of this **Image Flip** functionality to display custom images to indicate the state of a Digital agent:

Note: A new image is only displayed at the next update of the dashboard and not immediately when the specified **Flip Tag** value changes.

Tip: In this case it is recommended to not provide the indicators (horizontal radio buttons beneath the images) nor the navigation buttons on the sides, so that the images will ONLY be displayed by the value of the **Flip Tag** value and NOT the user.



In **Design** mode, this widget can be configured as follows:

Add this widget to the current page.

1. Ensure that the required page is currently selected in the Performance Anywhere dashboard.
2. Click the (hamburger) in the top left corner of the Performance Anywhere dashboard to open the menu.
3. Ensure that you are in **Design** mode (that is displayed and the list of available widgets is provided).
4. Click the required widget to add it to the current page, which opens its Configuration dialog.

Configure this widget, as follows:

In the **General** tab:

1. Specify the required **Widget Name**, which is a name that ONLY appears in the title bar of the widget in **Design** mode to quickly identify this widget.
2. Specify the required **Widget Size** by either selecting one of the pre-defined sizes from the list or clicking the **Custom** option to specify your own size.

All widget sizes are relative to the Width and Height of the screen on which they are displayed and are therefore expressed as percentages of them.

Tip: The block diagram to the right of this list, provides a visual indication of the currently specified **Widget Size** by showing how many widgets of this specified size can be vertically and horizontally stacked in a single page of the dashboard.

3. If you want this widget to have border, then check the **Widget Border** checkbox. Typically widgets do not have a border so this is unchecked by default.
4. If necessary, add a **Title**, in which case specify the required **Title Alignment** (whether at the top or bottom of the widget) and the required **Title Font**.
5. If necessary, check the **Stretch images** checkbox to enlarge the images to fit the total width of this widget. However the images can only be enlarged up to their actual sizes and no further.
6. When **Loop Images** is checked, then when the last image of the list is reached and the user clicks the Next (>) navigation button (if these are displayed) then the first image is displayed; if this option is unchecked then in this case then no further image will be displayed and the user will need to use the Prev (<) navigation button to display another image.

7. When **Show Indicator** is checked, then dots (like horizontal radio buttons) are provided at the bottom of this widget, one for each image, that allow users to display any of the provided images in this list.

8. When the **Show Nav Buttons** is checked, then two buttons are displayed along the left and right edge of the widget with < and > symbols that allow users to select the previous and next image in the list.

9. When the **Poll Image Updates** is checked, then the specified images are always re-loaded at each update, this typically suits JPG Publishing in which images are being updated regularly. If this is unchecked then an image is only loaded once when the page is opened.

Tip: When using the **Image Flip** functionality (as opposed to using this widget as a slide show), it is recommended that you uncheck the

Show Indicator and **Show Nav Buttons** image navigation options, so that the images will ONLY be displayed by the value of the **Flip Tag** value and NOT the user.

In the **Images** tab, for each image that you need to display, you need to specify an **Image Name**

IMPORTANT: You must give each image an **Image Name** in order to display it on the trend, if you do NOT then if even you browse in an image URL this will be ignored and disregarded!

Note: Please ensure that the correct **Index** is associated with each image, this is particularly important if you are using the **Image Flip** tab to display images based on the current value of a tag.

Then click the browse (...) button to the right of **Image URL** edit box to use the **File Browser** to locate this image in or upload it to the \Images sub-folder of the Performance Anywhere installation folder.

Folder typically specifies the required sub-folder of the Performance Anywhere installation folder on your Web Server into which the required file should be located.

Note: The larger the list of agents that the specified Agent Server has the longer it will take to load this datasource.

This displays all the files and any sub-folders and their files within this folder.

For ease of use, the **Recent** list stores all the files that you have browsed to in the current session (after logging in).

Note: This list is cleared whenever you log out.

If you know the name of the file that you want to browse in, type the full name into the search edit field and click the **Search** button to automatically browse to and select this file.

If this folder does NOT contain the required file, you can click the **Upload** button and browse to the required file and click the Open button to upload it to this folder. Then click the **Refresh** button to update the contents of this folder and select this file.

Once the **File** edit field specifies the required file click the **OK** button.

If you need to display images based on the current value of a tag, then in the **Image Flip** tab, click the browse (...) button to the right of **Flip Tag** edit box to use the **Data Element Browser** to locate the required tag whose value will determine which of the available images to display.

If necessary, select the required **Datasource Name** from the list of available datasources. For instance if you have more than one Adroit datasource connected to your Smart UI Server.

Note: The larger the list of agents that the specified Agent Server has the longer it will take to load this datasource.

The Adroit datasource list displays the list of available agent types.

Tip: Only the agent types that contain configured agents provide the icon to display them.

For ease of use, the **Recent** list stores all the data elements (agent and tags) that you have browsed to in the current session (after logging in).

Note: This list is cleared whenever you log out.

If you know the name of the agent (data element) that you want to browse in, type the full name into the search edit field and click the **Search** button, this will automatically browse to this agent (data element) and select its most common slot. For instance in the case of Analog agents this is the value slot:



Once the **Data Element Name** specifies the required fully qualified tag (Adroit datasource.AgentType.AgentName.SlotName) click the **OK** button.

Tip: You can also manually edit this name if needed.

Then specify the required **Base Value** and **Increment** to ensure the required images are displayed for the required values, as an image is displayed after each **Increment** of the **Base Value**.

IMPORTANT: Once again, please ensure that the correct **Index** is associated with each image in the **Images** tab to ensure that the correct image is displayed based on the current value of the specified **Flip Tag**.

Note: A new image is only displayed at the next update of the dashboard and not immediately when the **Flip Tag** value changes.

For instance for a Digital agent's value slot, the **Base value** must be 0, with an **Increment** value of 1, and since **only two values** can be calculated (0 and 1), so only the first two images can be used in the **Images** tab. If this value was toggled between 0 and 1, the following sequence will occur:

Note: Ensure that **Index0** specifies the OFF image and that **Index 1** specifies the ON image.

Flip Tag: 0, the image with **Index 0** is displayed.

Flip Tag: 1, the image with **Index 1** is displayed.

Flip Tag: 0, the image with **Index 0** is displayed.

For instance for an Analog agent's value slot, **multiple values** can be generated and hence multiple images can be displayed.

For example, consider a tag value with an engineering range of 0 to 100, a **Base Value** = 50, an **Increment** = 10 and 4 images added to the

Images tab, in this case these images will be displayed in the following sequence as the **Flip Tag** value progresses from 0 to 100.

Flip Tag: 0 – 49, the image with **Index 0** is displayed up to the **Base Value**.

Flip Tag: 50 - 59, the image with **Index 0** is displayed for first interval.

Flip Tag: 60 - 69, the image with **Index 1** is displayed for second interval.

Flip Tag: 70 - 79, the image with **Index 2** is displayed for third interval.

Flip Tag: 80 - 89, the image with **Index 3** is displayed for fourth interval.

Flip Tag: 90 - 100, the image with **Index 3** is still displayed because there are no images in the **Images** tab.

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Info: provides a quick view of the widget configuration.

Settings: displays the configuration dialog to configure its settings.

Delete: displays a confirmation dialog to remove this widget from this page.

The tool in the left corner of the title bar in **Design** mode, does the following:

Clone: to create a duplicate widget that has all of its current configuration settings.

Tip: You can also clone an entire page, by selecting the page in the list, right clicking and selecting **Clone**.