Working with 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.

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 Adroit 8.4.2.3 or later and in particular the Smart UI Web Service component also needs to be installed, typically on the same computer on which you install Performance Anywhere.

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.

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 for Performance Anywhere, although you may need to adjust the following settings by editing this file yourself to resolve the following Performance Anywhere 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 thatthe 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 to 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.

  IMPORTANT: When using large Agent databases, even changing this setting may not fix the issue where the Data Element Browser either does not display any tags.

  In this case you can open the Smart UI Designer and browse to the required slot in the Enterprise Manager window and select the **Copy path** menu item and then paste this full path directly into the Data Element Browser of Performance Anywhere, which adheres to the following naming syntax: {Adroit Datasource Name}.{Agent Name}.{Slot Name}

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, in order to open Performance Anywhere in Internet Explorer, you typically need to add the Performance Anywhere URL to the list of Trusted sites in Internet Explorer: Internet Options -> Security tab -> select Trusted Sites 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.

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 the Performance Anywhere OEM code added to your product license and you need to obtain the required number of remote node licenses to ensure that the required number of concurrent users will be supported (where each regular remote node corresponds to 5 Performance Anywhere client licenses).

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.

   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.

Performance Anywhere Log on

Log into the associated Smart UI Server. More details:

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. More details on user management:

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). More details about the 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 the Performance Anywhere OEM code added to your product license and you need to obtain the required number of remote node licenses to ensure that the required number of concurrent users will be supported (where each regular remote node corresponds to 5 Performance Anywhere client licenses).

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. More troubleshooting details:

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 **Servername** 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 return True. If BOTH the **Servername** 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 **HTTP 500 – 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 **Servername** 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.

Performance Anywhere dashboard

The Performance Anywhere dashboard allows you to create numerous pages in which you place and configure widgets (controls) in **Design** mode so that you can display and in some cases configure your data in **Run** mode.

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.

Click the ▭ (hamburger) in the top left corner to display a menu down the left hand side that allows you to toggle the **Design** or **Run** dashboard viewing modes and provides the list of available widgets in **Design** mode. For more details, see the Performance Anywhere Menu

The toolbar at the top of the dashboard allows you to do the following:

Note: Click the **...** 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.

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

Print Page: this is ONLY displayed in **Run** mode to print the current page, like the **Next Update** and waiting ⟳ notifications.

Add page: This adds a blank page to the dashboard for which you need to specify a short **Page Name** to identify it, this is ONLY displayed in **Design** mode. More details:

If necessary you can provide a more detailed **Page Description** that is provided as a tool tip, when selecting which page to open from the page drop-down menu (see **Page Navigation** below).
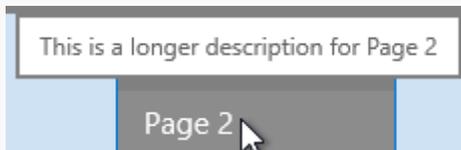
Currently the only **Page Layout** option available, which is the method used for displaying the widgets that are added to this page is **Flow**, in which the widgets are added to the page from left to right.

Page Navigation: you can navigate through the added pages, as follows:

- either use the ◁ **Previous page** or ▷ **Next page** buttons to move up or down the list of added pages.

- or if you have 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 you require.

  This list of pages also provides additional functionality. More details:

  Hover the mouse pointer over a page, to display the specified **Page Description** of this page as a tool tip:

  Right click a page to display the following menu:

  - **Move up** / **Move down** to change its order in the list.

  - **Rename**: displays the **Page Name** dialog so that you can change its names. More details:

    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

    Currently the only **Page Layout** option available, which is the method used for displaying the widgets that are added to this page is **Flow**, in which the widgets are added to the page from left to right.

  - **Delete**: to delete this page (once you click **OK** to confirm that you want to delete this page).

Settings: displays a dialog that allows you to configure the available Performance Anywhere dashboard settings, which are grouped into the **General** and **Appearance** tabbed pages. More details:

General tab:

- Specify the **Startup Page** from the list of pages that you have created, that is displayed when the Performance Anywhere dashboard is opened.

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

- Typically for security reasons you can 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.

- 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.

Appearance tab:

- **Background Color**: specify the background color of the page itself.
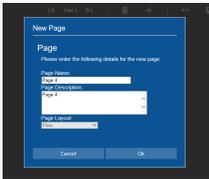
  Example:
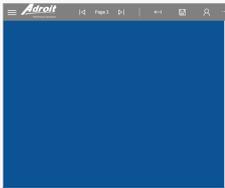
- **ToolBar Color**: specify the background color of the toolbar and the menu (accessed by clicking the icon in the top left corner).

  Example:

- **Fly-out & 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**.

  Example:

- **Background Image**: if necessary specify an watermark image for the pages of your 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.

  More details on using the File Browser:

  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.

- **Logo image**: this is typically only required when you need 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.

Save : 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.

> **WARNING:** If multiple users share the same user profile then the last user will overwrite the settings used by previous users.

U/D Config: displays a dialog that allows you to download the current dashboard settings and all the added pages and their configured widgets to a .JSON file, which you can save in a location you choose and then can upload this to any other Performance Anywhere client to automatically configure them, this is ONLY displayed in **Design** mode. More details:

To download the dashboard configuration:

1. Click the **Download Configuration** button, this will generate a unique .json file prefaced by "dashboard_download", which your browser will prompt you to open or save.

2. Save this file in an accessible location.

3. Distribute this file to your other Performance Anywhere clients' devices.

To upload a previously downloaded dashboard configuration:

After logging in, click the ⬅ **U/D Config** toolbar button and click the **Upload Configuration** button and locate the .json file and click the **Open** button.

This will configure this Performance Anywhere dashboard with all the pages and their widgets and the settings.

However this user requires access to the SAME Smart UI Server and all the referenced datasources, in order for these widgets to display their specified data.

Page Information: displays a dialog that 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. More details:

In addition to providing the **Name** and **Description** of the current page, this dialog displays the following design-specific information:

The number of **Widgets** added to this page and most importantly the:

- **Polled Values**: the number of realtime values (tags) referenced by the widgets on this page. These values are fetched when the Performance Anywhere dashboard is updated.

- **Historical Values**: the number of values (tags) referenced by the widgets on this page that retrieve historical data.

Too many values can cause performance issues by slowing the page down and making it unresponsive and on Mobile devices this will also consume a lot of data.

> **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.

- **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 dashboard is updated.

Images increase the time required to display the page, since the time taken to load an image depends upon its size and on Mobile devices this will also consume a lot of data, especially when large images are used.

Log out: clears the Performance Anywhere dashboard is cleared and displays the Login dialog so that another user can login.

Delete: Allows you to delete one or more of the available pages, simply check which page/s you want to remove, then click the **Delete** button, this is ONLY displayed in **Design** mode.

> **Note:** You cannot delete all the available pages, you need to leave at least one page remaining.

Help: Either click the **Help** item to display this help topic or the **About** item to determine the versions of various components mainly for troubleshooting purposes.

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 allows 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.

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 pro-vided).

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.

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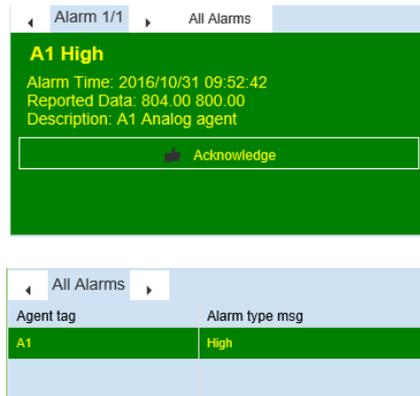
The normal (full size) view of this widget provides the following functionality:

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 ↓). More details on sorting the list:

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. More details on these 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. 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. 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.

   More details on using the Data Element Browser:

   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.

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. More details:

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. More details:

   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 allows you to do 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.

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 ( ).

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

◢ 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.

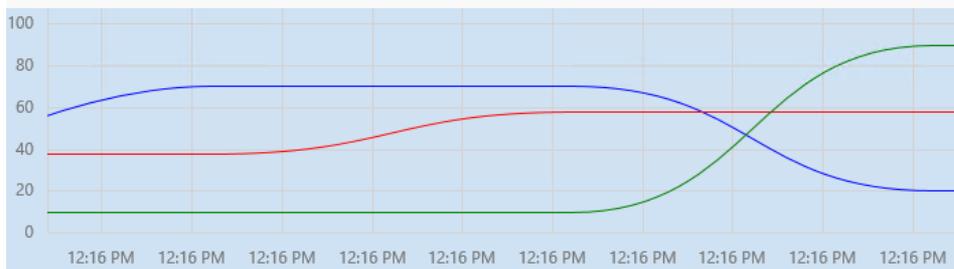In **Run** mode, this widget provides the following user interaction:

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. 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. 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. More details:

   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.

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. More details:

   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, as follows:

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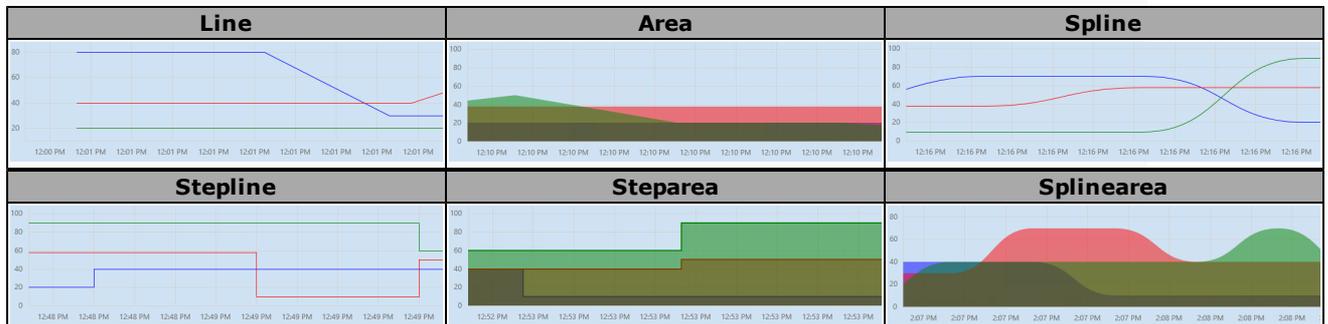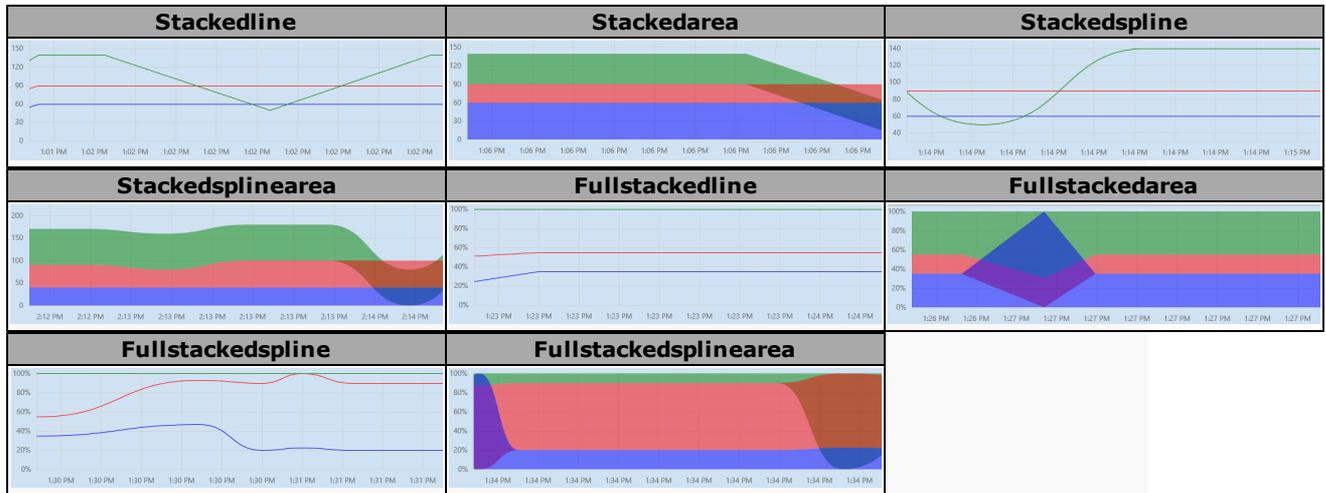
Then click the browse (...) button to the right of **Data Element** edit box to use the **Data Element Browser** to locate the required tag that you want to trend.Working with the Data Element Browser

> More details on using the Data Element Browser:

> 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 data-source.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 allows you to do 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.

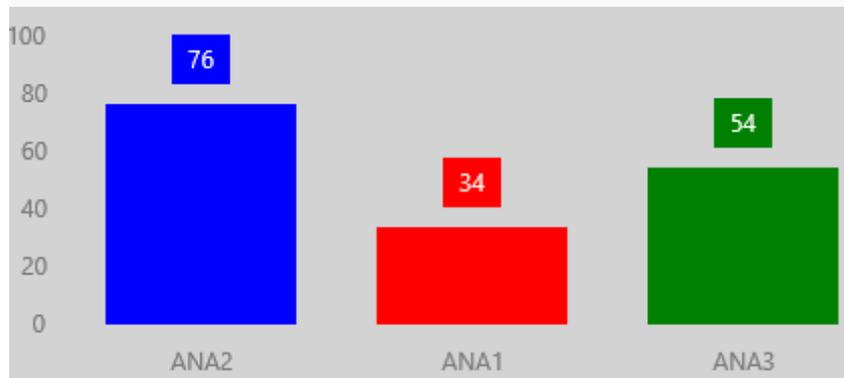 **Delete**: displays a confirmation dialog to remove this widget from this page.

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. 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. 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, as follows:

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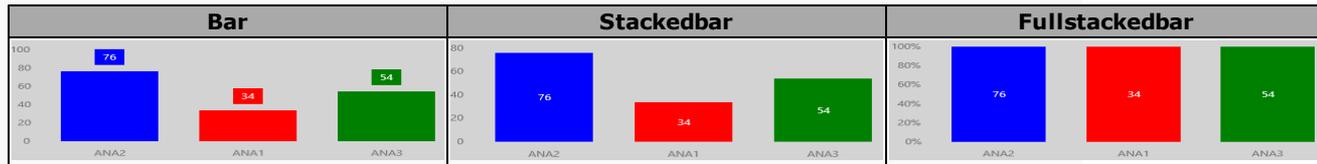
6. If necessary, check the **Horizontal Bar** checkbox if you want these bars to be horizontal, by default this is unchecked so the bars are vertical.

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.

More details on using the Data Element Browser:

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 allows you to do 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.

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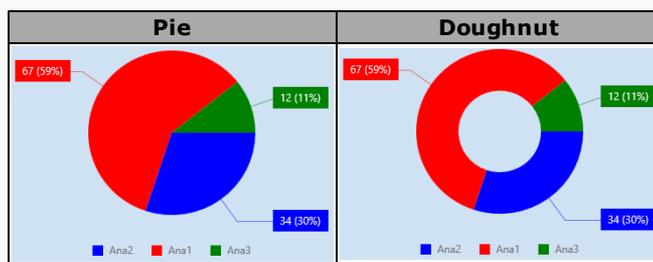
In the **Pie Segments** tab, for each segment of slice that you require, specify the **Segment Name** and **Segment Color**.

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.

> More details on using the Data Element Browser:
>
> 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.
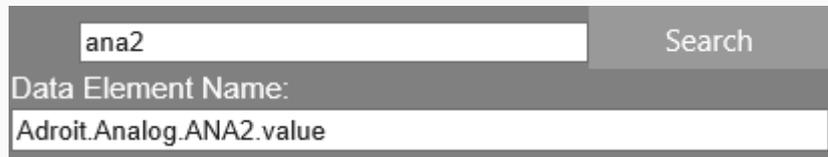>
> The Adroit datasource list displays the list of available agent types.
>
> **Tip:** Only the agent types that contain configured agents provide the ▶ icon to display them.
>
> For ease of use, the **Recent** list stores all the data elements (agent and tags) that you have browsed to in the current 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 data-source.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 allows you to do 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.

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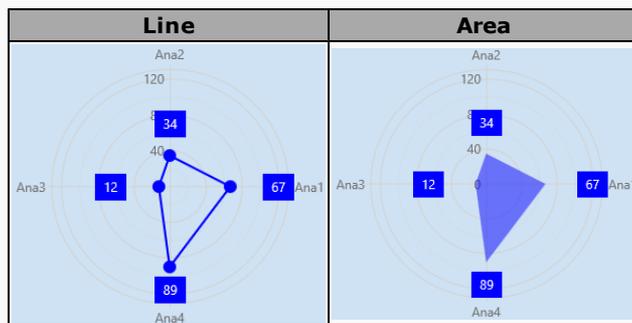
6. If necessary, check the **Radar Plot** checkbox if you want each point to have an associated spider web line (straight lines between each axis), by default this is unchecked so that each point has an associated circular line.

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.

More details on using the Data Element Browser:

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 data-source.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 allows you to do 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.

▱ 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. More details:

1. Ensure that the required page is currently selected in the Performance Anywhere dashboard.

2. Click the [hamburger icon] (hamburger) in the top left corner of the Performance Anywhere dashboard to open the menu.

3. Ensure that you are in **Design** mode (that [icon] 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.

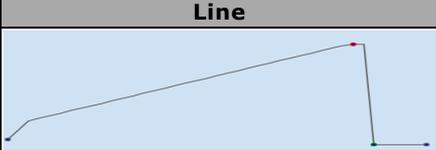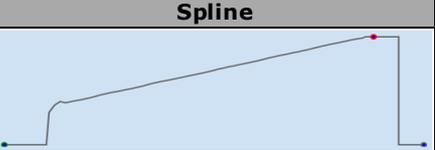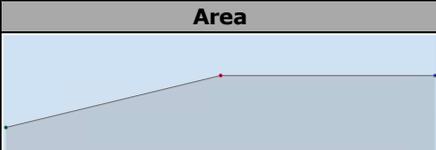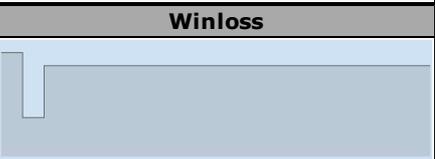Configure this widget, as follows:

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 [icon] 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.

   More details on using the Data Element Browser:

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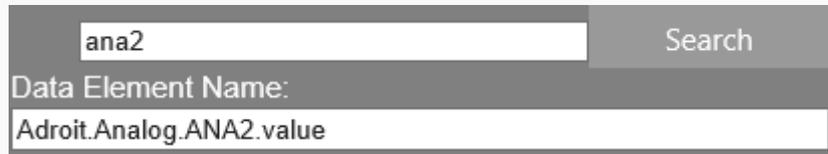
The Adroit datasource list displays the list of available agent types.

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 data-source.AgentType.AgentName.SlotName) click the **OK** button.

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

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. More details:

   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 allows you to do 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.

🖾 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. 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. 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.

   More details on using the Data Element Browser:

   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 data-source.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 allows you to do 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.

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. 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.

   More details on using the Data Element Browser:

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

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 allows you to do 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.

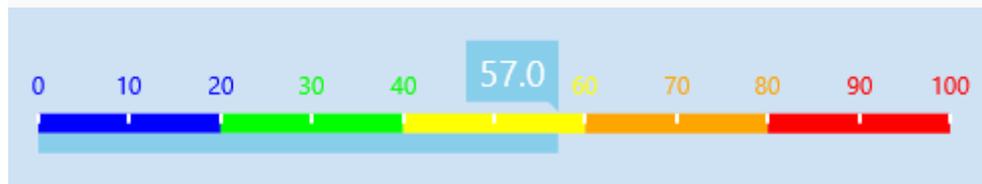✕ **Delete**: displays a confirmation dialog to remove this widget from this page.

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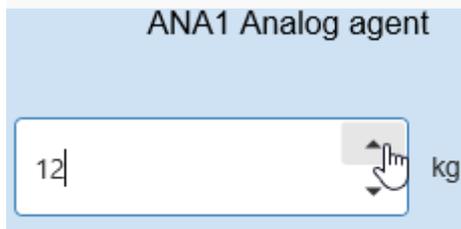
In **Run** mode, this widget provides the following user interaction:

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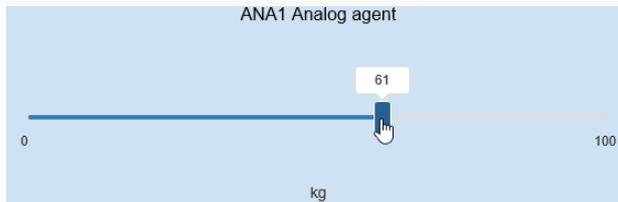
In **Numeric UpDown** mode, this provides a spin control, which is an edit box that allows you to use the up/down arrows to increment or decrement the specified value in increments of 1 or simply type in the required value.

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

Add this widget to the current page. 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. 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.

More details on using the Data Element Browser:

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.

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 allows you to do 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.

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:

Square	Round	Switch	Motor	Valve
DIG1 Digital agent	DIG1 Digital agent	DIG1 Digital agent	DIG1 Digital agent	DIG1 Digital agent

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. 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 **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.

   > More details on using the Data Element Browser:

   > 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 data-source.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 allows you to do 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.

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.

Ana1
14 kg
Min: 0
Max: 67
Average: 46.82

0   20   40   60

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. 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 **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.

More details on using the Data Element Browser:

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 data-source.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 allows you to do 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.

⬚ 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.

> The current value of Ana1 is 67.00 kg.
> While the value of Ana2 is now: 1000.00

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. 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.

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.

   More details on using the Data Element Browser:

   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 data-source.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 allows you to do 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.

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:

a. 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	Description	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.	p = 142.00 % P0 = -1,240,000 %

Format Specifier	Name	Description	Format string = Output
		Note: If the precision specifier is omitted, the default numeric precision is used.	
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 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.	x = Not allowed. X7 = 000CF90

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	(#).## = (1500).42

Format Specifier	Name	Description	Format string = Output
		displays the '0' character if it is not a significant digit, even if '0' is the only digit in the string.	
.	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 non-zero 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 e+0 e-0	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 scientific notation with an 'E' or 'e' inserted between the number and the exponent. The number	00e+0 = 15e+2

Format Specifier	Name	Description	Format string = Output
		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 short 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 short date and long 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 G\MT".	R = Fri, 20 Aug 2004 11:12:45 GMT

Format Specifier	Name	Notes	Format string = Output
		Note: The time displayed is for local, rather than universal (GMT) time.	
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-MM-dd 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.	ddddd = Friday
f, ff, fff, ffff, fffff, ffffff, fffffff	Second fractions	Displays seconds fractions represented by a number of digits,	%f = 7 ffff = 7724

Format Specifier	Name	Notes	Format string = Output
		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.	
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 strings, it will be interpreted as the standard general format specifier.	gg = A.D.
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

Format Specifier	Name	Notes	Format string = Output
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. des-	%t = P

Format Specifier	Name	Notes	Format string = Output
		ignator is used. Otherwise, the P.M. designator is used. **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	zz = +02

Format Specifier	Name	Notes	Format string = Output
		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.	
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

▦ 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. More details on sorting the list:

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. More details on these 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.

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

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. 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.

    More details on using the Data Element Browser:

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 data-source.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. More details:

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 allows you to do 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.

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. 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. 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.

More details on using the File Browser:

 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.

More details on using the Data Element Browser:

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 data-source.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**. More details on how to configure these for Digital or Analog agents:

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 **Index**0 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.

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 allows you to do 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.