SYSPRO Avanti Guide

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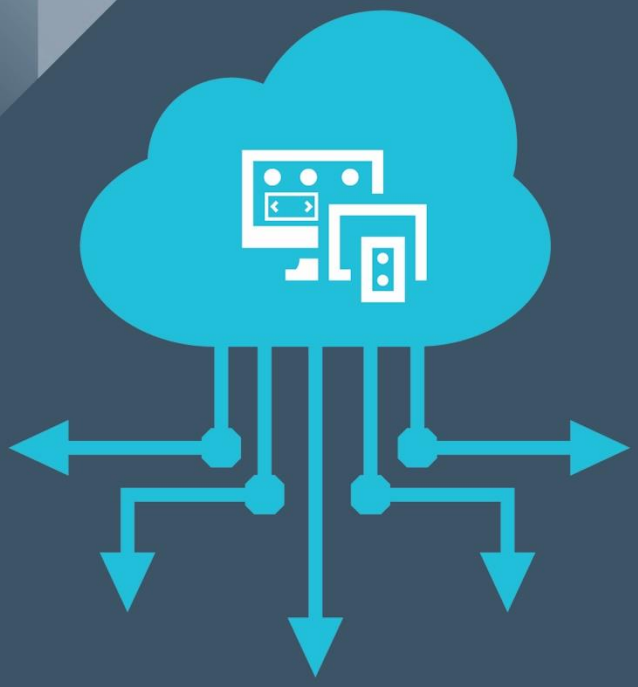

SYSPRO™ Avanti

SYSPRO Pty (Ltd)

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WHAT'S CHANGED SINCE THE LAST VERSION?

SUB TOPIC	READ MORE...
How to define multiple Workspaces in the **HOME** menu, when not associated with a role.	Designing Workspaces in Avanti
Flowgraph items can now launch alternative Flowgraphs or Workspaces.	Designing a Flowgraph
Access the SYSPRO Online Help by pressing F1 from within Avanti.	Accessing the SYSPRO Help in Avanti
Toolbar buttons for Customized Panes are now surfaced in the Visual Designer and can be added to a Web View.	How to add a Customized Pane to a Web View to show in Avanti
Notepads that are built into any application can now be added to a Web View.	Adding a NOTEPAD to Avanti
Present Application Builders in Avanti.	How to present Application Builders in Avanti
The following VBScript functions are now supported for grids in Avanti: ▪ `OnPopulate` ▪ `OnSubmit` ▪ `OnRowSelected` ▪ `OnDblClick` ▪ `OnLinkClicked` ▪ `OnAfterChange` Additionally, the following functions are now supported for customized pane list views: ▪ `OnDELPressed` ▪ `OnChecked` VBScript Desktop Alerts are now surfaced as Toast Notifications in Avanti.	*Additional reading:* VBScript functionality support in Avanti

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ANNOTATION

This document provides information about SYSPRO Avanti, the web based version of SYSPRO.

For the remainder of this document SYSPRO Avanti is referred to as Avanti.

The contents of this document are subject to change.

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INTRODUCING SYSPRO AVANTI

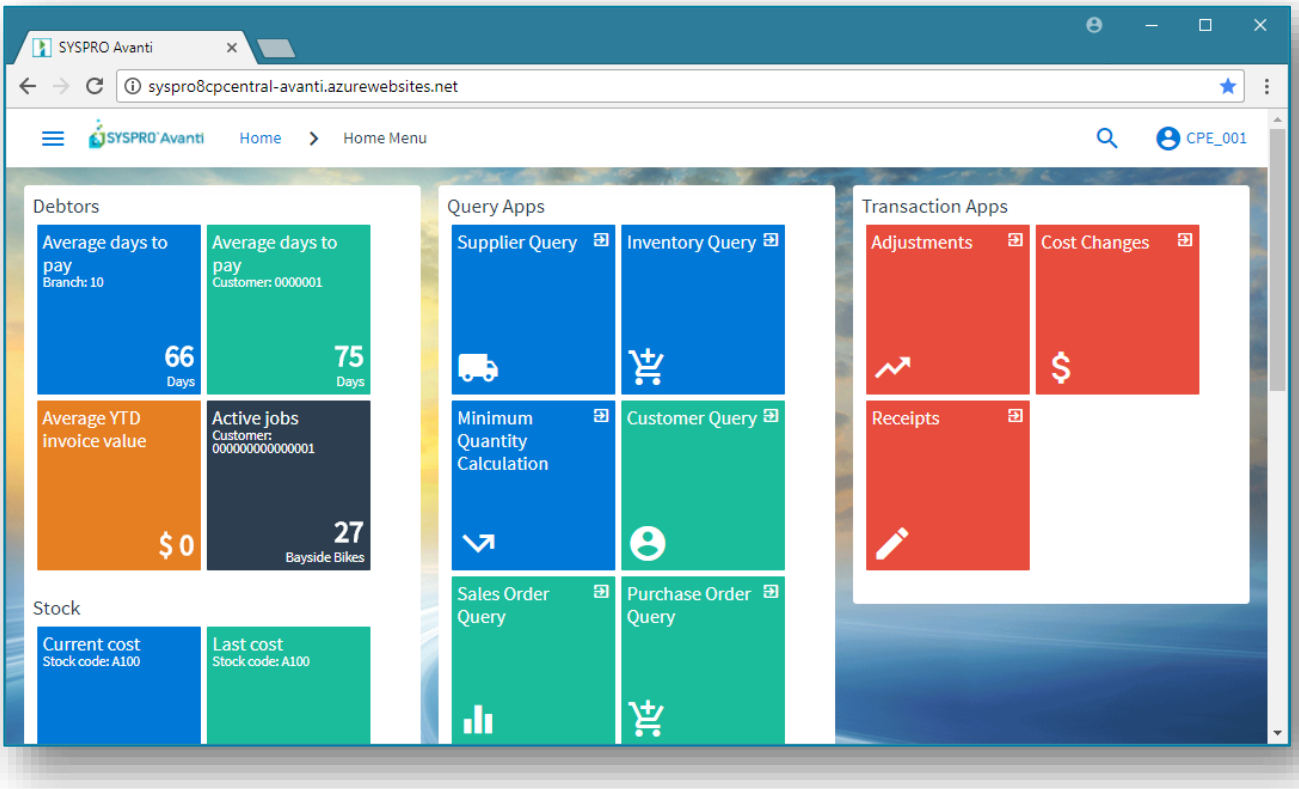
Avanti is SYSPRO's web based offering.

Avanti (an Italian word meaning *forward* or *ahead*) is designed to run SYSPRO's applications in the private or public cloud, but Avanti can also be deployed on premise.

Avanti can be used in parallel with the SYSPRO Windows Client version, allowing a user to use either Avanti or the Windows client version to complete the same task.

Being a native web application, Avanti is accessible on any device, on any platform, from anywhere.

RUNNING AVANTI ON THE DESKTOP



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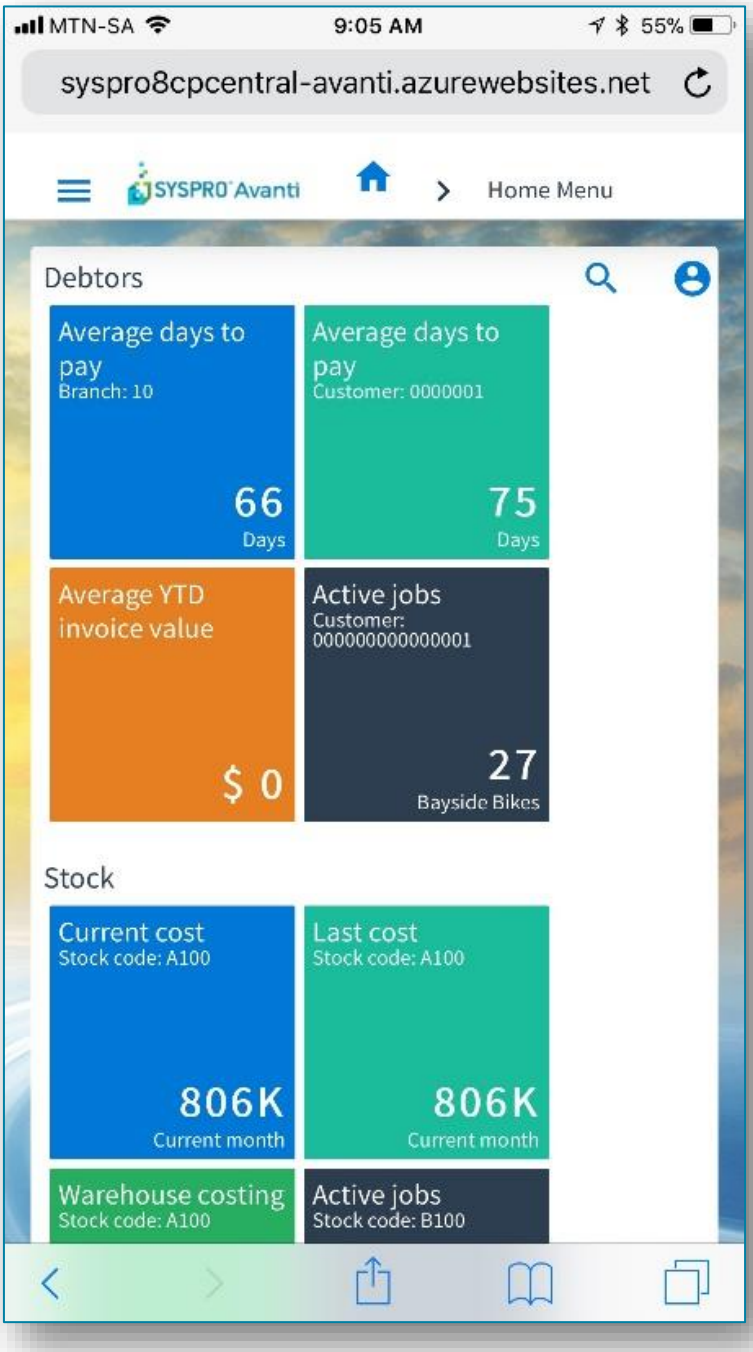
RUNNING AVANTI ON THE IPHONE



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AVANTI'S BENEFITS

Users may selectively deploy either Windows or the web based solution.

A dual user interface provides customers with the ability to select the best UI for the specific task at hand.

- **Familiarity**

  For customers used to the SYSPRO Windows client version, Avanti will be quite familiar as the behavior of the applications is designed to be similar.

- **Ease of deployment**

  Avanti does not require any installation on the Windows desktop or device. All that is required is a web browser.

- **Consistent design across all applications**

  Avanti is designed to be intuitive and easy to navigate, with consistent layouts that make it easier for users to become quickly adept at the execution of tasks, and with a minimum of clicks to complete tasks.

- **Tailoring**

  Avanti has a Visual Designer that allows administrators to change the layout of any application, and to add or remove functionality. This allows customers to streamline any operation. Additionally, some of the customization implemented in the same SYSPRO Windows client application will be automatically applied in Avanti.
  Avanti also allows users to create completely new functionality and to have this available in Avanti.

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THE DIFFERENCES BETWEEN AVANTI AND ESPRESSO

While SYSPRO Espresso and SYSPRO Avanti have similar characteristics (they are browser-based applications, and both were created using modern web technologies), the two products are designed for different types of users.

Espresso is specifically targeted at mobile workers who don't require the full and complex functionality of SYSPRO, but require offline capability.

Avanti is aimed at users who require the full-featured functionality of SYSPRO, but want to access it from a browser.

SYSPRO ESPRESSO	SYSPRO AVANTI
Natively designed for mobile devices.	Natively designed for the browser.
User experience is optimized for mobile devices.	User experience is optimized for the browser.
Offline capability.	No offline capability.
Applications are purpose-built and require development effort.	Applications are created using the Visual Designer and require no development effort.
Espresso is charged by user logon.	User access is based on the concurrent SYSPRO user license.
Espresso applications may be chargeable, and are licensed by user count.	Any application in SYSPRO may be available in Avanti as part of the concurrent licensing.

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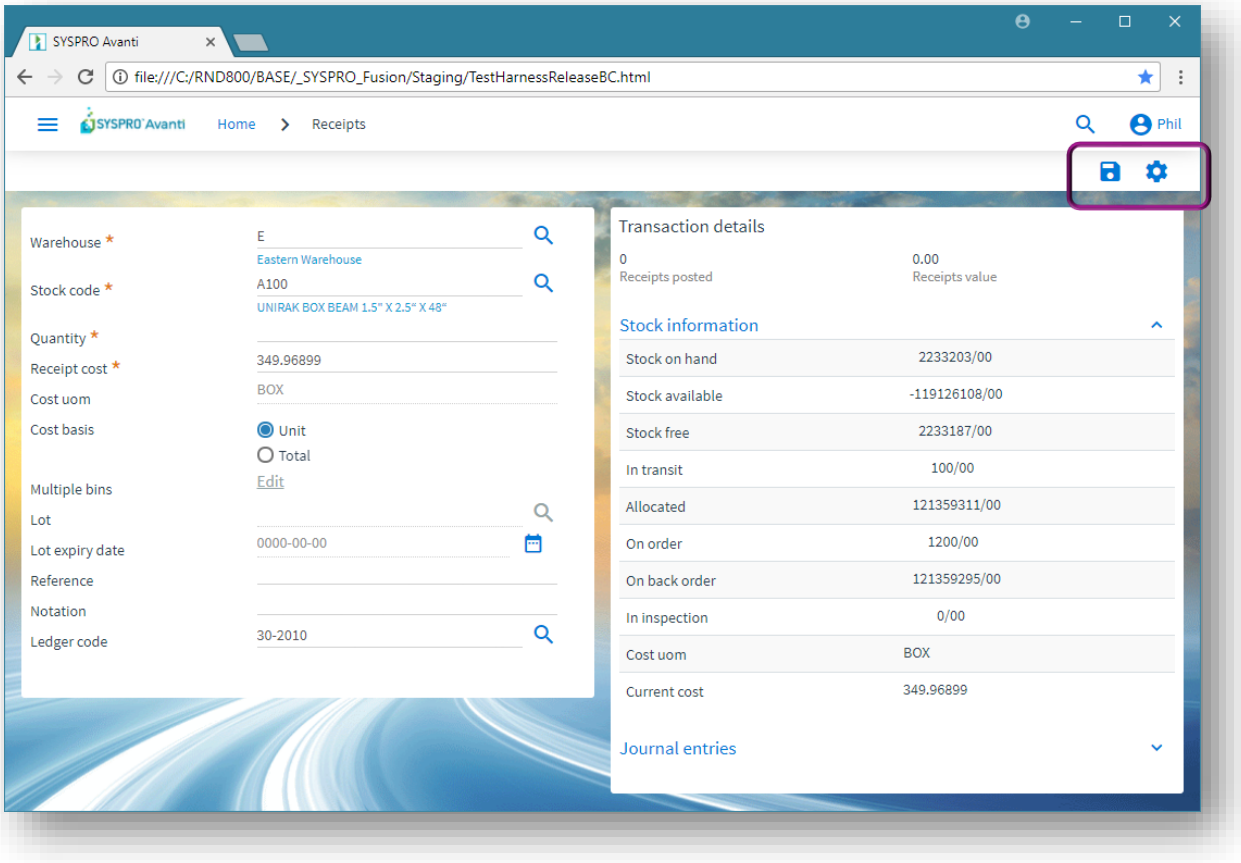
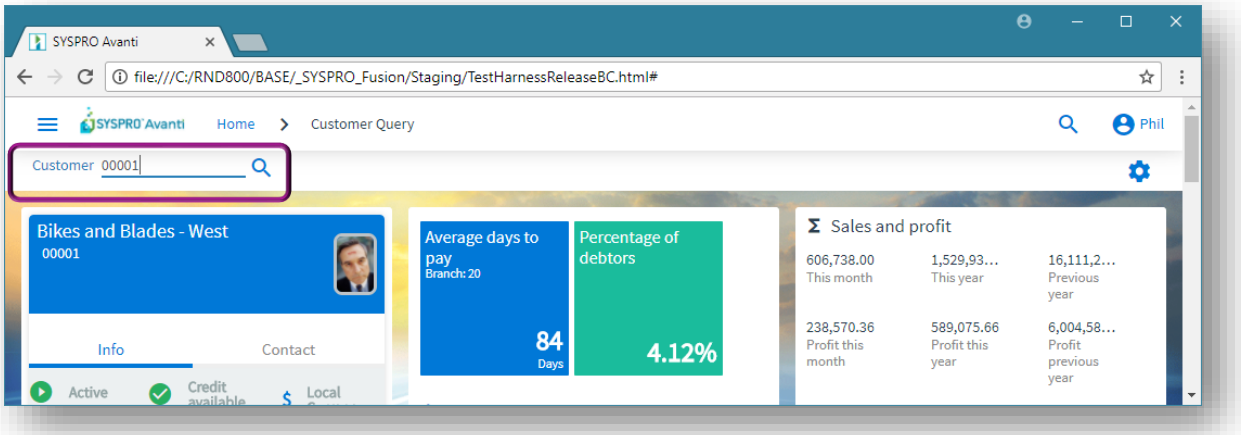
User Interface

Avanti's design guidelines provide a consistent and intuitive user interface.

Action buttons are always located on the right of the toolbar of the current application:



Entry fields on the toolbar are located on the left:



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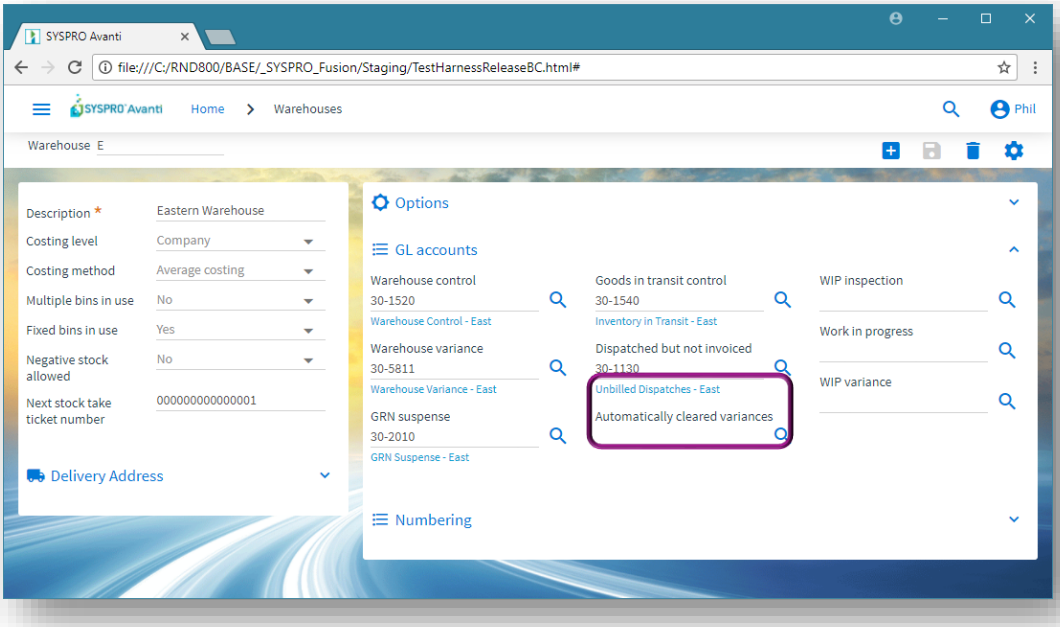
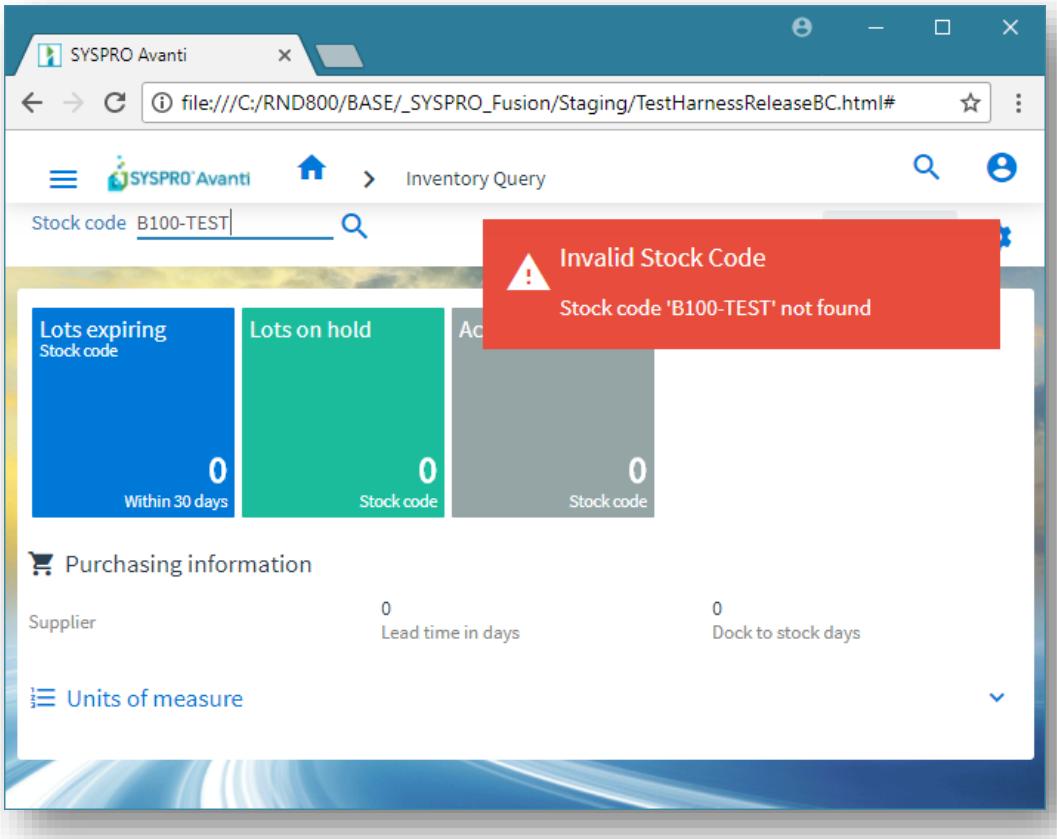
Descriptions for form fields appear beneath the key value:



Toast notifications provide unobtrusive messages if entries are not correct:



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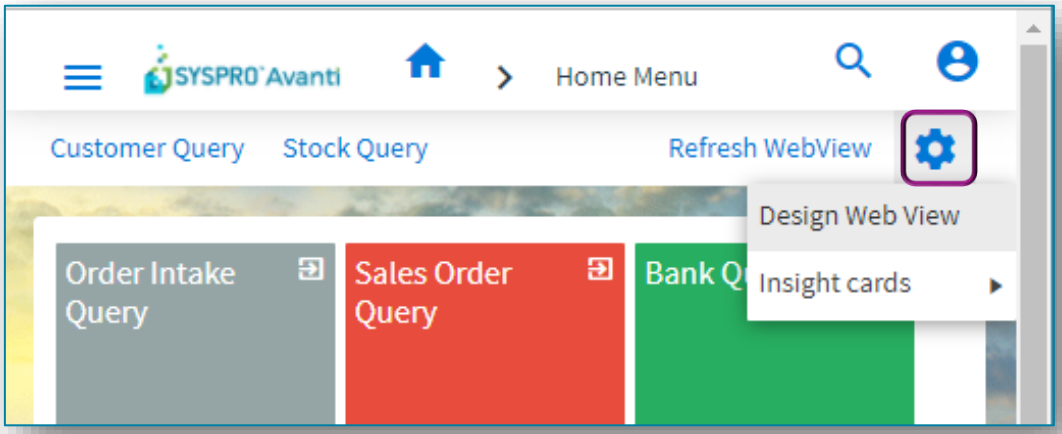
TAILORING AVANTI

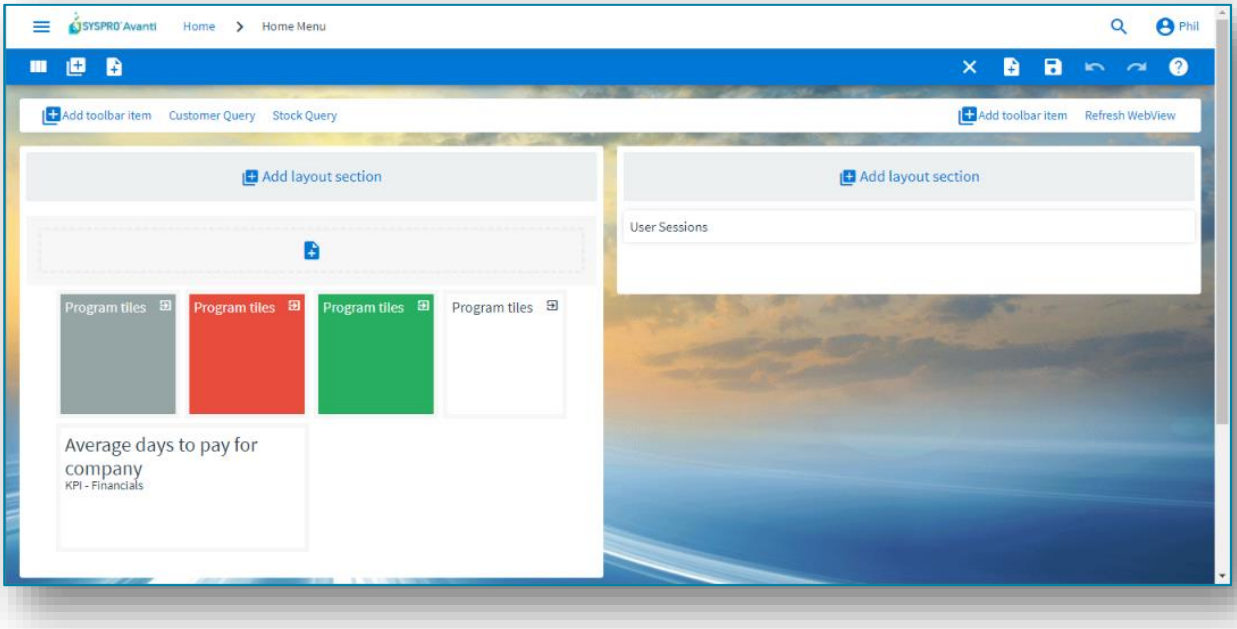
You can use the Visual Designer in either Avanti or the Windows client version to design applications for use in Avanti.

In Avanti, click on the Settings icon at the top right of the page to design the view:



The Visual Designer displays the current layout.

You can add or remove components, or start from new to design your own view:



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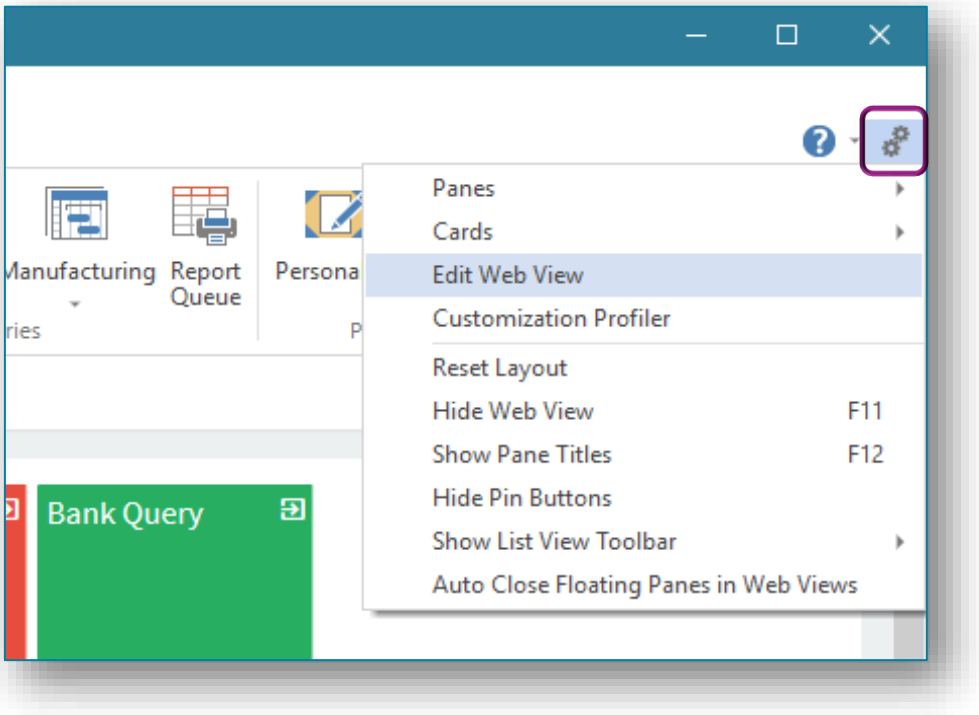
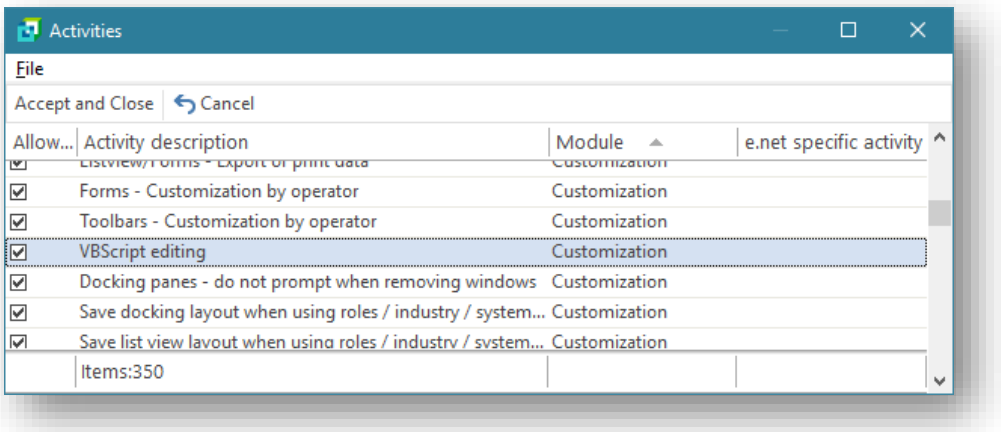
Note: If you wish to design applications at the **Role level** or **SYSTEM-WIDE** level, then you must be in Design Mode within the SYSPRO Windows client version.

You can then launch an application in SYSPRO Windows client and select the option to **Design Web View** from the settings icon:



Designing applications is simply a matter of selecting the Form field, Grid list, Tile or Card and add it to the layout. There is no development coding required by the user to design layouts.

Note: To design a web view the operator security option **VBScript editing** must be enabled:



Once you have designed your own Web View, you can always delete the web view, either by using the Visual Designer in SYSPRO, or when you click on the Settings icon in Avanti the option **Delete Web View** will appear beneath **Design Web View**.

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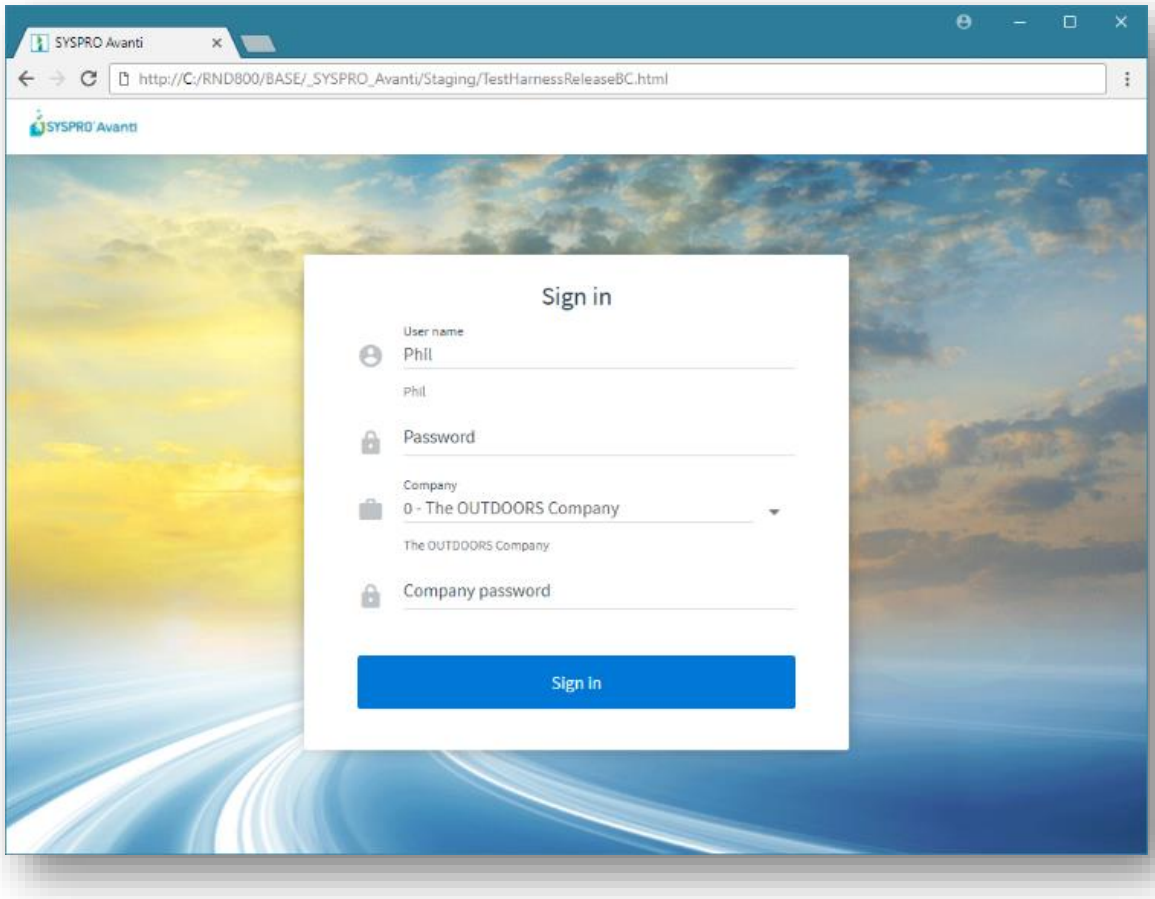
USING AVANTI

The login page for Avanti is similar to that in the Windows client version:



When you login to Avanti it is the equivalent to logging into the Windows client version, in the sense that it uses the same User credentials, and the same concurrency licensing model.

You may use Avanti and the Windows client version at the same time, as long as the user is allowed concurrent use. If you login to Avanti using an operator name that is already logged in (and without the operator setup option **Allow concurrent use of this operator** checked) then the other operator will be logged out.

Security and other options defined for the user apply equally no matter if you login to Avanti or the Windows client version. Similarly, the security principles and options apply in Avanti for whichever company you select.

Avanti is a web based product and as such the user experience differs to that of a Windows client.

This section documents these differences.

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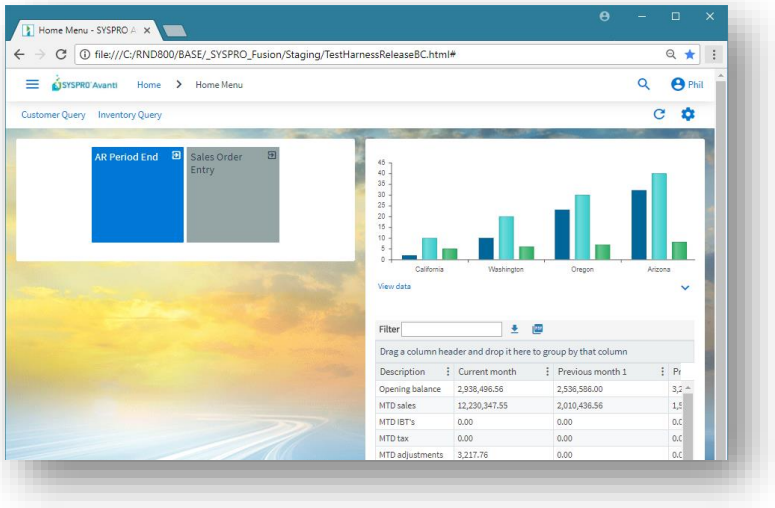
NAVIGATING AROUND AVANTI

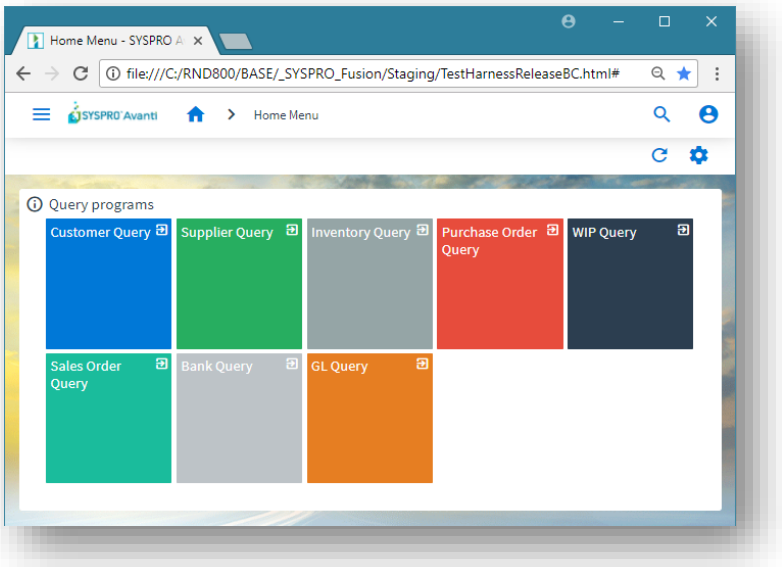
Applications in Avanti are launched either by clicking on a Tile in the **HOME Page** or from the Hamburger Menu options.



The **HOME Page** in Avanti is defined using the Visual Designer and typically can contain a mixture of Business Insights, Program Tiles, and Cards.

Unlike the Windows client version, the **HOME Page** in Avanti can be defined at the Role level, giving administrators the ability to decide on the content for users.

If your **HOME Page** has yet to be defined either at the role level or for personal use, then you will be presented with a pre-defined 'primary view', which may look like this:



Once you have defined your own view, it will always be shown as the default view labelled **Favorites**.

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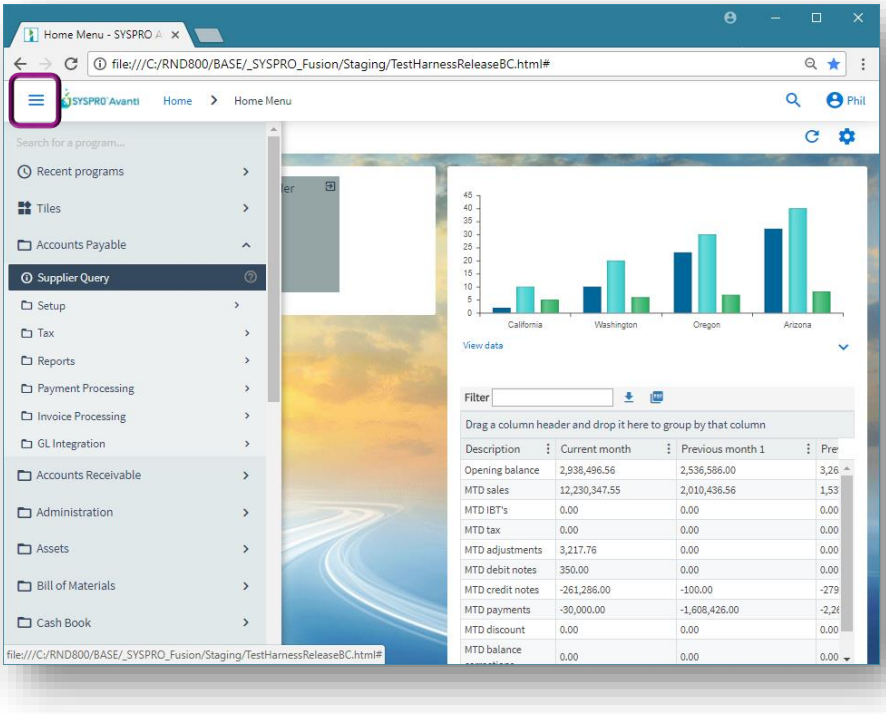
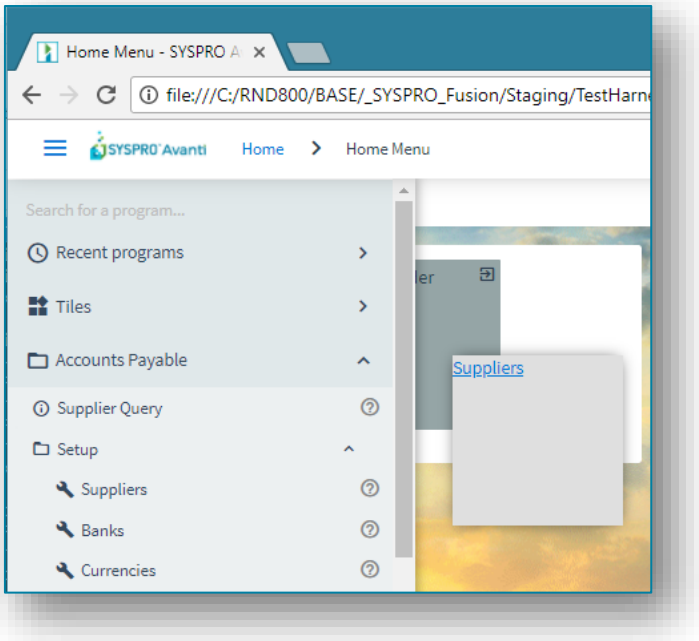
USING THE HAMBURGER MENU

Clicking on the Menu icon (the hamburger at the top left of the **HOME Page**) shows a list of available Avanti programs:



You click on a program to run it.

Alternatively, you can add a program to your current web view either by designing the view using the Visual Designer, or you can drag items off the menu directly onto a Tile section.



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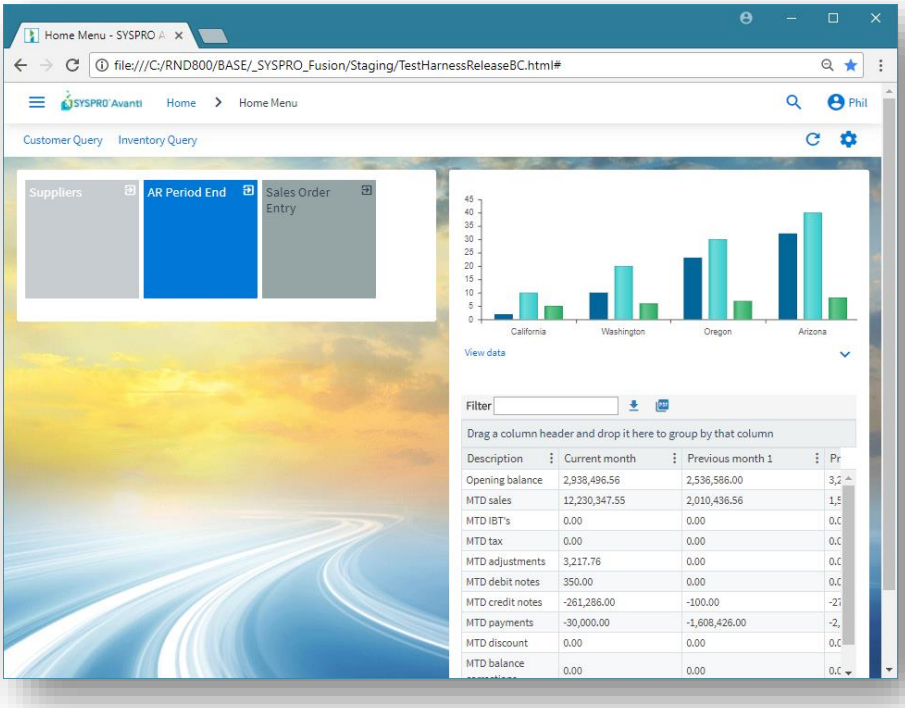
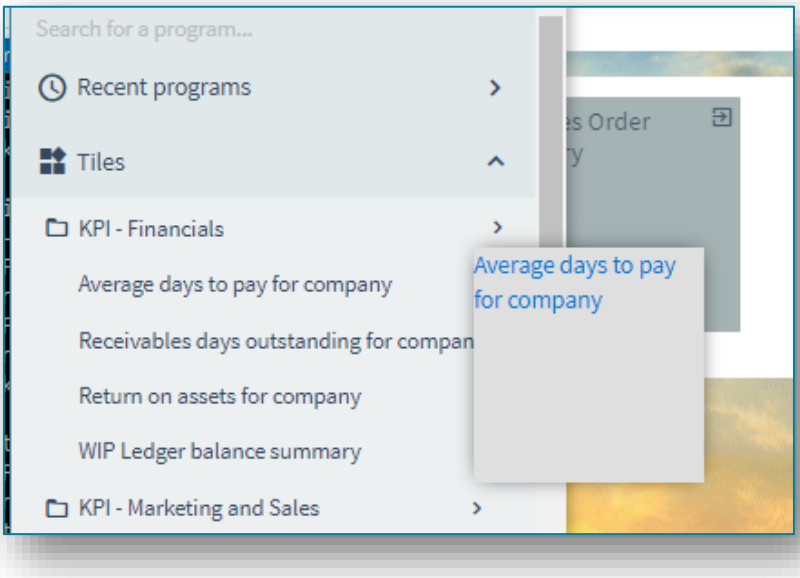
In the above screen shot, the **Suppliers** program is being dragged onto the tile section, which will then look like this:



Similarly, you can drag any Business Insight onto a tile section:



Additionally, you can drill down to the detail of any Business Insight simply by clicking on the item, either in the menu list, or by clicking on the 'tile' itself after it has been dragged onto a tile section.

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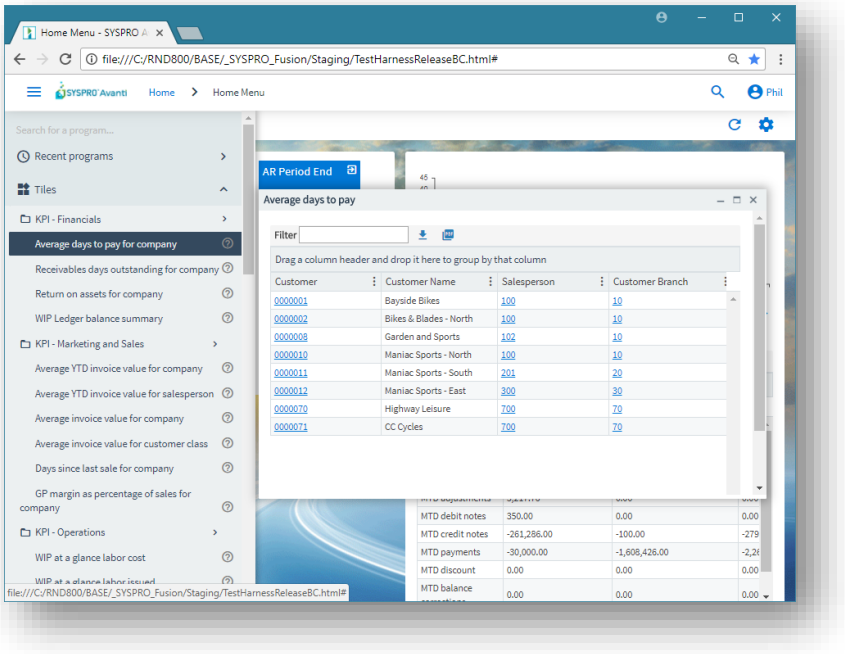
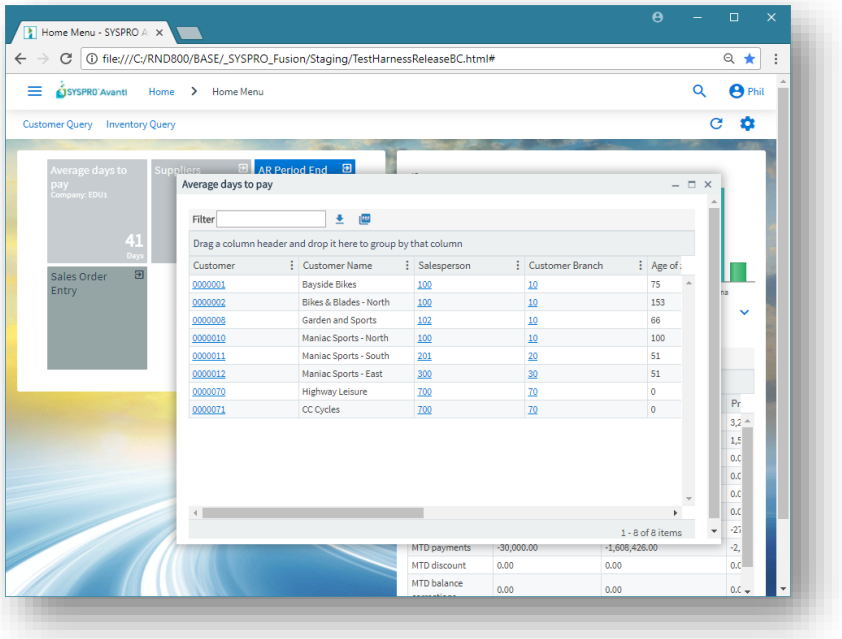
Thus, clicking on the menu item **Average days to pay for company**:



...or clicking on the tile itself after it has been dropped into a tile section, will show the insight detail:



Note: As soon as you have dragged a program or business insight onto a tile section, Avanti will save that view for you. If you are in the **HOME Page**, then this will now become your personal view.

If you wish to adjust your **HOME Page** even further, then you will need to use the Visual Designer (see further on in this document).

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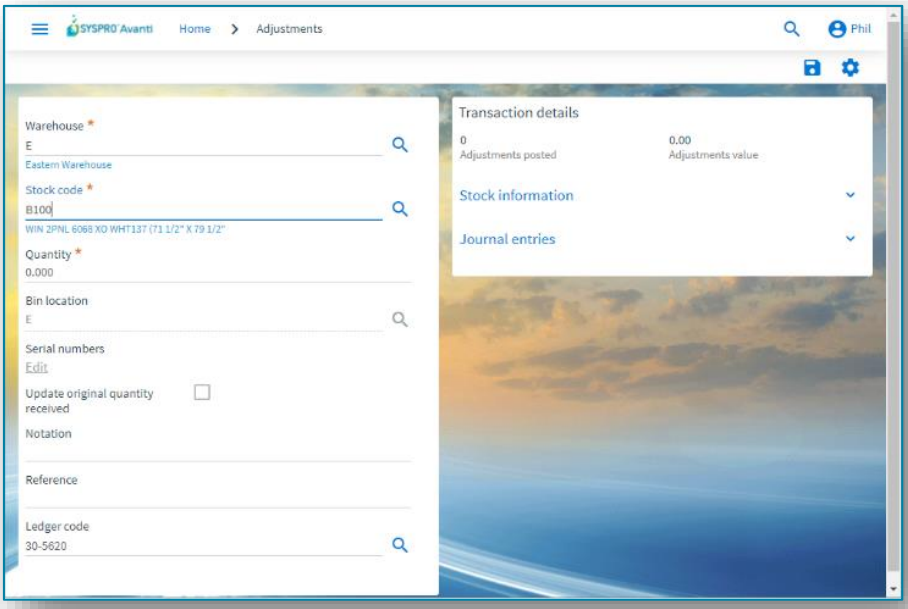
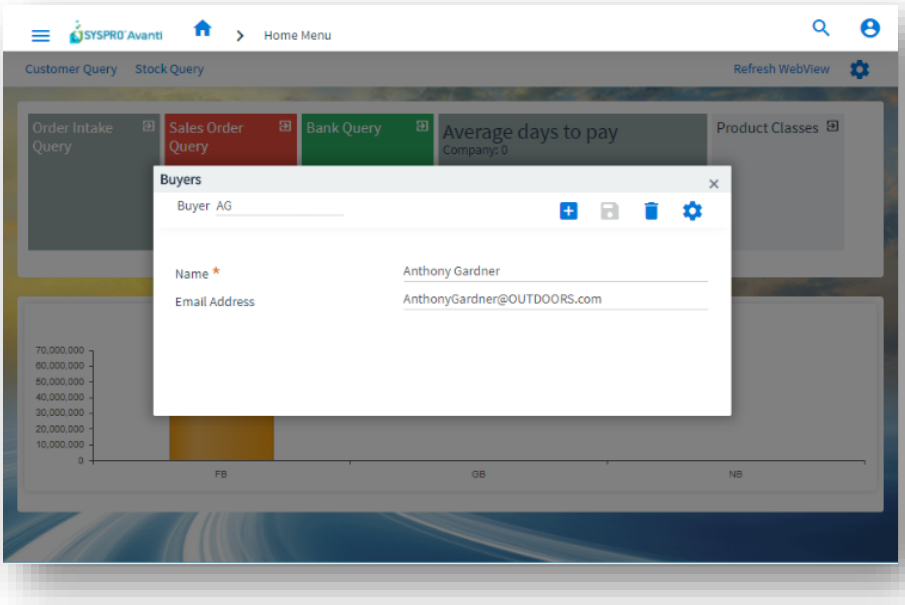
Avanti applications typically consume the entire page:



But if the application only surfaces a few fields, then it is shown in a popup window, as in the following example for the maintenance of Buyers:



To use another application, you can click on the **HOME** button, which will return you to the **HOME Page**.

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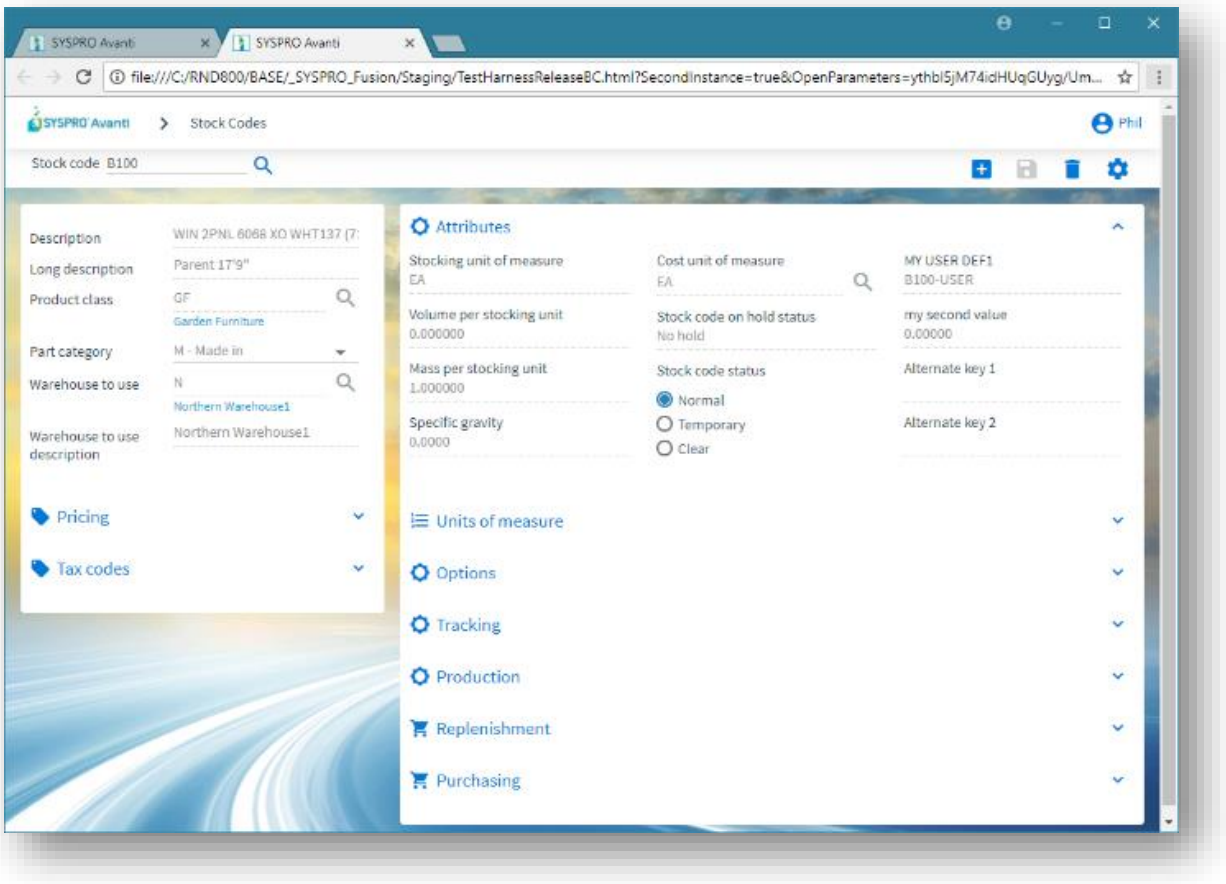
Alternatively, you can remain in the Avanti application and click on the Menu icon to select another application. In this case, the selected application will be shown in a new TAB in the browser:



In this way you can have multiple applications running simultaneously and you can switch between them as required.

Accessing the SYSPRO Help in Avanti

If you want to access Help and Reference information, simply press `F1` from within Avanti and the SYSPRO Help website will open in a new browser tab.

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LOGGING OUT OF AVANTI

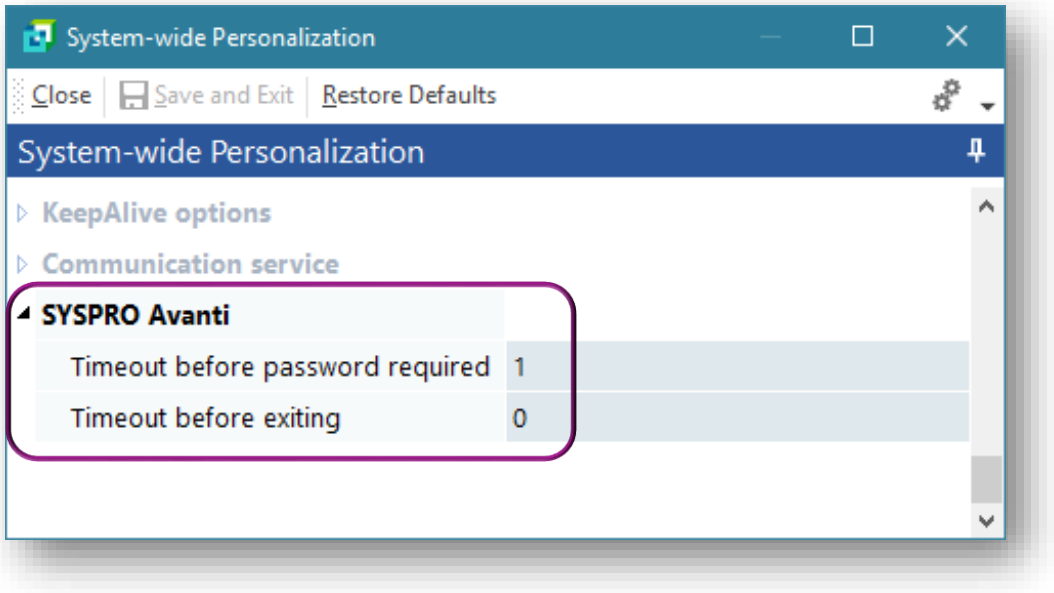
To exit Avanti, simply close the browser, or click on the **Sign out** button to exit Avanti and return to the Logon page (to change to a different company or user).

If you are currently in a transactional application then you will be prompted if you wish to leave the site.

PASSWORD PROTECTION IN AVANTI

By default, a timeout of 10 minutes is imposed on any user who logins to Avanti. After this timeout the system will request the operator's password to continue (even if that password is blank).

You can adjust the period of the timeout using the **System-Wide Personalization** program and adjust the option **Timeout before password required** as appropriate:



In addition, you can impose a further timeout (in minutes) after password window has appeared.

If the timeout expires then Avanti will exit completely back to Login screen. In both cases, a timeout value of 0 indicates no timeout.

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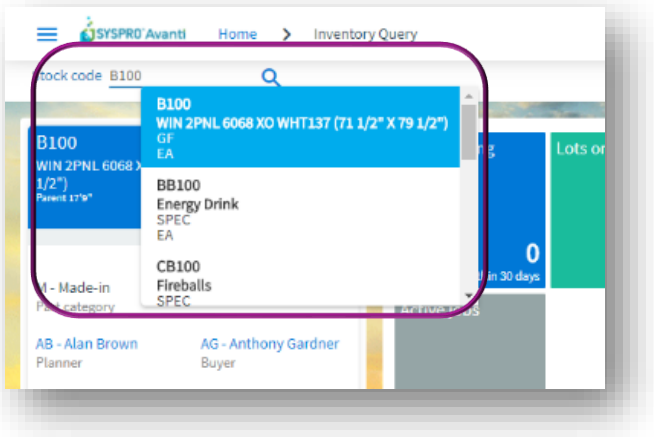
PREDICTIVE SEARCH AND SEARCHING IN AVANTI

Predictive Search is optional in Windows client, whereas in Avanti it is automatically in use. Moreover, the method of 'browsing' in Avanti is quite different to that used in SYSPRO.

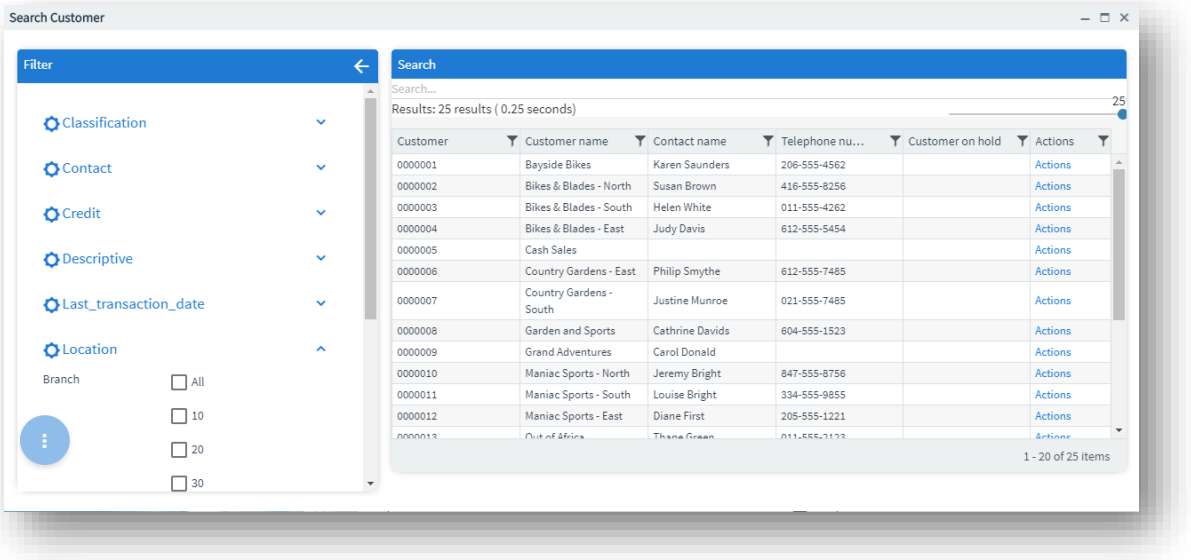
As you start typing into a 'key field' (such as Stock code, Customer etc.) predictive search will display the items that match the filter criteria. You can use the Windows client version to modify how these filter criteria behave using the program **ESPSRC**.



Next to any key field in Avanti is the Search button:

Most searches will be shown in a generic search window, explained below. Occasionally, a search is too complex for the generic search and in that case a special search window will be shown.

The generic search window shows a FILTER pane, and a SEARCH pane:



Clicking on a row in the grid will return the key value.

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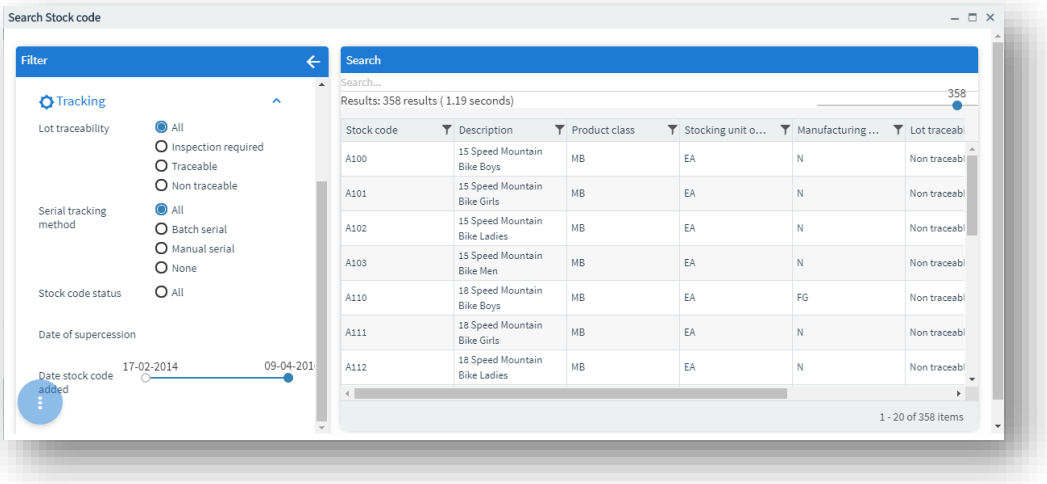
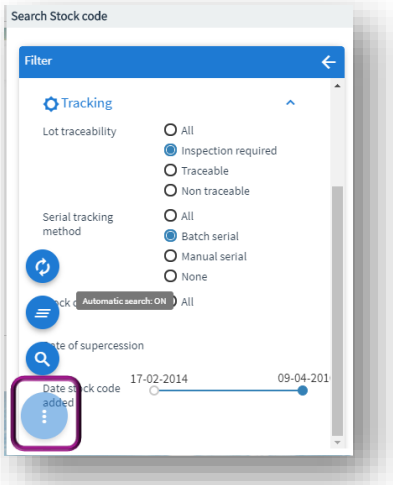
You can filter the data returned in two ways:

1. Type into the **Search...** box the value you are searching for. The data is filtered across all columns in the database as you type, like a Google search.
   As an example, if you are looking for a customer whose telephone number contains 4562, simply type in 4562.

2. Some searches are shown with special filters in the FILTER pane.
   For example, the CUSTOMER search will automatically show a filter across all BRANCHES in the LOCATION category. Simply click the Branch or Branches you would like to include and the data will be instantly refreshed. Note that the FILTERs work across all customers.
   Here is another example, using the STOCK CODE search, so that you can select specific types of items such as TRACEABLE only.



Click the button for additional actions:



- Clear all filters.
- Switch off automatic searching.
  This allows you to select multiple search criteria and then click on the search button. With automatic searching on, as you change criteria the data is being immediately searched.

Note: The FILTER pane and the COLUMNS shown for each key type are pre-built into Avanti and cannot be currently changed. In a future release, you will be able to customize the FILTERS pane and adjust the column headers shown.

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Additional features available:

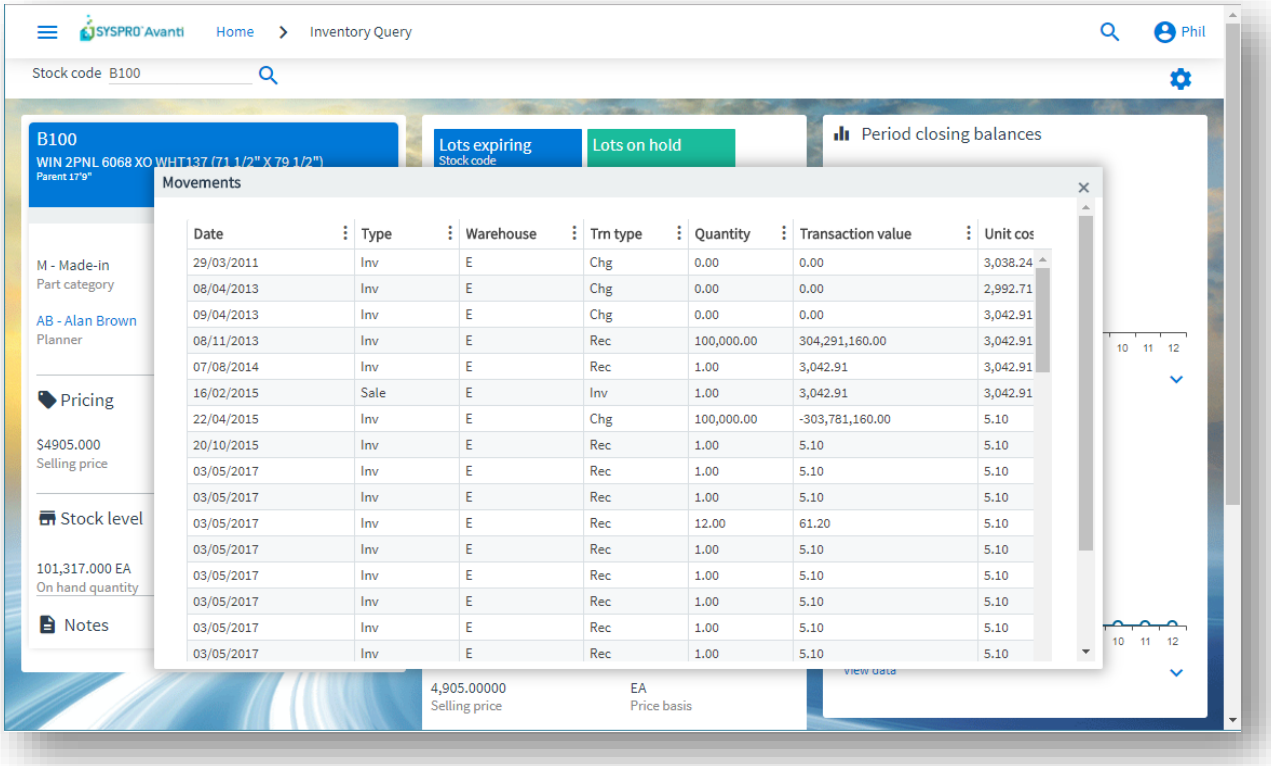
- Click on a column header to sort the data.
- The grid shows by default the first 50 rows, but you can use the slider to show as many rows as you would like.

Using Windows in Avanti

Applications in Avanti are designed to show most information in a single page. Where appropriate, the use of popup windows can surface additional information. For example, in the Inventory Query users can view Movements and Warehouse history lists.

Such lists are shown by default in popup windows that can be resized and repositioned in the browser. It should be noted that such behavior can easily be changed using the Visual Designer and make these lists appear in the single page.

Here is the Movements listview shown as a popup window:



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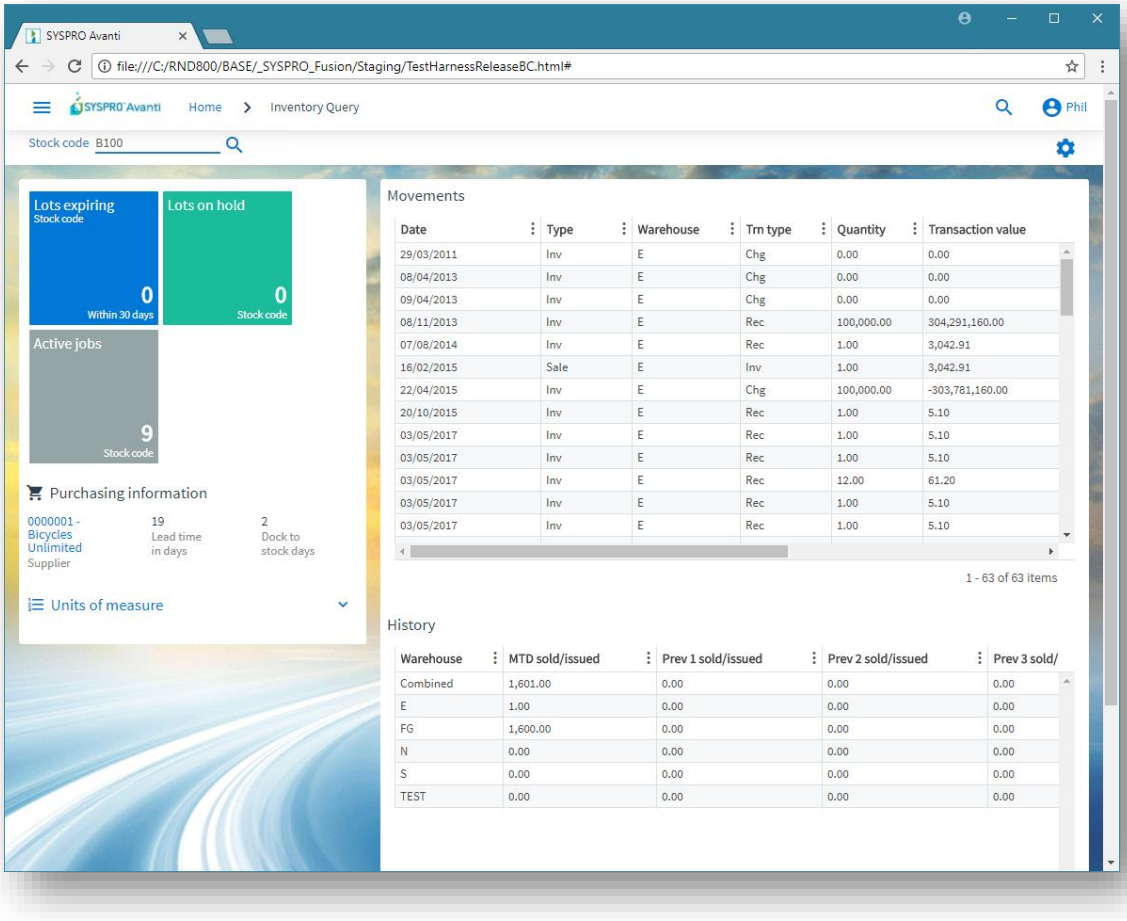
And the same application, but with Movements and History Listviews shown within the page:



USING CARDS IN AVANTI

Cards are pre-built discrete functional components.

A card is a self-contained HTML5 page whose data is derived typically (but not exclusively) from a business object.

A card may run as a separate entity in its own window or can be embedded in a view.

A card may require a 'key value' (such as a Customer or Stock code key) to execute, whereas other cards require no such key – the latter are known as 'Insight cards' (an example might be 'Bank balances', or 'Sales order commitments').

While Avanti ships with a set of pre-built cards, it is relatively easy to construct new cards for any additional required functionality.

To add a card to any view, you can use the Visual Designer.

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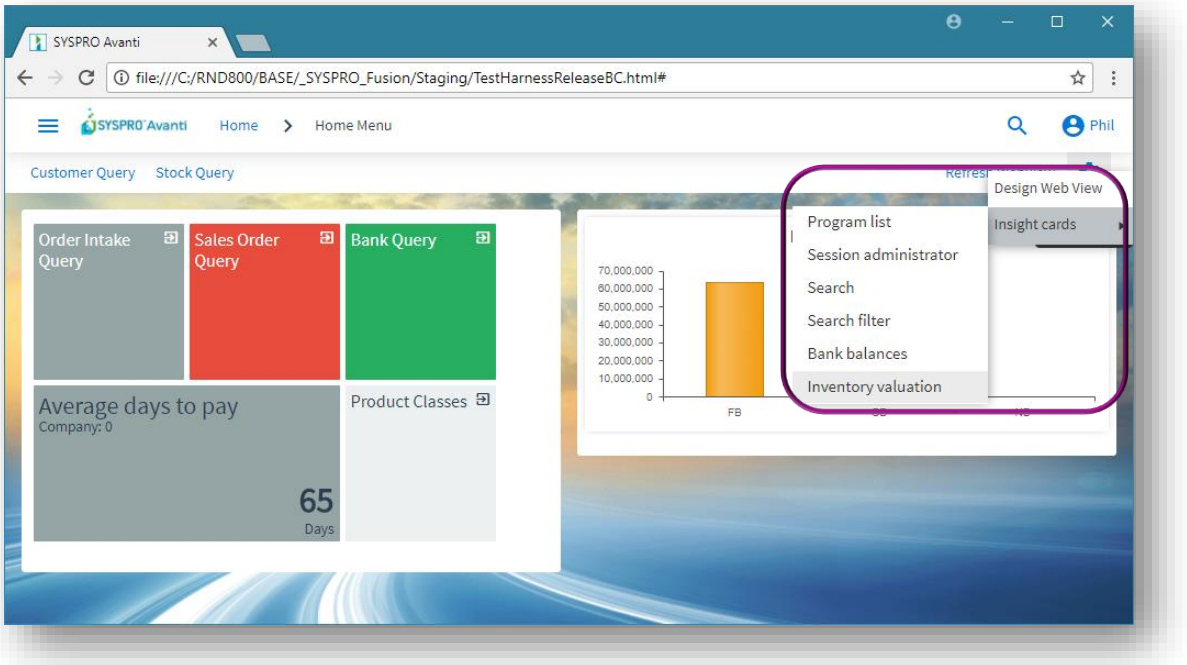
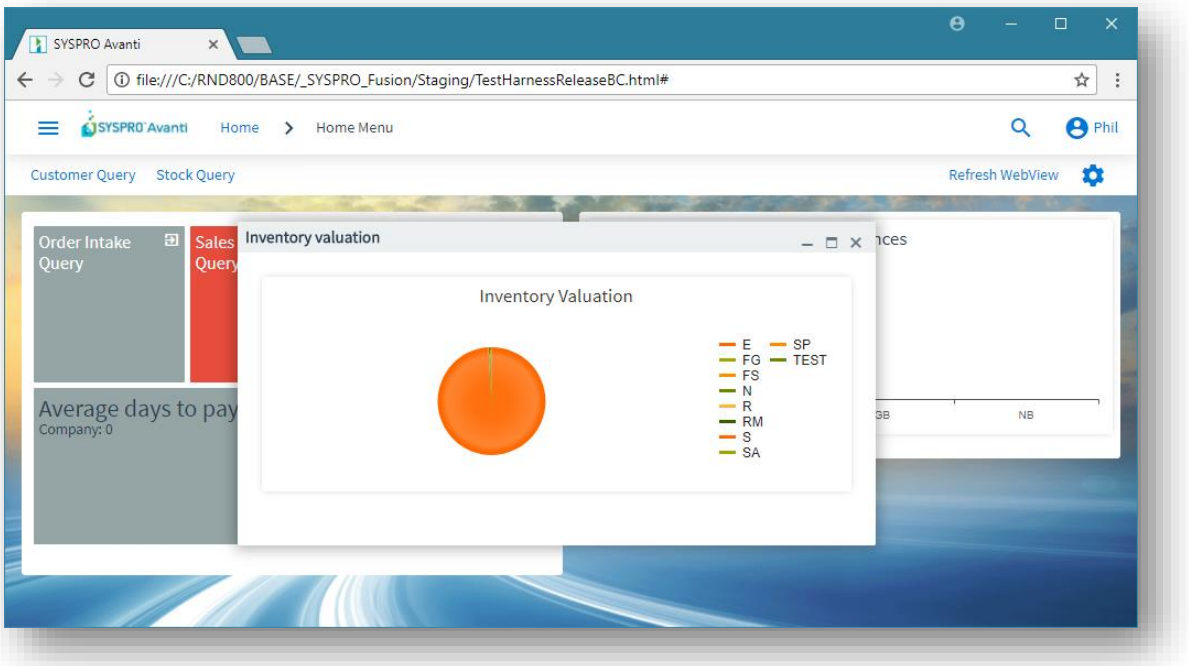
SHOWING INSIGHT CARDS

To show an Insight card as a popup window, click on Insight Cards from the Settings icon while on the **HOME Page**, and select the required item:



The Card is shown in a popup window:



The card can be positioned anywhere within the browser, and can be minimized or maximized within the browser. Avanti will remember any cards shown like this, and will show them again next time you login.

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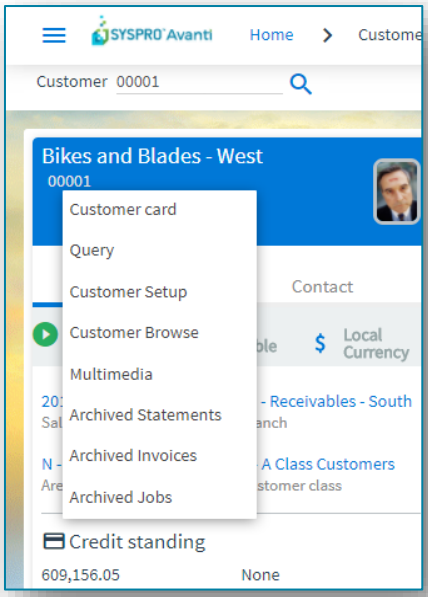
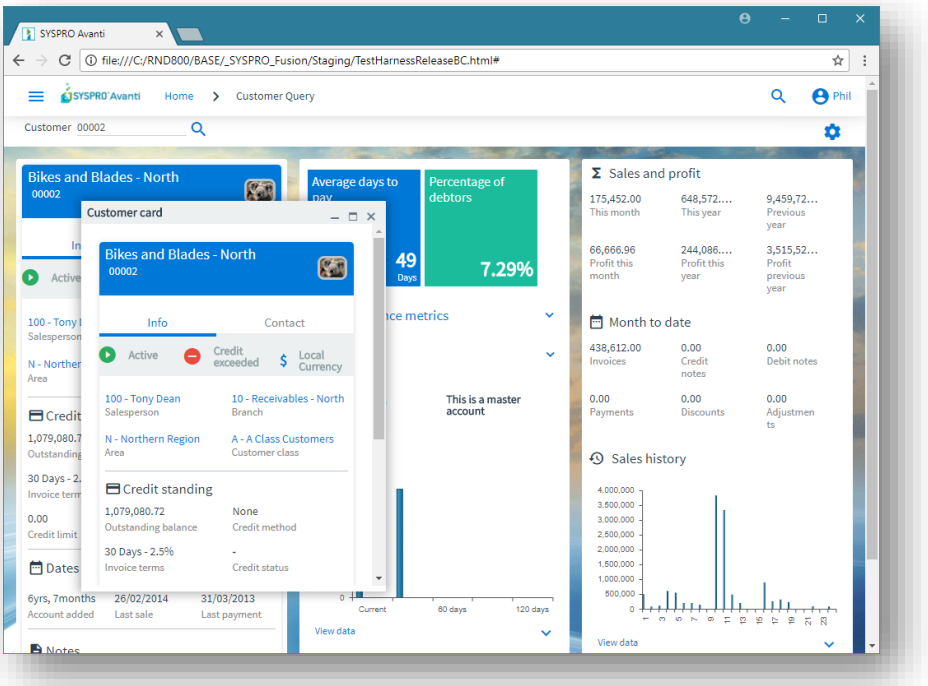
SHOWING 'KEY' CARDS

Cards that are associated with key fields can be embedded in a view or can be shown in popup windows. Such cards are automatically refreshed whenever the key value in a toolbar or form field is changed.

To show a key card as a popup window, you select from the SmartLink context menu. This is the same context menu that is available in the SYSPRO Window client version.



The Customer card is now shown as a popup window:



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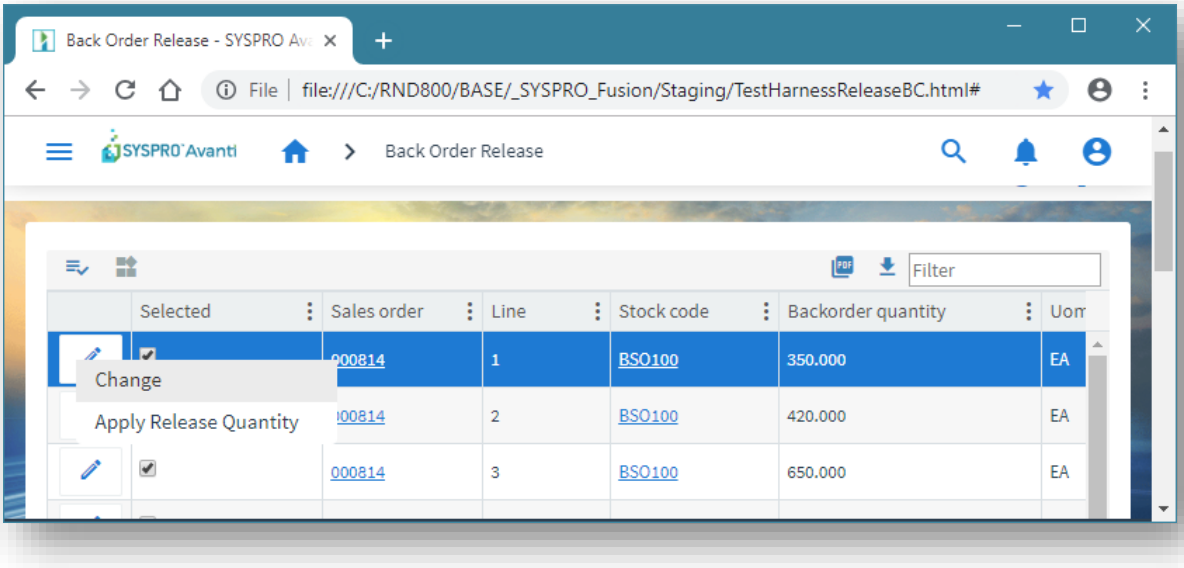
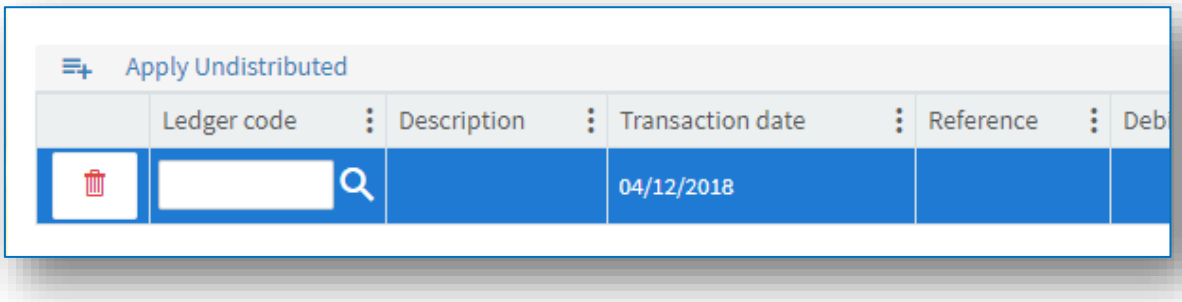
USING GRIDS IN AVANTI

A grid in Avanti has some common characteristics:

- Built-in functions (output as PDF document, output to Excel, and Filtering) are shown in the grid toolbar on the right-hand side.
- Buttons that are specific to the application are shown on the left-hand side.
- If there are some actions available for an editable grid, then typically they are shown as buttons to the left of each row.
  In the example below, clicking on the **Edit** icon shows a context menu:



The following example shows a **Delete** icon that, when selected, will remove the row:



The grid list columns sequence in Avanti is initially provided from the equivalent list view from within the SYSPRO program. Thereafter, any changes to the grid when running in Avanti (such as moving columns around, removing columns, sorting or grouping) are automatically saved on the application server in …`\base\settings\AVANTI\` as:

`List_`*`operator_gridname`*`_AVANTI.XML`.

Note: Changes to grid layouts are not saved if you are logged into Avanti using a role.

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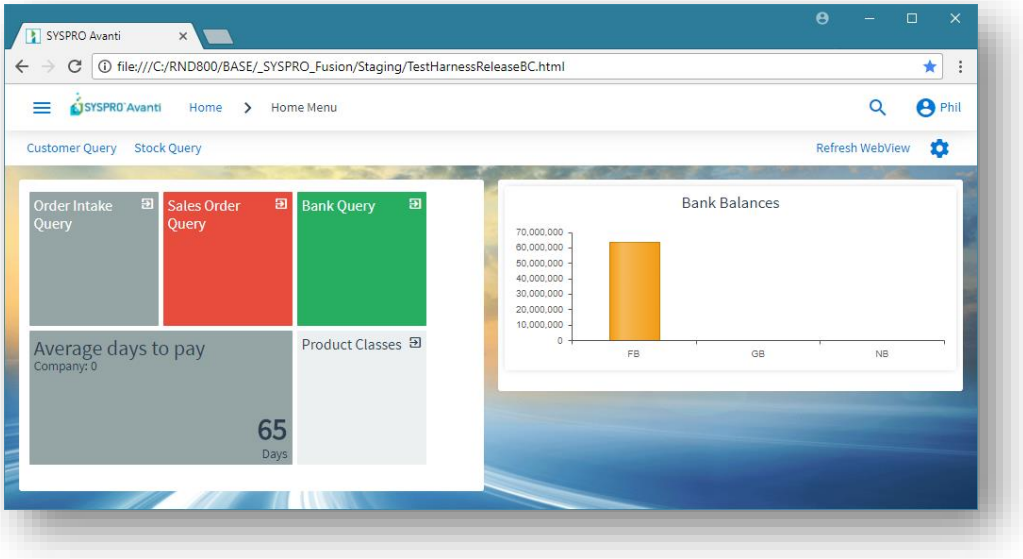
Using Business Insights and Tiles in Avanti

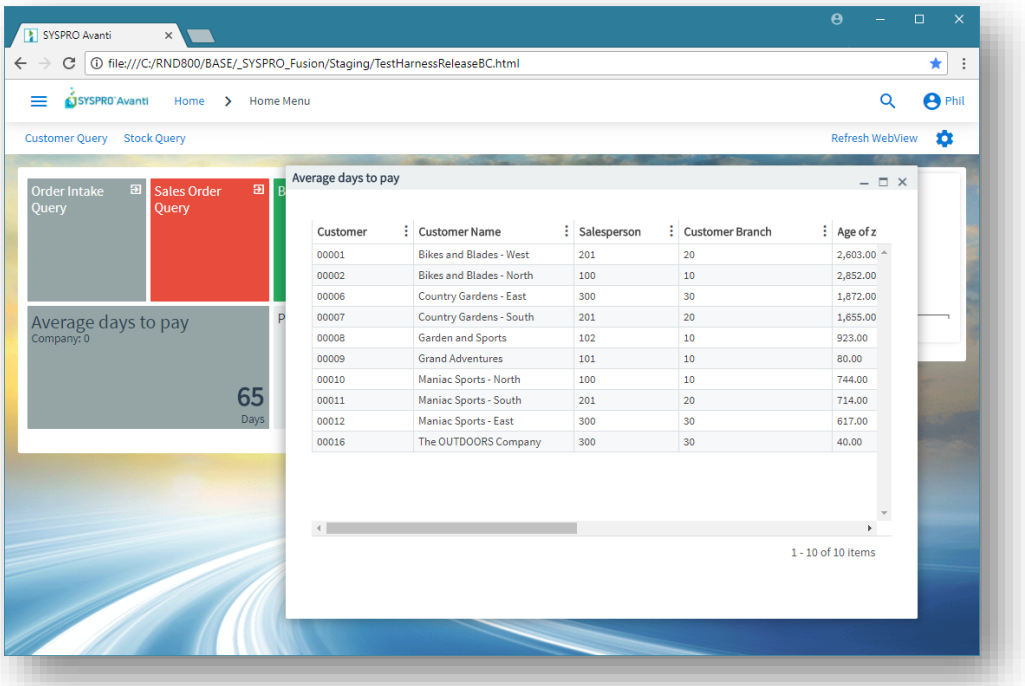
Business insights are discrete views of KPI data and are displayed within Tiles. These tiles can be added to any view using the Visual Designer. Additionally, a tile can represent a program that can be launched.

If we look at the view shown below, which is the **HOME Page** for Avanti, there are 3 Program Tiles, and two Business Insight tiles.



Clicking on **Order Intake Query**, for example, will launch that application.

Clicking on **Average days to pay** (a Business Insight tile) will show the detail behind that KPI:



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Understanding Workspaces

A workspace is a way of grouping tasks or processes in a meaningful way for an individual.

Another way of looking at a Workspace is that it is a Web View designed to be surfaced when you are in the **HOME Menu**.

Note: Workspaces are only available when you are in the **HOME Menu** in Avanti.

If you are in a Role, then typically the Workspace is designed by the Administrator (Designing Workspaces by Role).

If you are not in a role, then you can design your own Workspaces (Designing Workspaces in Avanti).

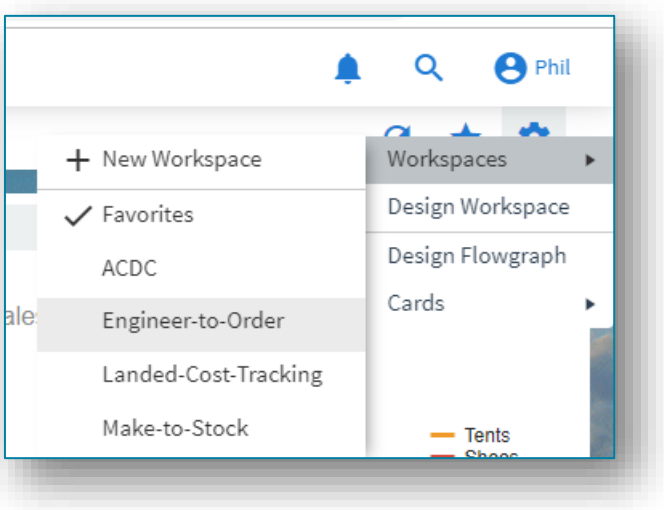
Designing Workspaces in Avanti

Workspaces for a non-role user are designed from within Avanti.

You can have an unlimited number of workspaces.

Click on the **Settings** icon when in the **HOME Menu** and select **Workspaces**. A list of available workspaces is displayed.

Note: You will always have a **Favorites** workspace and this will be selected by default when you log into Avanti.



To add a new workspace, select the **New Workspace** option.

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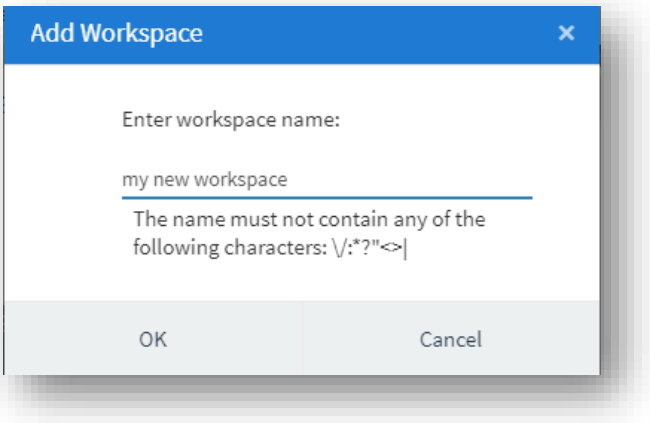


The workspace will be saved as a filename as:

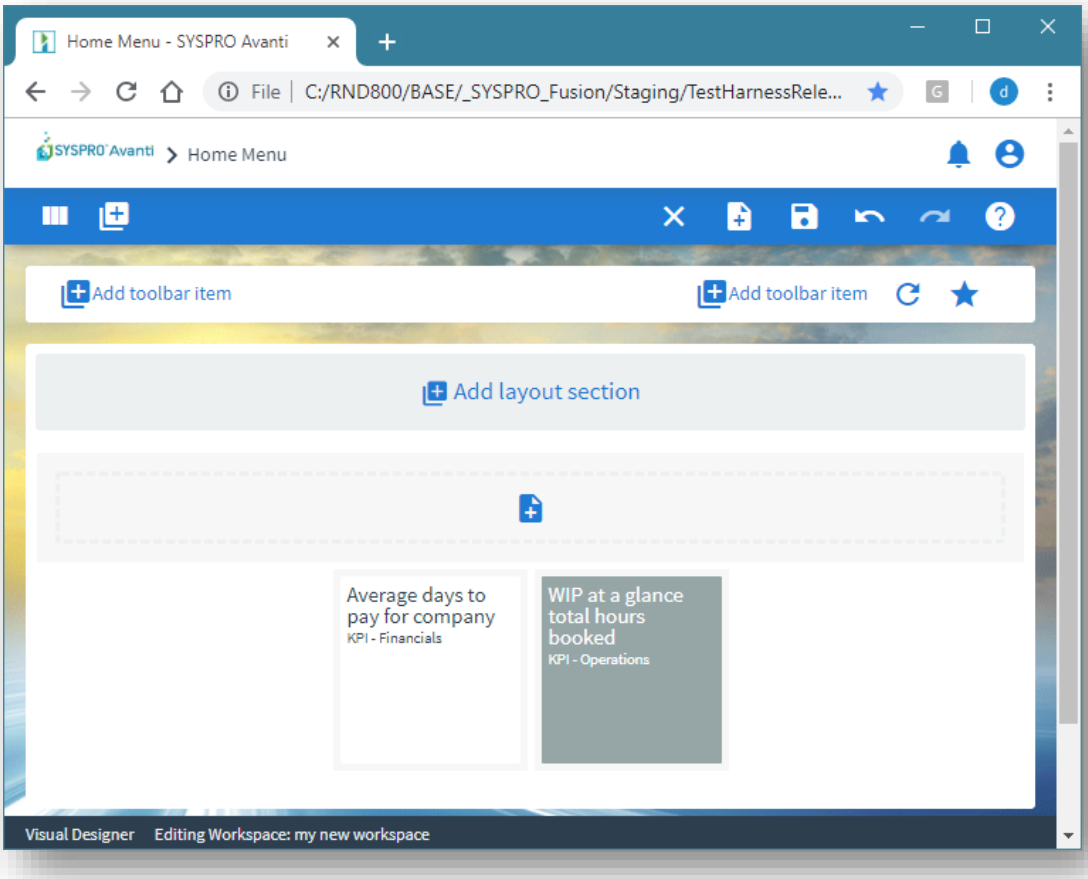
…\settings\UX_*operator*_IMPMENLZ*workspaceName*.JSON.

Note: Because this is a filename, you cannot include invalid characters such as \ or /.

Click on **OK** and the Visual Designer will load, indicating the workspace you are editing in the status bar.

Now add the elements you wish to show in your workspace.

In the following example, two TILES have been added:



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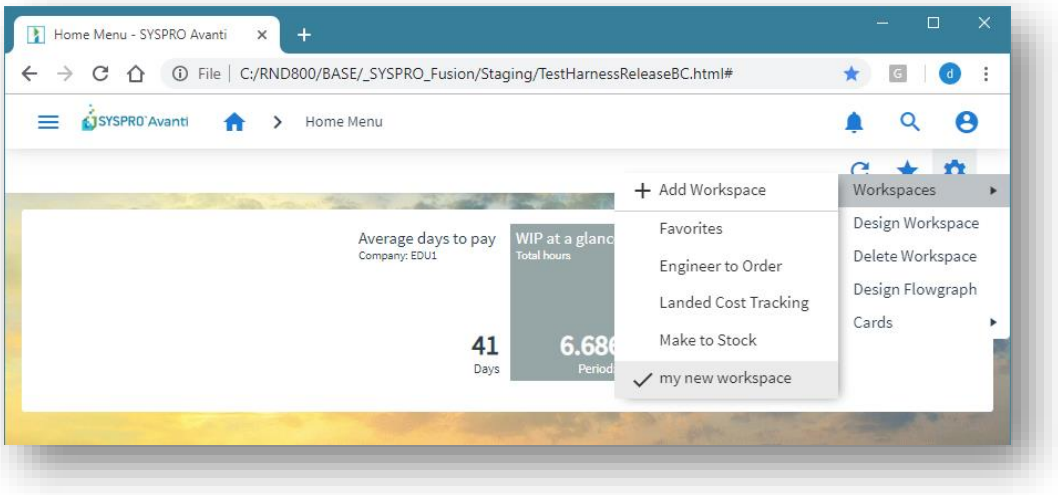
After saving the Workspace, it will be refreshed in the **HOME Menu**:



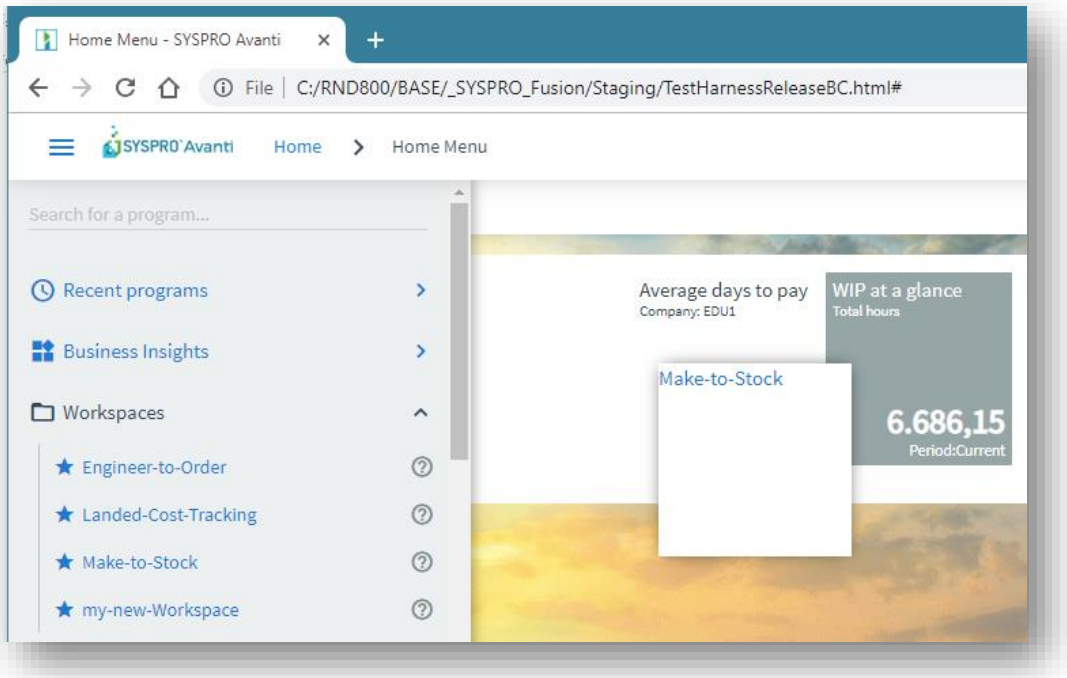
To change the Workspace, click on **Design Workspace**.

To delete the Workspace, click on **Delete Workspace**.

Note: You cannot delete your **Favorites** workspace as this is your primary view in the **HOME Menu**.

You can switch Workspaces in either of the following manners:

- Click on the Settings icon and select from the Workspaces shown,
- Or if you have a **Tile** section in your Workspace, you can drag a Workspace item from the Hamburger menu onto the Tile section:



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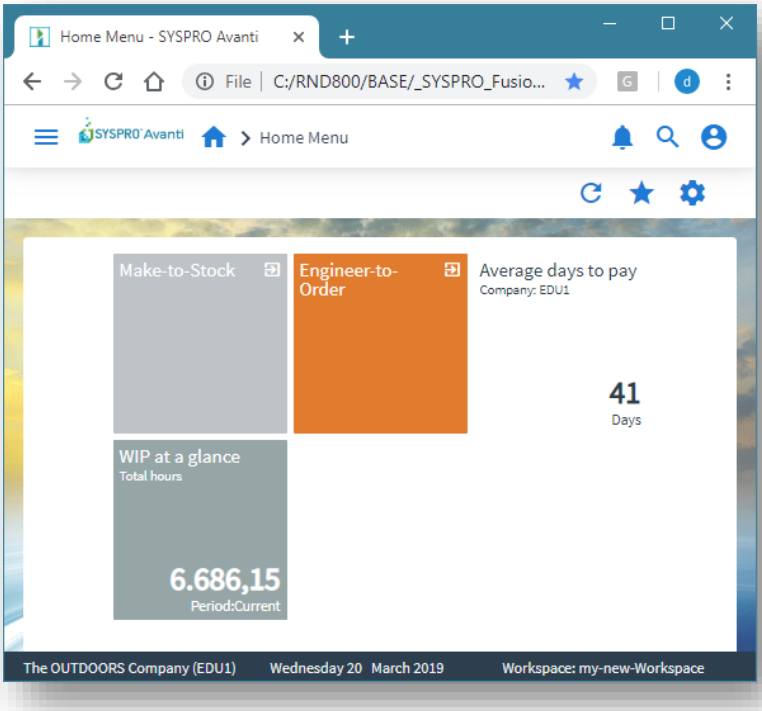
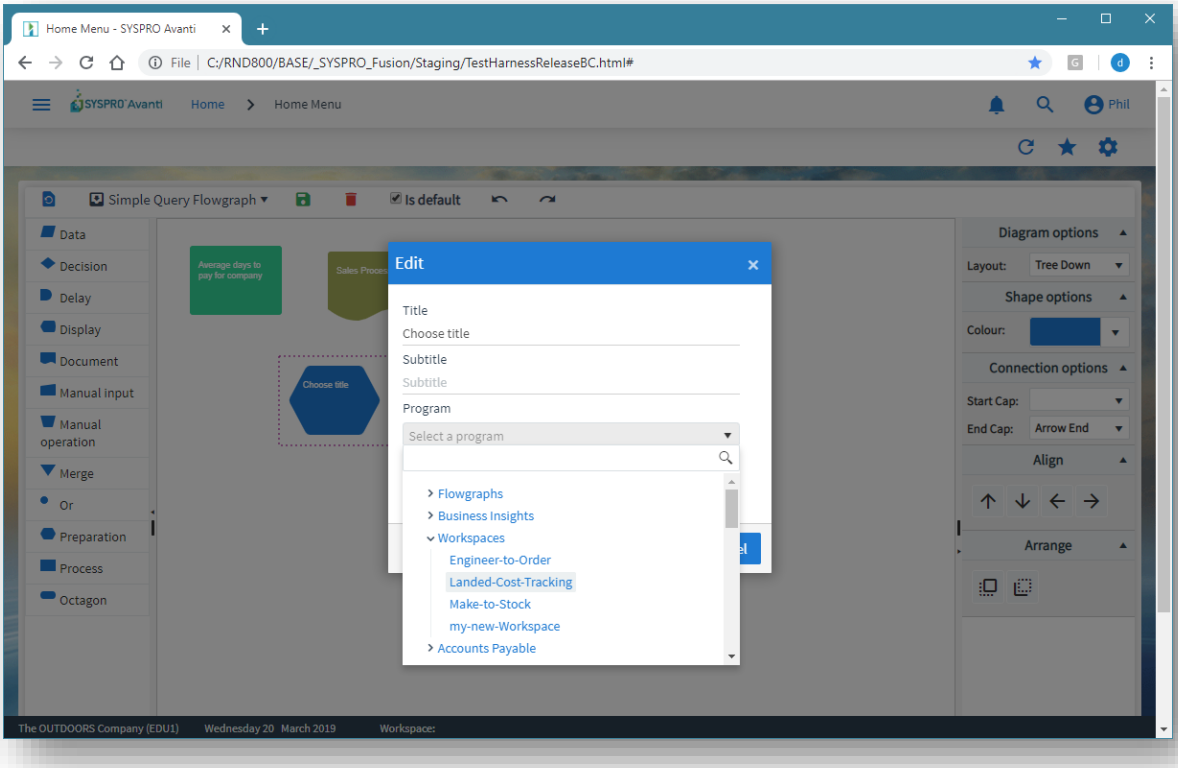
Clicking on the workspace tile will switch to the nominated workspace:



You can also switch to a different Workspace using the Flowgraph.

Call up the **Flowgraph Designer**, add the design element, click on the **EDIT** button and select the Workspace from the **Workspaces** list:



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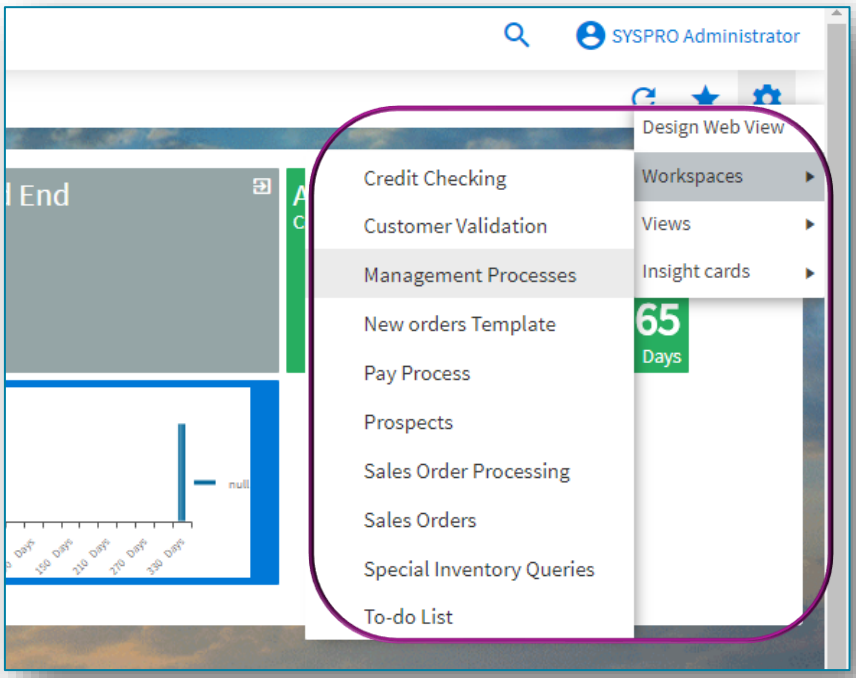
Using Workspaces by Role in Avanti

Workspaces by role are only available when you are in the **HOME Menu**, and are displayed beneath the **Settings** icon (sorted by description):



A workspace may contain anything that can be designed in the Visual Designer:

- Business insights
- Program Tiles
- Charts
- Flowgraphs
- Cards
- Grids
- Forms
- Any Customized Panes associated with the role itself.

You can switch between workspaces at any time when you are at the **HOME Menu** in Avanti.

The name of your current workspace will be shown in the status bar of Avanti.

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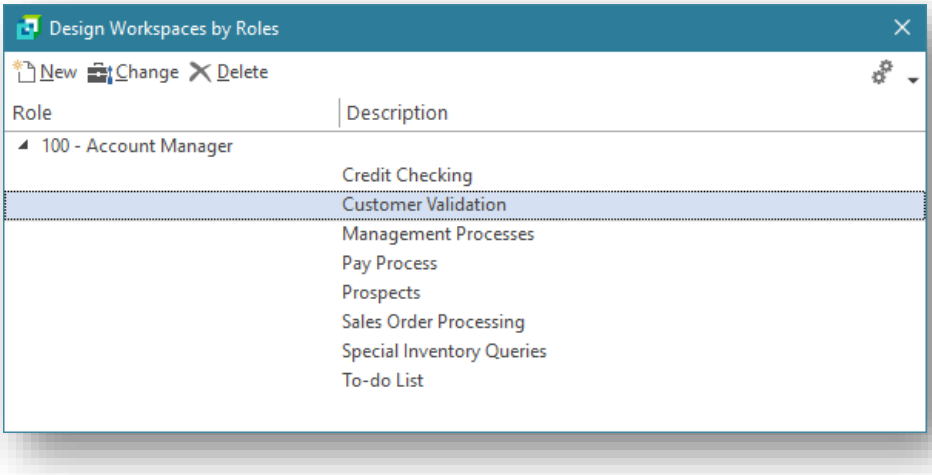
Designing Workspaces by Role

Workspaces by role are designed from within SYSPRO.

You can have an unlimited number of workspaces for each role.

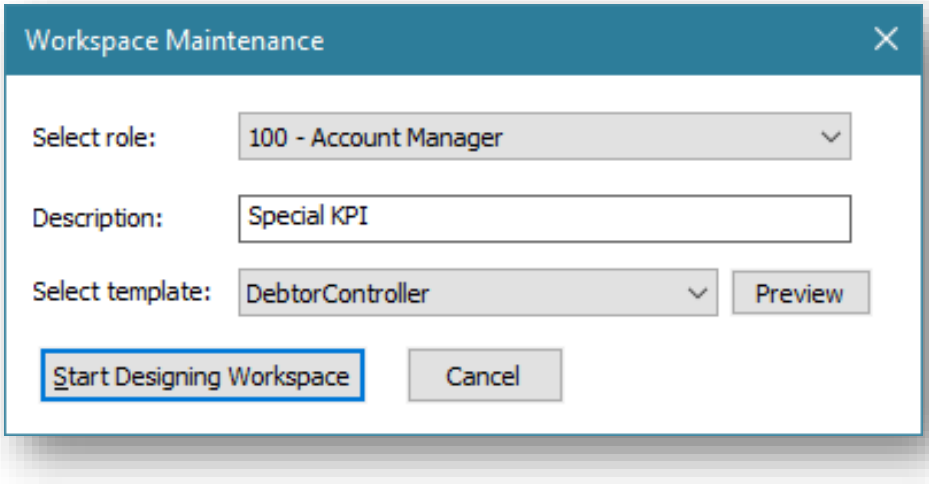
Within SYSPRO, from the **Administration** tab of the Ribbon Bar, select **Design Workspaces** (this button will be disabled unless the option **Role layout design** against the operator is checked).

This will show all the defined workspaces across all roles:



Click on **New** to create a new workspace.

Select the role for which you wish to define a workspace, and enter a description:



Optionally, you can select a pre-defined template to use as the basis for your workspace.

Click on **Start Designing Workspace**.

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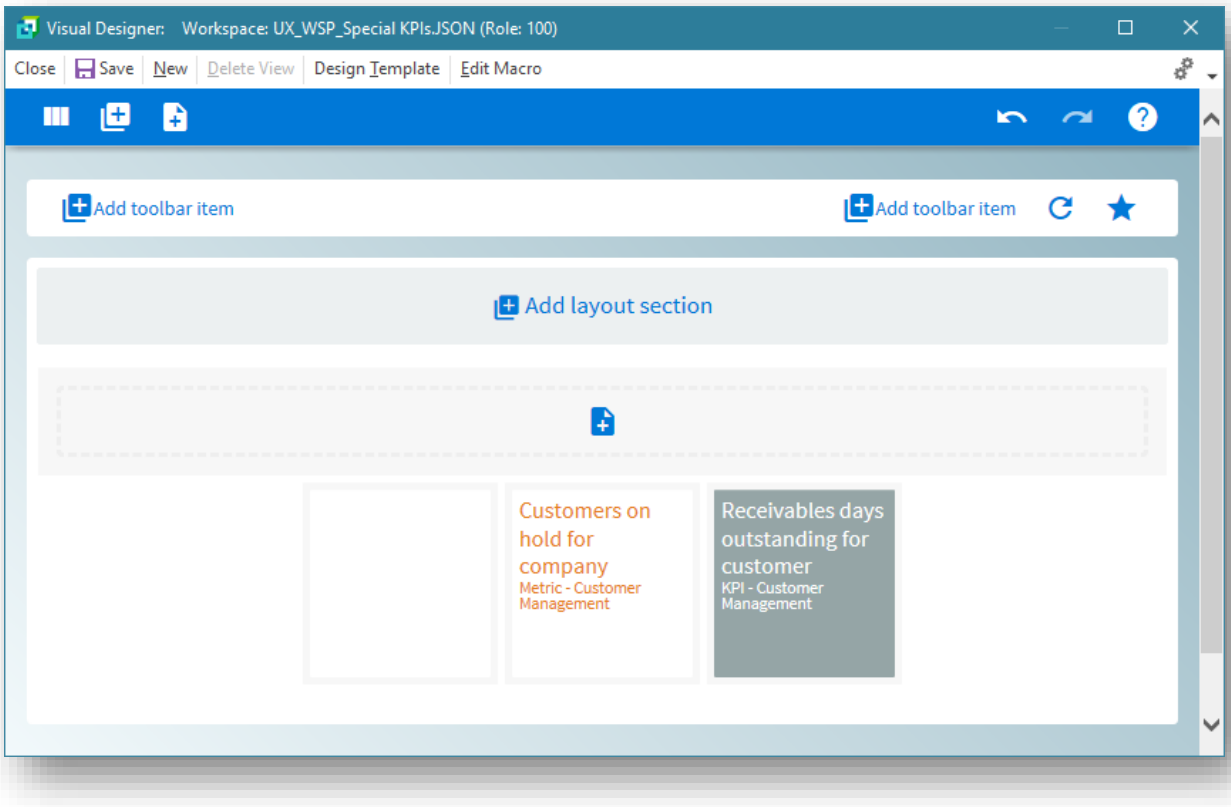
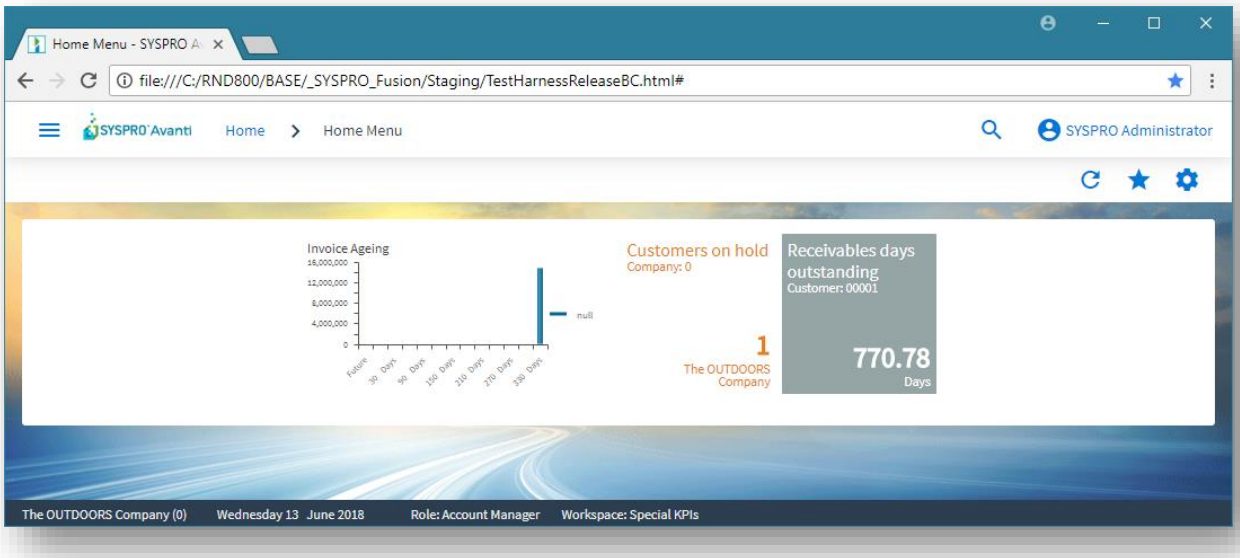
The Visual Designer is launched:



In this example, three Business Insights have been added to this workspace.

Click on **Save** to save the workspace.

From within Avanti, selecting this workspace shows the view below. The Role and Workspace names are shown in the status bar.



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TECHNICAL INFORMATION REGARDING WORKSPACES

Workspaces by Role are held as JSON files.

- **Role Workspaces**

  SYSPRO template workspaces for roles are located in the following folder:

  ```
  ...\base\samples
  ```

  Prefix:

  ```
  UX_WSP
  ```

  An example of this:

  ```
  UX_WSP_InventoryController.JSON
  ```

- **Administrator designed Workspaces**

  Workspaces designed by an Administrator are located in the following folder:

  ```
  ...\settings\Role_xxx
  ```

  Prefix:

  `UX_WSP` and the description.

  An example of this:

  ```
  UX_WSP_Special KPIs.JSON.
  ```

- **Non-role user Workspaces**

  Workspaces for non-role users are held as JSON file in the following folder:

  ```
  ...\settings
  ```

  An example of this:

  ```
  ...\asettings\UX_ADMIN_IMPMENLZMake to Orderd.JSON
  ```


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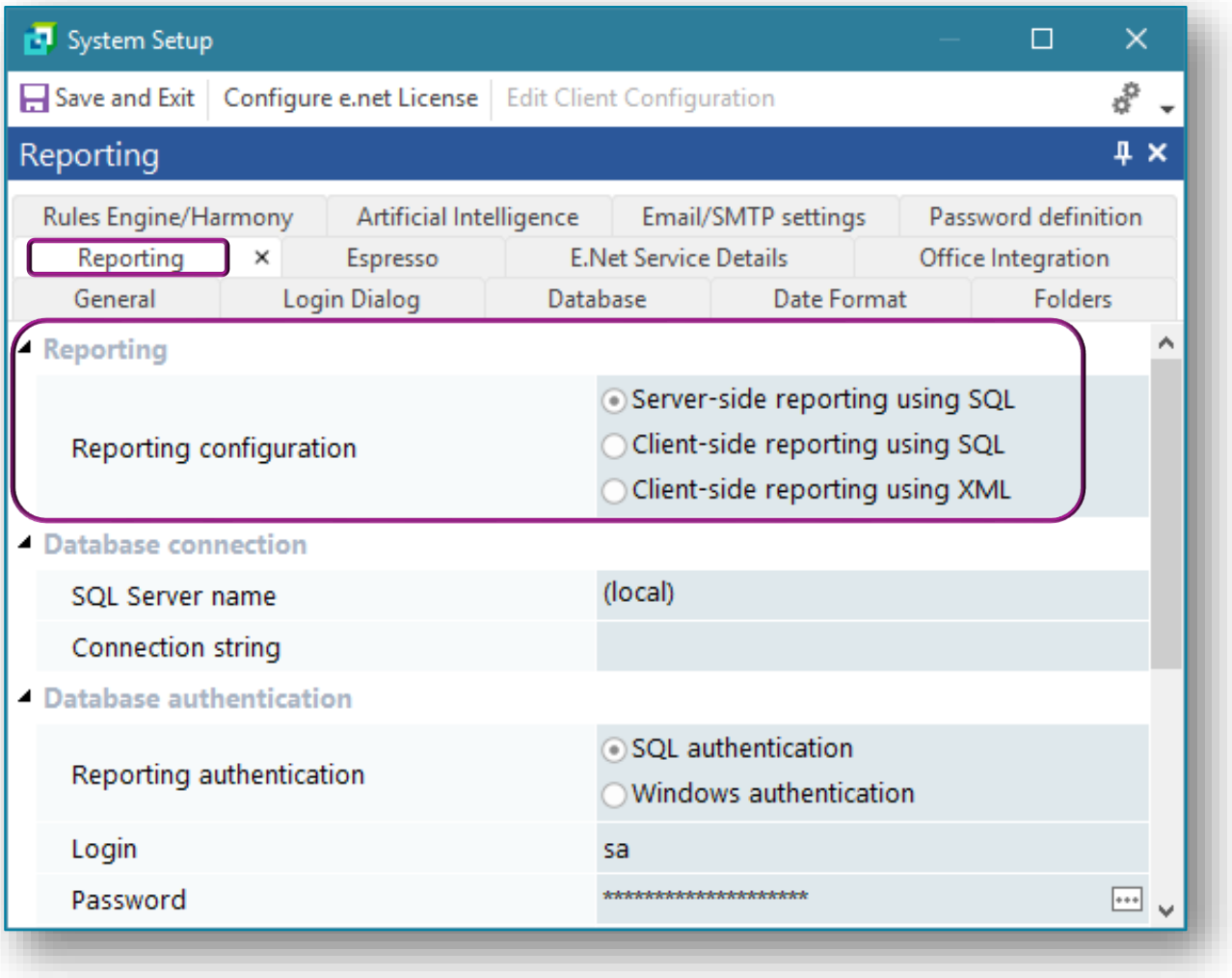
PRINTING DOCUMENTS IN AVANTI

To print a document in Avanti requires the **Reporting Configuration** option to be enabled as **Server-side reporting**.

This is implemented in the **Reporting** tab of the **System Setup** program:



PREREQUISITES

You may have to install the SRS server-side reporting system.

Without this, you cannot print documents or any SRS reports from within Avanti.

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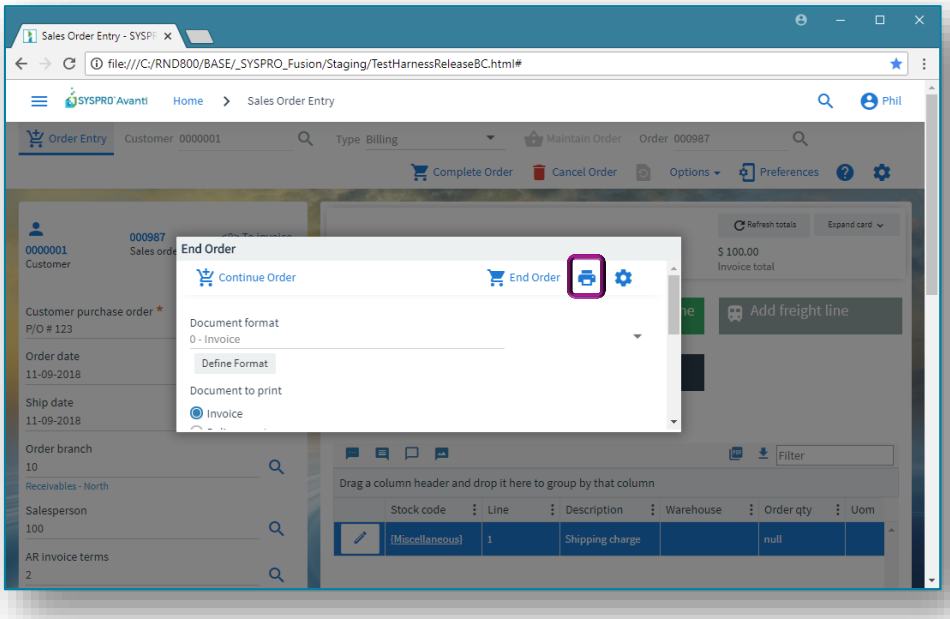
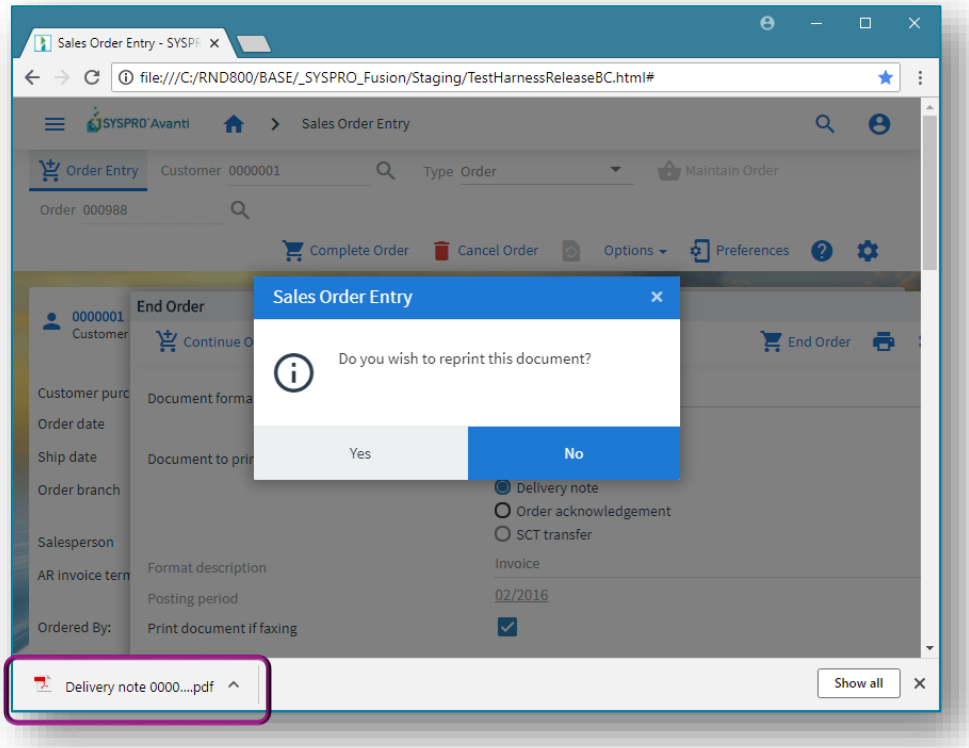
PRINTING DOCUMENTS

Clicking on a **PRINT** button to produce an online document will cause the document to be produced as a PDF document and will be downloaded to the browser.

As an example, the following screenshot shows the **END ORDER** screen for **Order Entry**:



After clicking on the **PRINT** button, the document will be created and shown as a PDF in the browser download area:



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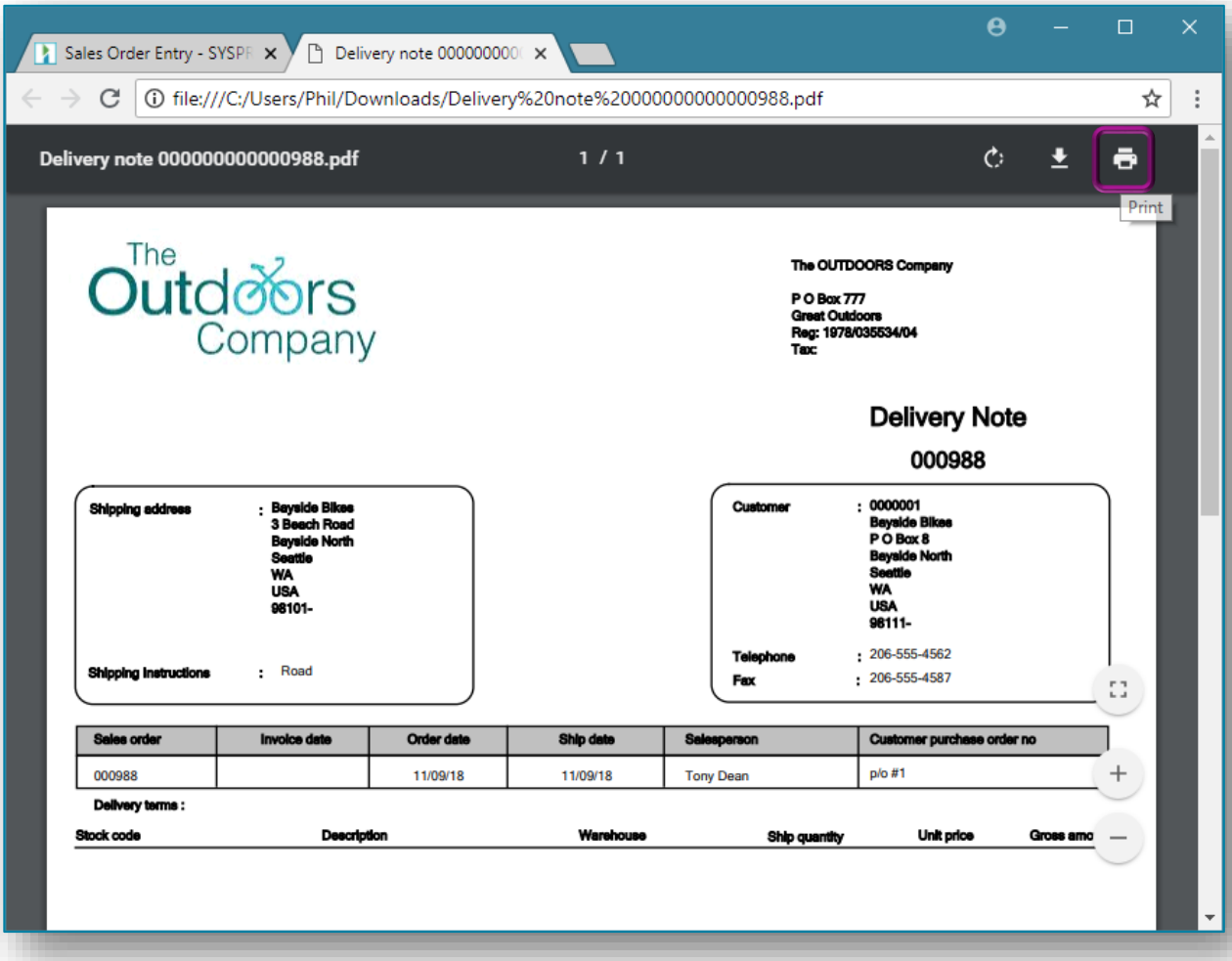
Click on the PDF button in the browser to show the PDF document, allowing you to print the document:



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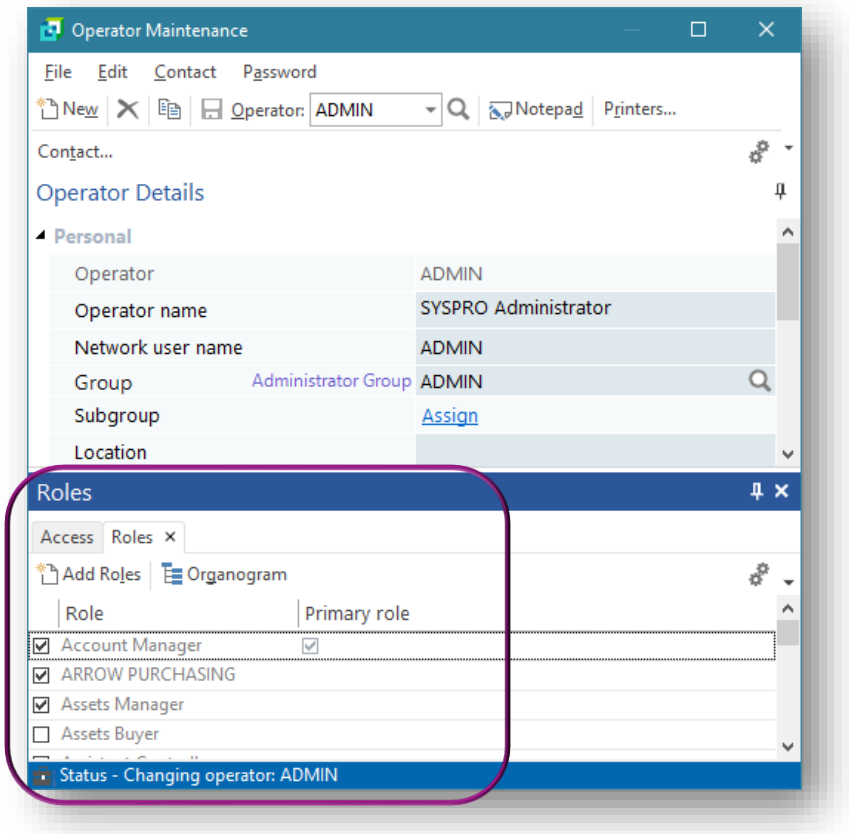
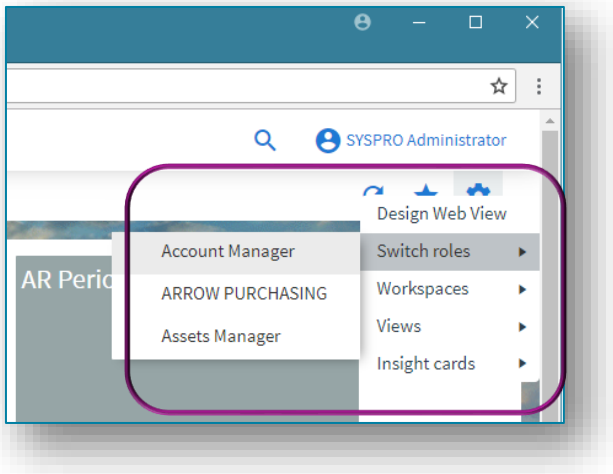
SWITCHING ROLES IN AVANTI

If you are logged into Avanti using a role, and your operator is associated with more than one role, then you may switch to any of the other roles while you are in the main Avanti menu.

As an example, the screen shot below shows that Operator ADMIN is linked to three roles:



In Avanti, you click on the **SETTINGS** icon in the **HOME Menu** to switch to another role:



When you switch roles, the security settings and Web Views defined for the new role will be applied.

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USING FLOWGRAPHS IN AVANTI

Flowgraphs in Avanti contain shapes that can be linked together visually.

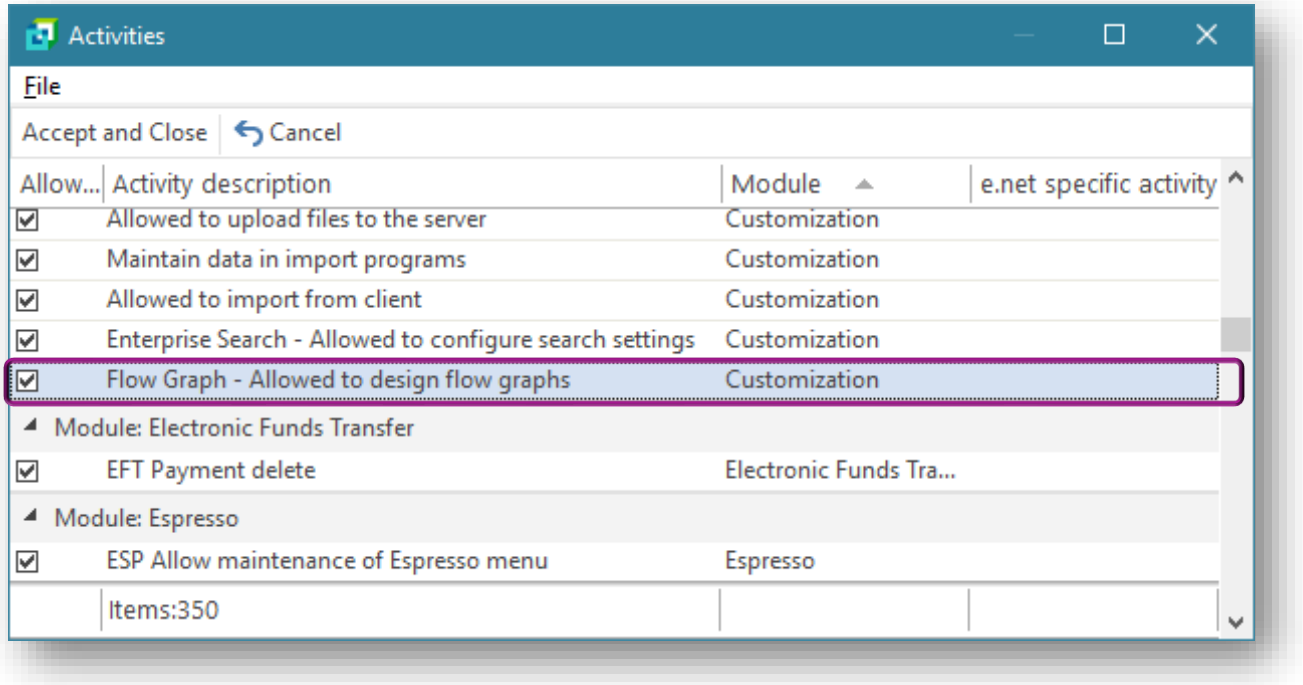
A shape can be optionally defined to action any of the following:

- Run an Avanti program.
- Execute a business insight.
- Switch to an alternative Workspace.
- Switch to a different Flowgraph.

Note: Currently, Flowgraphs are created and viewed only at the operator level.

PREREQUISITES

To design a Flowgraph you must enable the operator security activity **Flow Graph – Allowed to design flow graphs** in the **Operator Maintenance** program:



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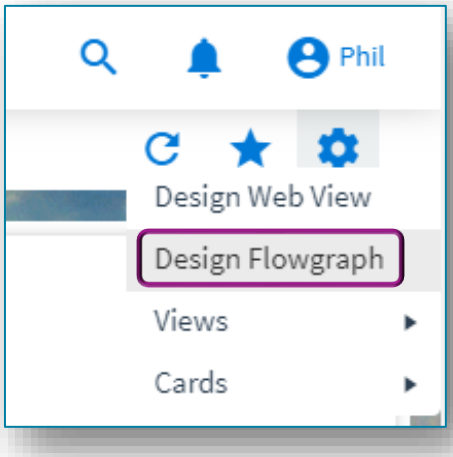
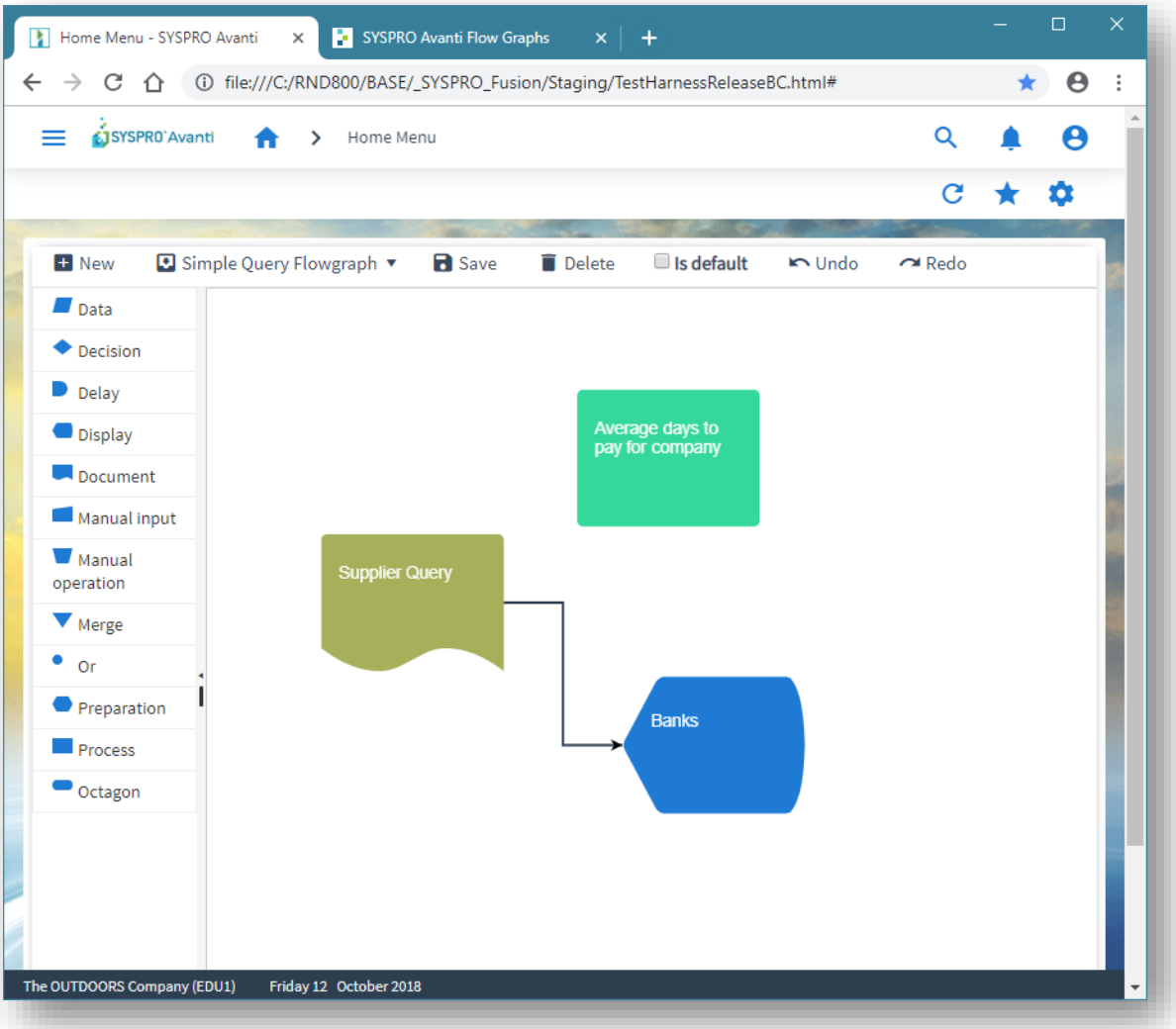
Designing a Flowgraph

In Avanti, click on the **SETTINGS** icon in the **HOME Menu** to design a Flowgraph:



The **Flowgraph Designer** is displayed:



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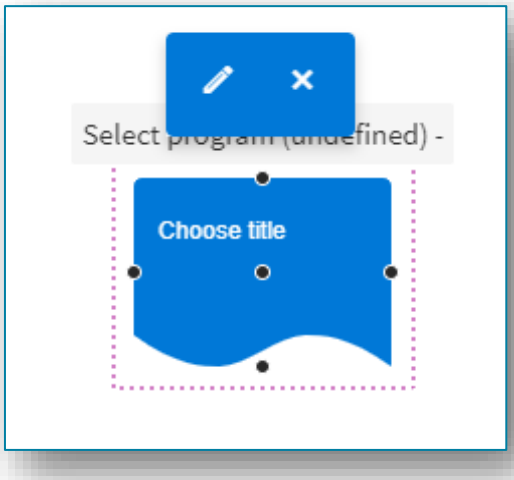
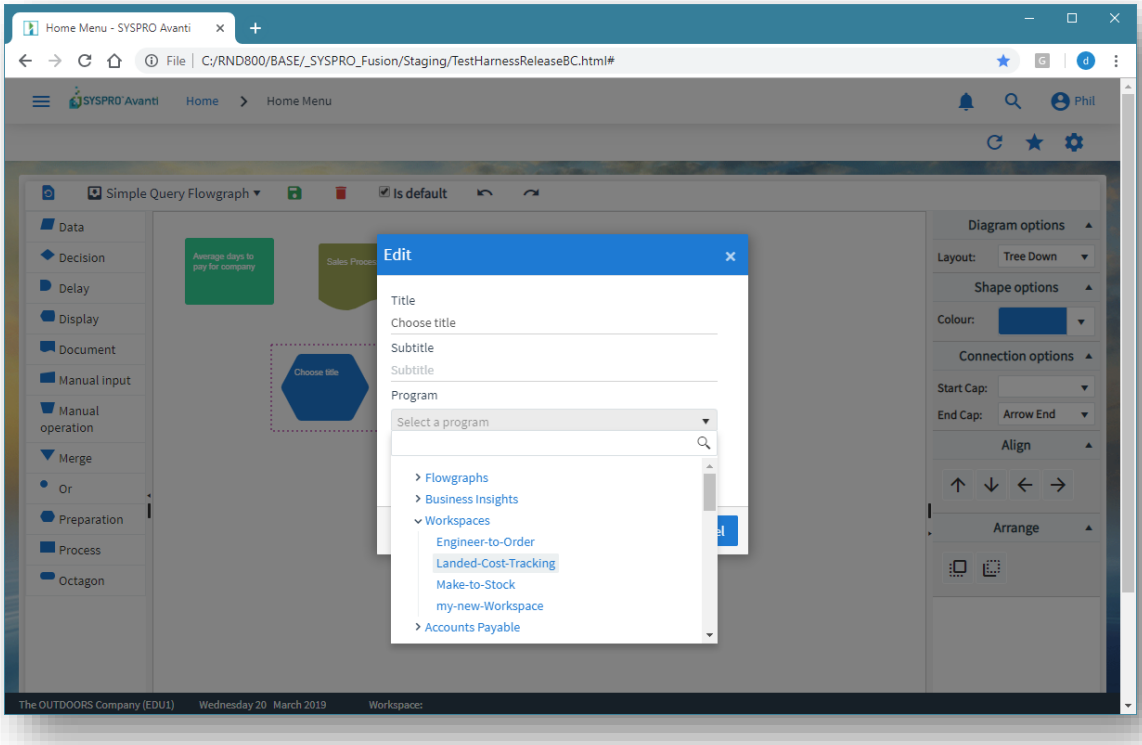
Drag a shape onto the blank canvas area:



Click the **EDIT** button to enter a shape title and select to run a program, a Business Insight, another Flowgraph or another Workspace:



The list of available programs is identical in structure to that shown in the main menu.

You can run any Avanti program, add a business insight or select another Flowgraph or Workspace.

Selecting a program will automatically update the **Title** and **Subtitle** (which is shown as a tooltip).

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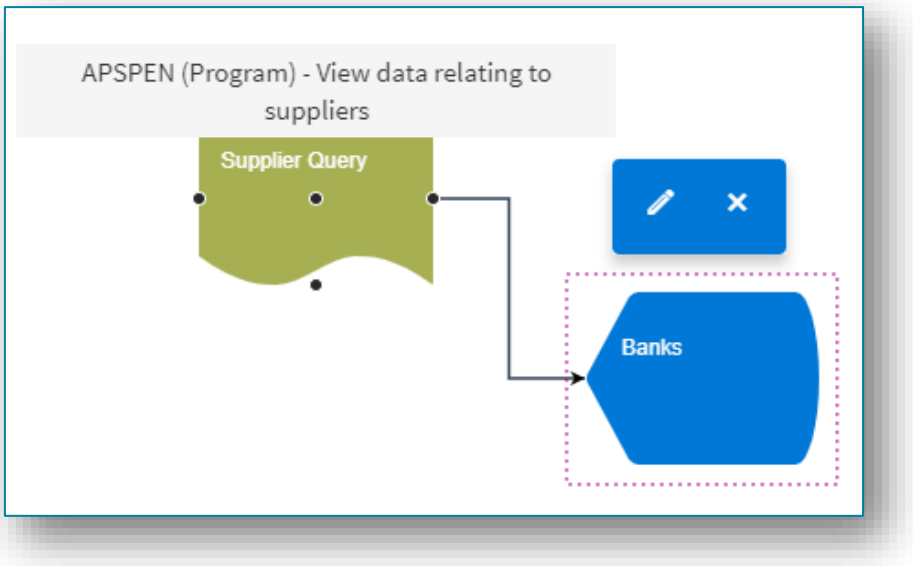
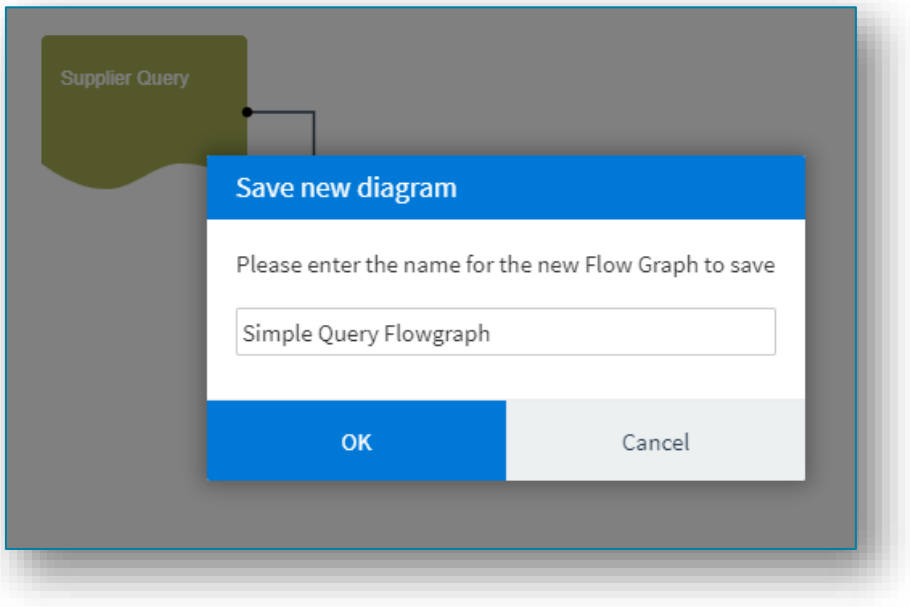
You can visually link shapes by clicking on a connector button and dragging the arrow to another shape:



Click on the **SAVE** button when you are finished and enter a name for the Flowgraph:



You can optionally make your current Flowgraph the default to be shown in the viewer – just check the option is **Default**.

EXITING THE FLOWGRAPH DESIGNER

To exit the Flowgraph Designer, click on the **HOME** button.

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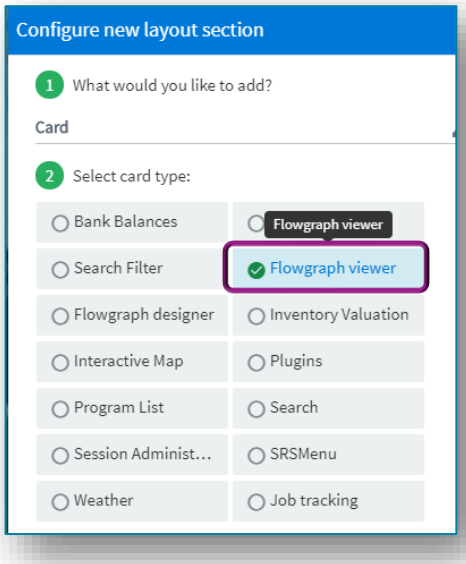
VIEWING A FLOWGRAPH

To view a Flowgraph:

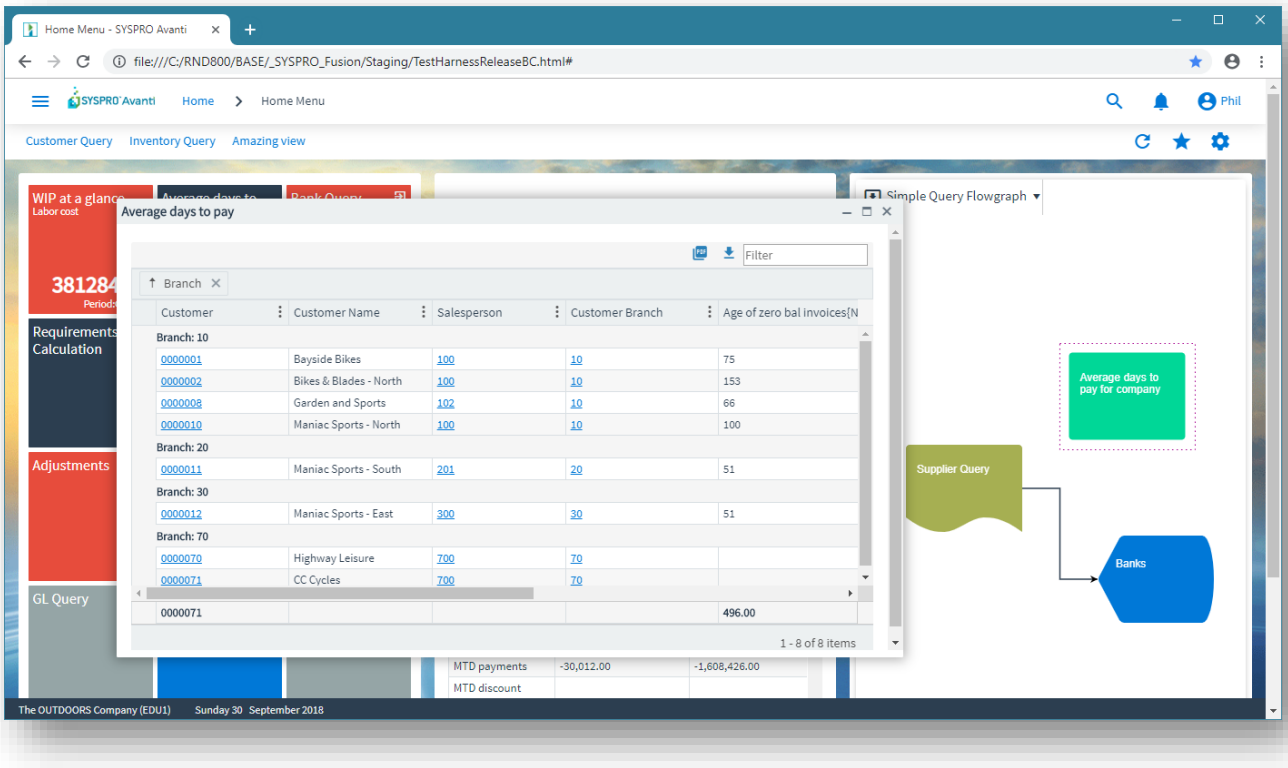
1. Add the Flowgraph Viewer 'card' to any Web View using the **Visual Designer**.

2. Add a layout section to your Web View.

3. Select the **Flowgraph Viewer** card.



In the example below, the viewer has been added to the **HOME Menu**. You select the Flowgraph you would like to view from the drop-down menu in the viewer.



Click on a shape to run the associated Avanti program.

Alternatively, if the shape has been defined for a Business Insight, then clicking on it will show the Insight detail.

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Using the Visual Designer

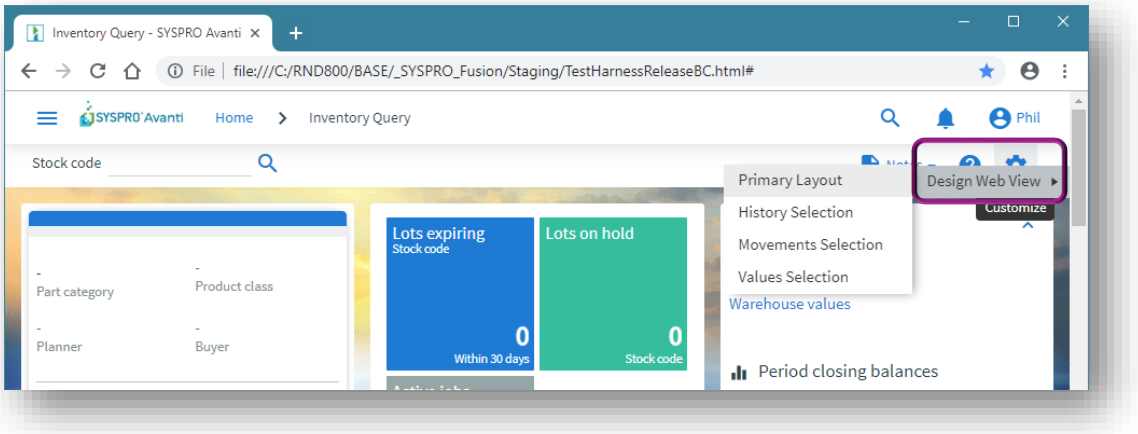
Using the Visual Designer in Avanti

To modify any web view in Avanti you use the Visual Designer.

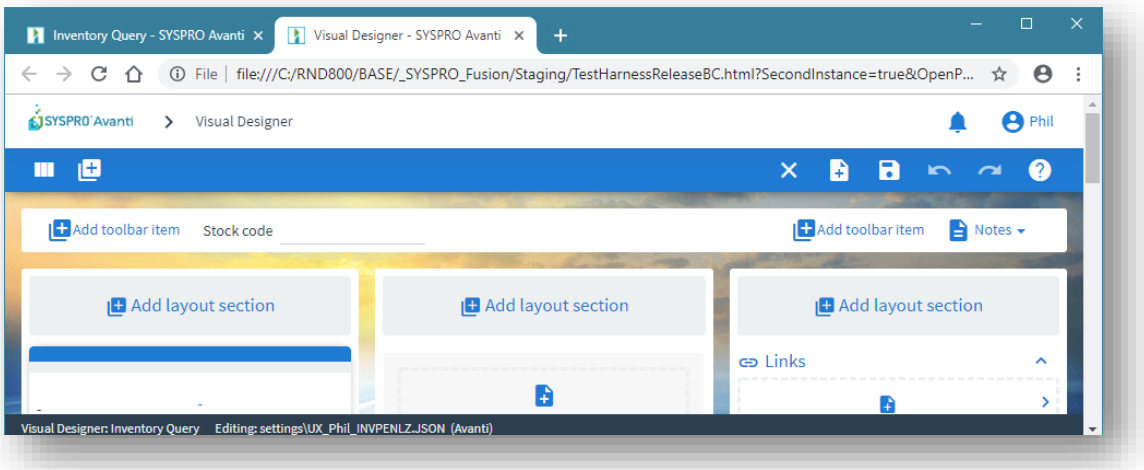
Note: Any web view customized using the Visual Designer in Avanti will only appear in Avanti.

If you wish to design a web view for use in the SYSPRO Client, please read the section Using the Visual Designer in SYSPRO.

For example, to add or modify a Business Insight shown in a Tile, click on **Design Web View** from the **SETTINGS** icon:



Except for when editing the **HOME Page**, the Visual Designer will be shown in a new instance of Avanti in a separate browser TAB:



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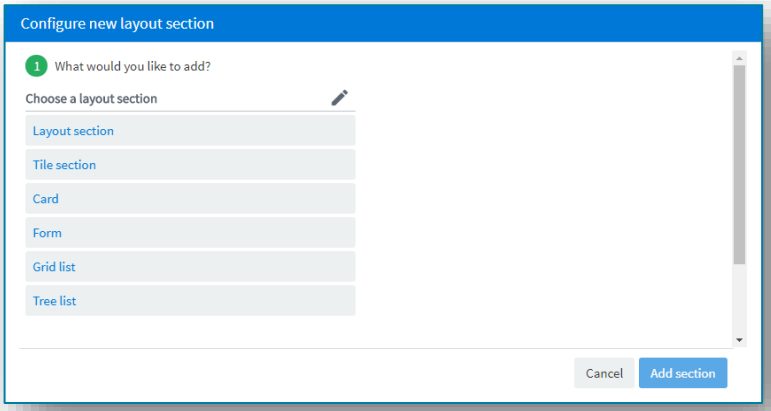
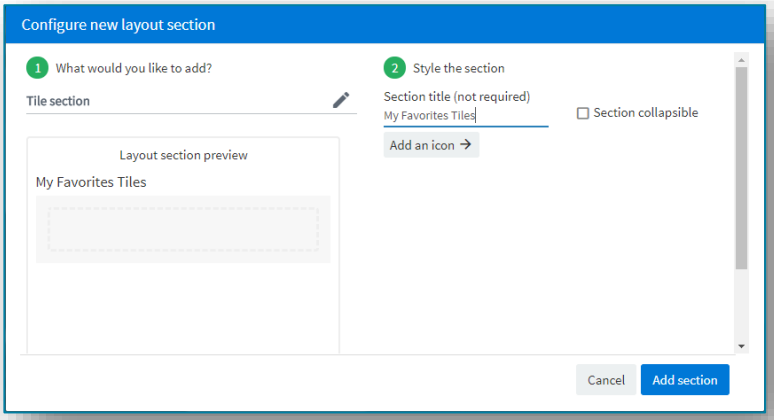
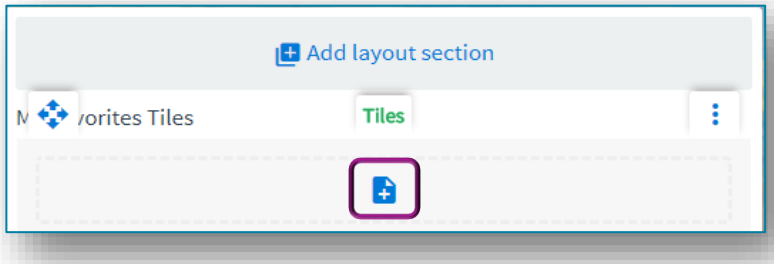
Now click on the **Add Layout Section** to add another 'Tile' section:



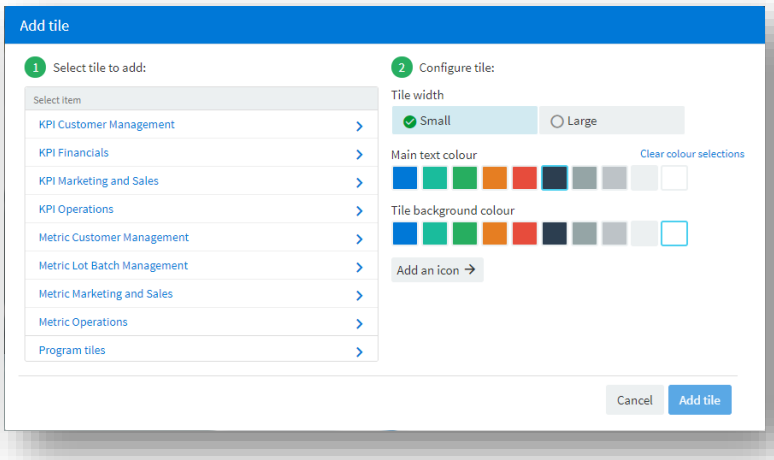
Select **TILE SECTION**, optionally style the section, and click **Add Section**:



Now click on the **ADD** button to add a tile:



And then select the KPI or program tile to be added:



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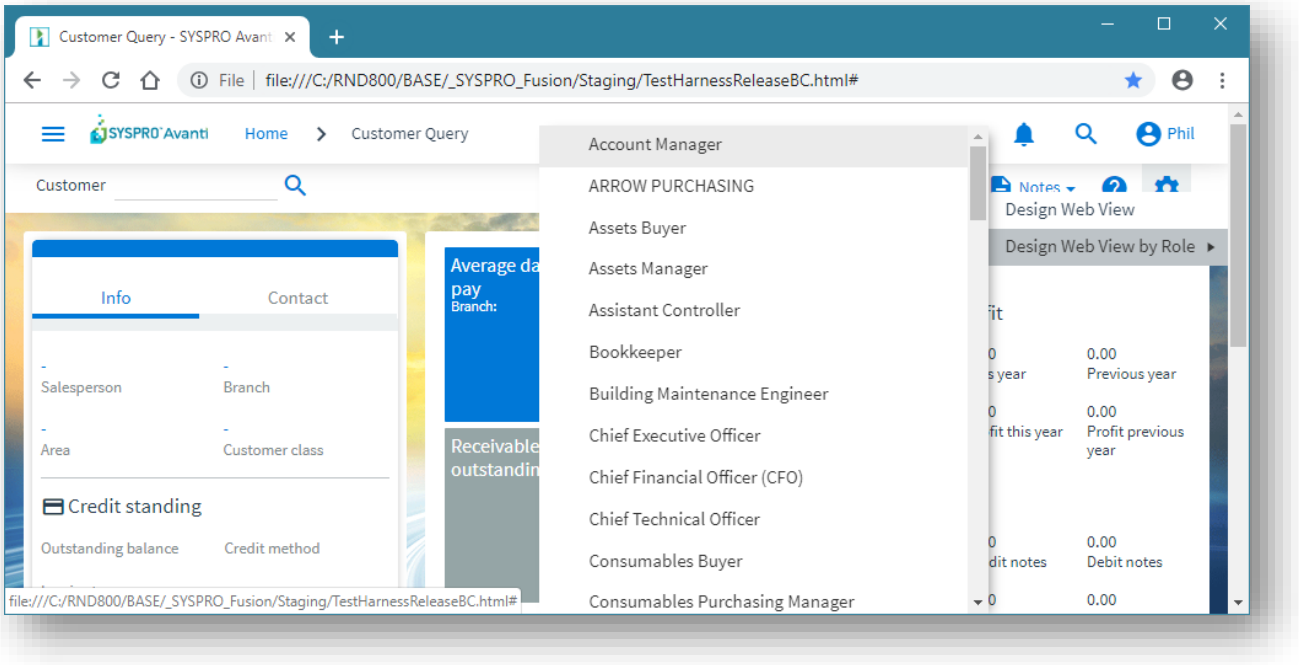
DESIGNING WEB VIEWS FOR A ROLE IN AVANTI

You can design a Web View for any role when running in Avanti.

Assuming the user has the operator security option ROLE LAYOUT DESIGN switched on, then when you click on the SETTINGS icon in any Avanti screen, the option **Design Web View by Role** will be shown.



Select this and a list of all roles will be shown.

Click on the required role name and the Visual Designer will be loaded in a new browser TAB to design the Web View for the role.

Considerations:

1. Any Customized Panes applicable for the current application for the selected role will not be surfaced in the Visual Designer, as these will only be available when you are designing by role while in SYSPRO.

2. You will not be able to design a Web View by role for the main menu in Avanti. Instead, you will need to select the **DESIGN UI LAYOUTS** option from SYSPRO's ribbon bar, select the Role, select **Application Builder**, and then **Design Role View**.

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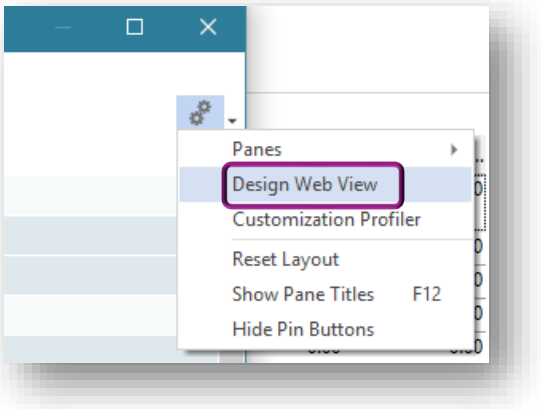
USING THE VISUAL DESIGNER IN SYSPRO

To design a web view in SYSPRO, click on the Settings icon and select **Design Web View**:

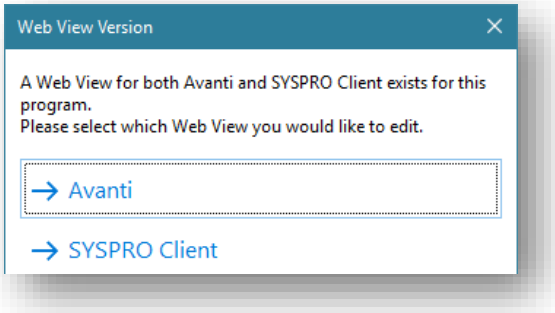


The Visual Designer in SYSPRO is used to create web views for use in SYSPRO as well as for Avanti. Therefore, as the Visual Designer loads in SYSPRO, the following checks take place:

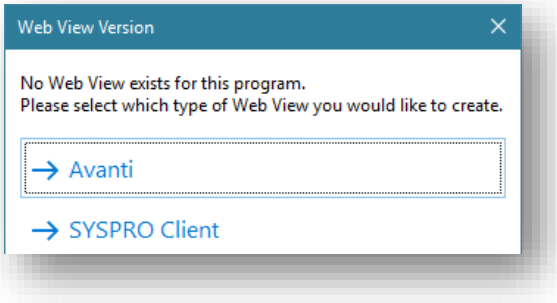
1. If an Avanti Web View pre-exists it will be automatically loaded for editing.

2. If a SYSPRO Client Web View pre-exists it will be automatically loaded for editing.

3. If both Avanti and SYSPRO Client web views pre-exist then a message box will appear asking which web view is to be loaded for editing:



4. If neither Avanti nor a SYSPRO Client web view pre-exists then a message box will appear asking which type of Web View you would like to create:



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Using the Visual Designer in client/server mode

If you are in client/server mode in SYSPRO, you will not be able to create or edit a Web View for Avanti, unless you are designing by Role.

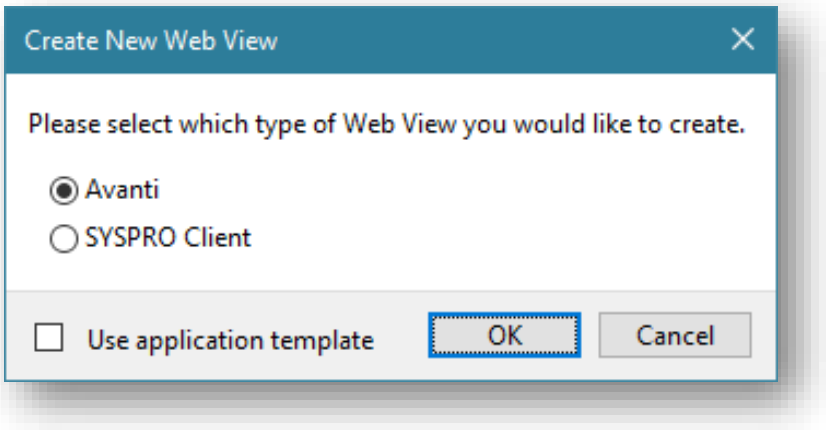
The reason for this is that all customization files for non-role users are saved on the client machine. Avanti cannot access such customization files since Avanti can only access files on the SYSPRO server.

You can, however, use the Visual Designer in Avanti to create or design Web Views for non-role users, since this does not rely on customization files residing on a client machine.

If you are designing for a role, then you can create and design a Web View for Avanti even when running in client/server mode. This is because all customization files for roles are saved on the application server, to which Avanti has access.

Creating a new Web View

From within the Visual Designer on the toolbar, select **New** to create a Web View for either Avanti or for the SYSPRO Client:



If a standard template for the application exists then you can check the **Use application template** to apply the template as your starting point for your Web View.

Save as a different Web View

You can select to save the current Web View as a different type of Web View.

In the Visual Designer, click on **Save As** to select to save the Web View as a different type.

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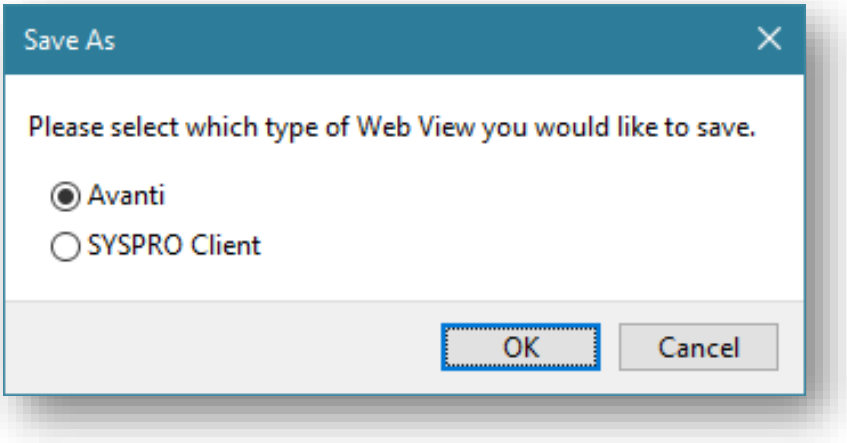
For example, if you are editing an Avanti Web View you can save it as a SYSPRO Client Web View, and vice versa.



TECHNICAL INFORMATION REGARDING WEB VIEWS

Web Views are saved as JSON files, named by the program.

- **Operator level**

  When designing at the operator level, web views are saved in the following folder:

  ```
  ...\settings
  ```

  An example of this for a web view for Avanti:

  ```
  UX_operator_ARSPENLZ.JSON
  ```

  An example of this for a web view for SYSPRO Client:

  ```
  UX_operator_ARSPENLZ_SYSPRO.JSON
  ```

- **Role level**

  When designing at the ROLE level, web views are saved in the following folder:

  ```
  ...\settings\Role_xxx
  ```

  An example of this for a web view for Avanti:

  ```
  ARSPENLZ.JSON
  ```

  An example of this for a web view for SYSPRO Client:

  ```
  ARSPENLZ_SYSPRO.JSON
  ```

  Workspaces by Roles will be assumed to be for Avanti only, as there is no mechanism for surfacing such web views in SYSPRO at present.

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Showing Customized Panes in Avanti

Some types of Customized Panes in SYSPRO can be shown in Avanti.

The following table indicates which types of Customized Panes can be added to a Web View using the Visual Designer:

Type of Customized Pane	Can be added to a Web View	Will execute when running in Avanti
Graph	Yes	Yes
Listview	Yes	Yes
Form	Yes	Yes
.NET User Control	No	Depending on option *(see below)*
SRS Report	No *All SRS reports can be shown in Avanti from the main menu.*	No
PDF Viewer	No	No
Search Window	No	No
Executive Dashboard	No	No
RTF Notepad	Yes	Yes

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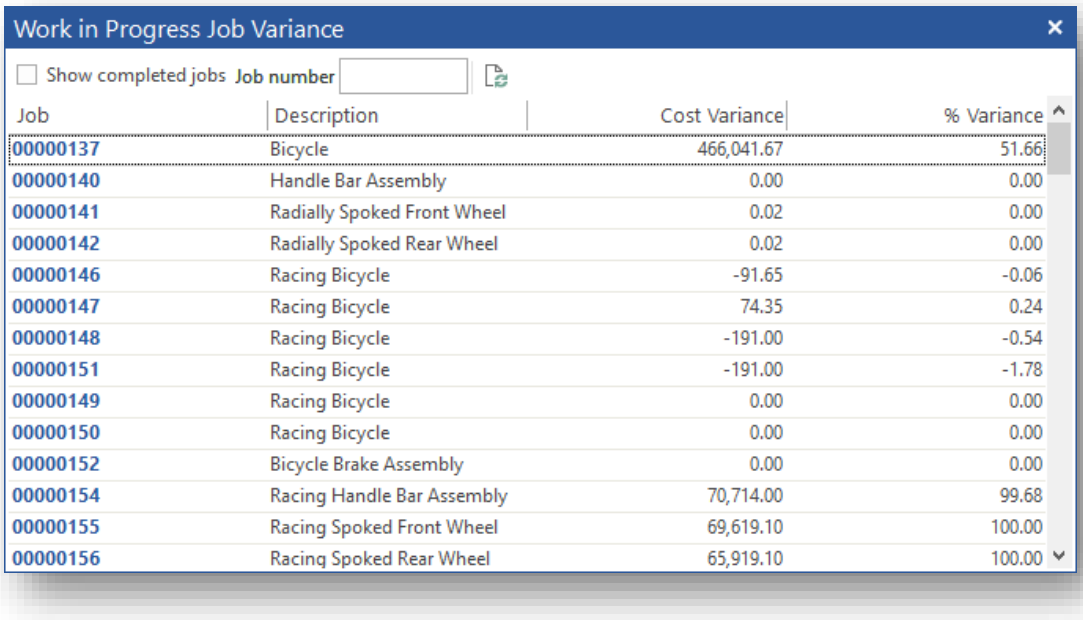
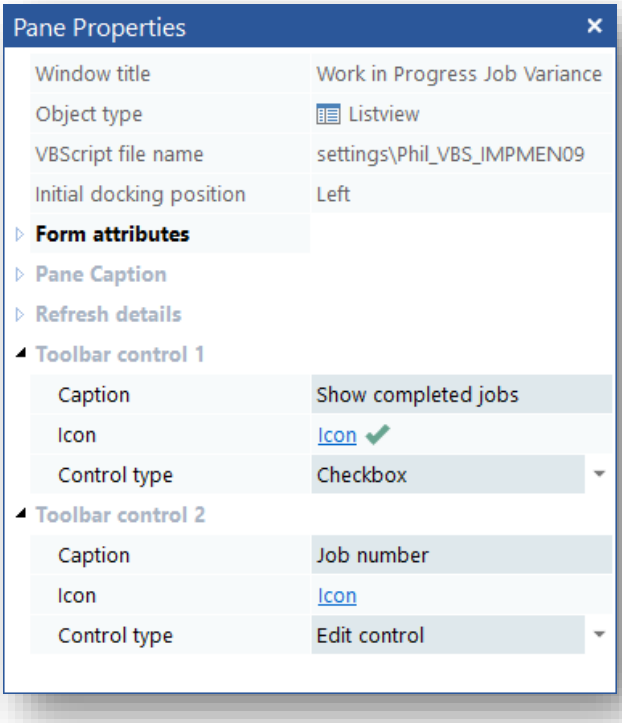
How to add a Customized Pane to a Web View to show in Avanti

To explain how to add a Customized Pane to a Web View, we will use the standard WIP Job Variance list view that's available as a Customized Pane template, and we will add this to SYSPRO's main menu.



In addition, two toolbar captions have been added to this pane – a **Show completed jobs** checkbox and a **Job number** field.

Here are the Pane properties for this Customized Pane:



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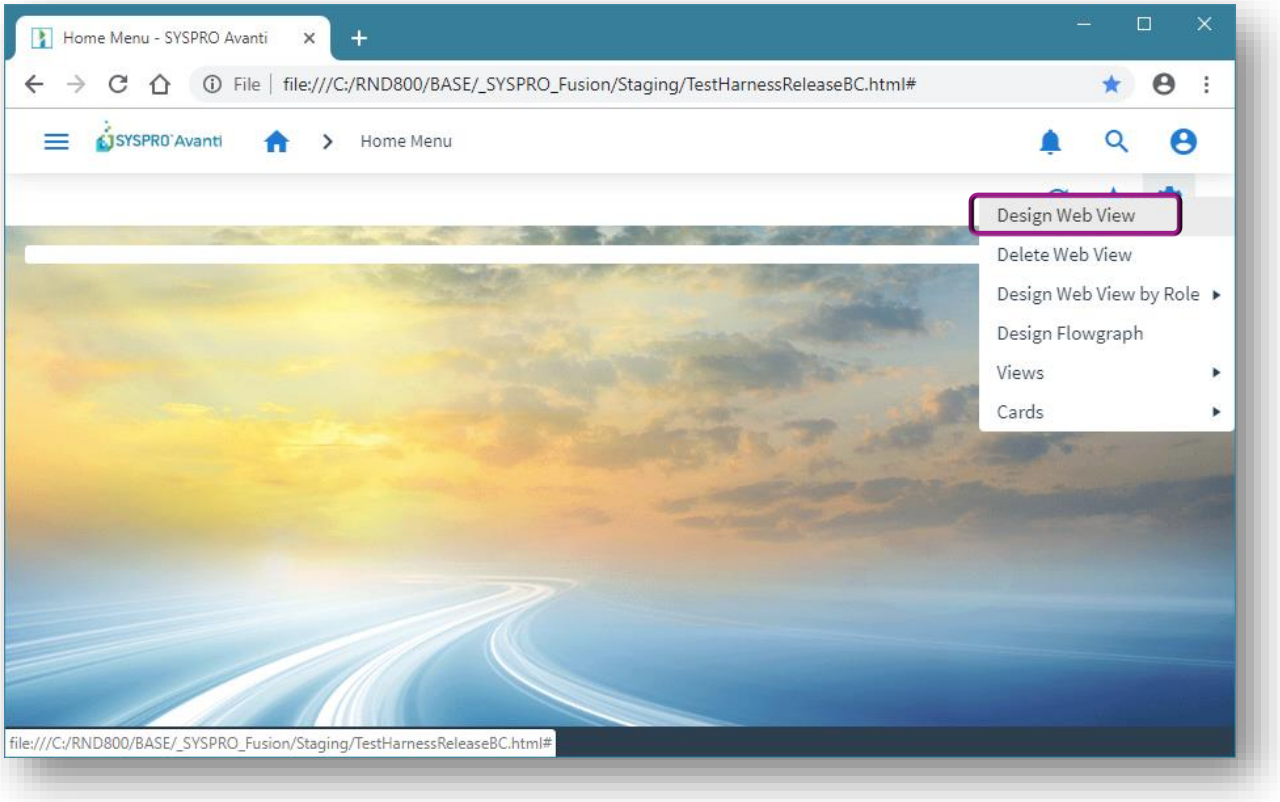
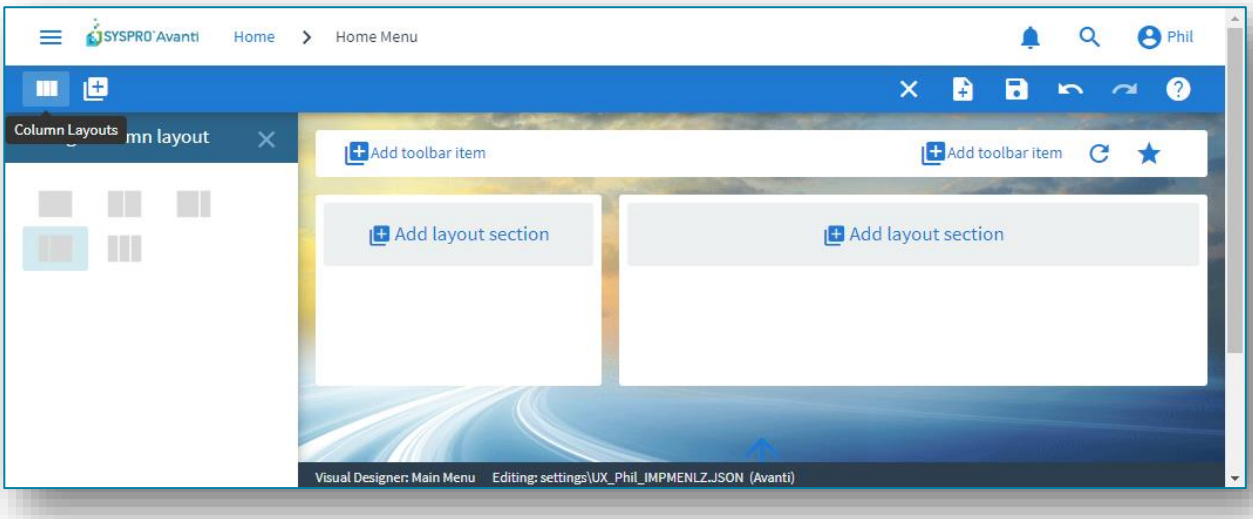
Now launch Avanti, and select to **Design Web View** from the **HOME Menu**:



Select a two-column layout:

- The first column being small (to hold the Customized Pane toolbar buttons)
- The second column being larger (to hold the data grid)



Select to add a Layout Section to the larger layout section.

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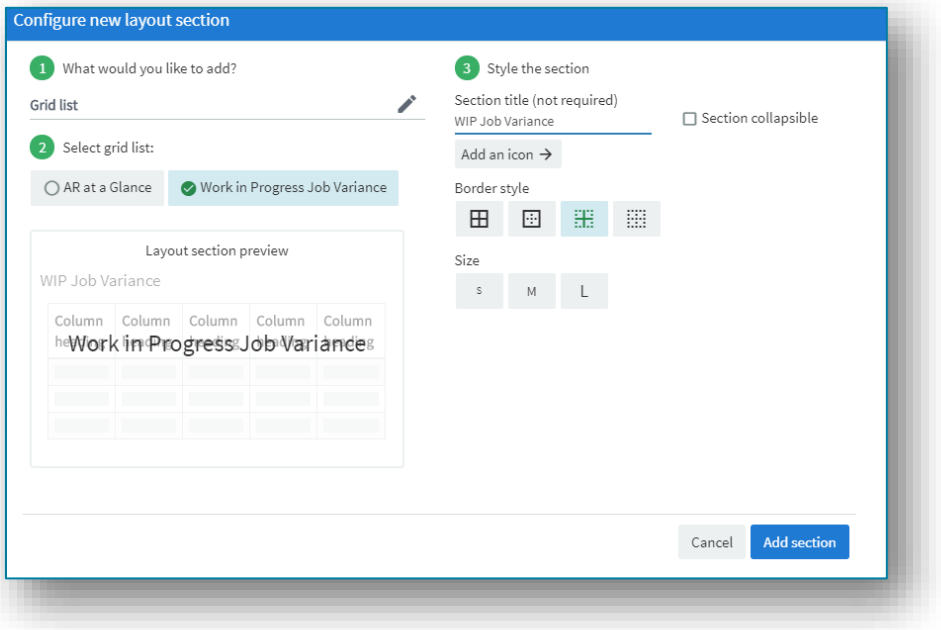
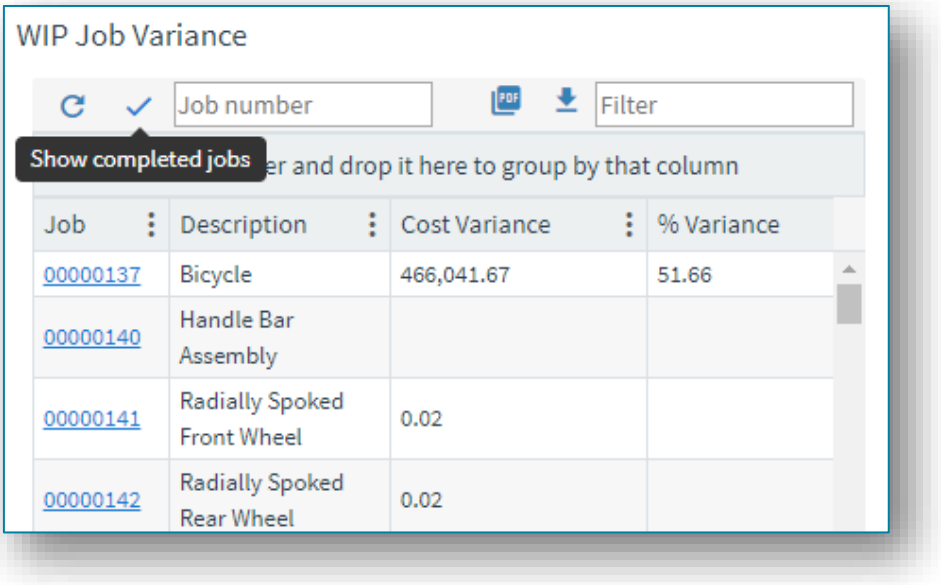
Select **Grid List**, followed by the **Work in Progress Job Variance** option and click on **Add Section**:



Click on **Save layout**, and Avanti will refresh your **HOME Menu** and you will see the **Job Variance** list view:



For most Customized Panes you will now have to add any toolbar buttons to the Web View, but a list view is different in that it will automatically show the **REFRESH** and any other pane toolbar buttons in the grid toolbar area. Thus, in the example above, the **REFRESH** button, **JOB NUMBER** field and **SHOW COMPLETED JOBS** are displayed in the grid toolbar.

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The **REFRESH** and **SHOW COMPLETED JOBS** are shown as icons in the toolbar because of their associated icons in SYSPRO.

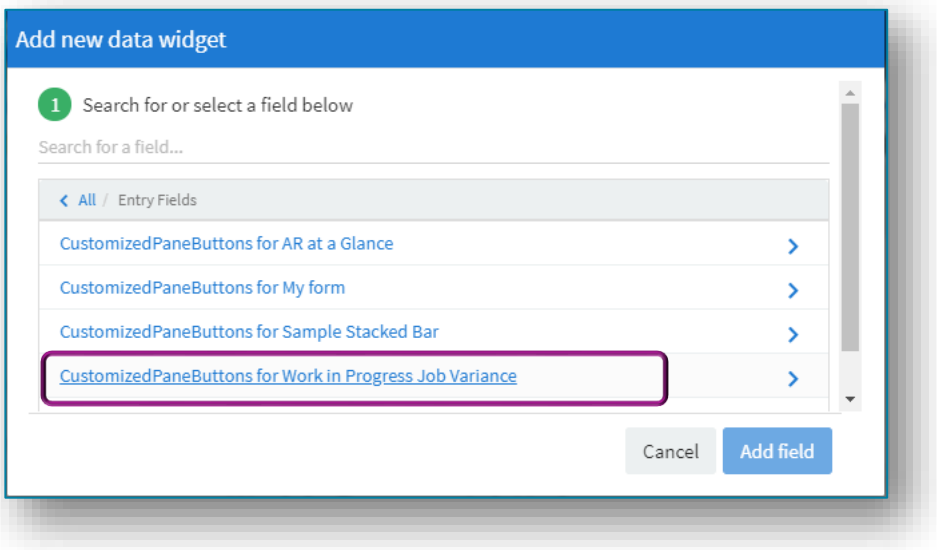
For the purposes of this example, we will now add the customized pane toolbar buttons to the Web View.

Note: Toolbar buttons that are edit controls (i.e. entry field and check box type) should be added to a FORM in a Web View, and simple (non-editable) buttons should be added to a LAYOUT section.

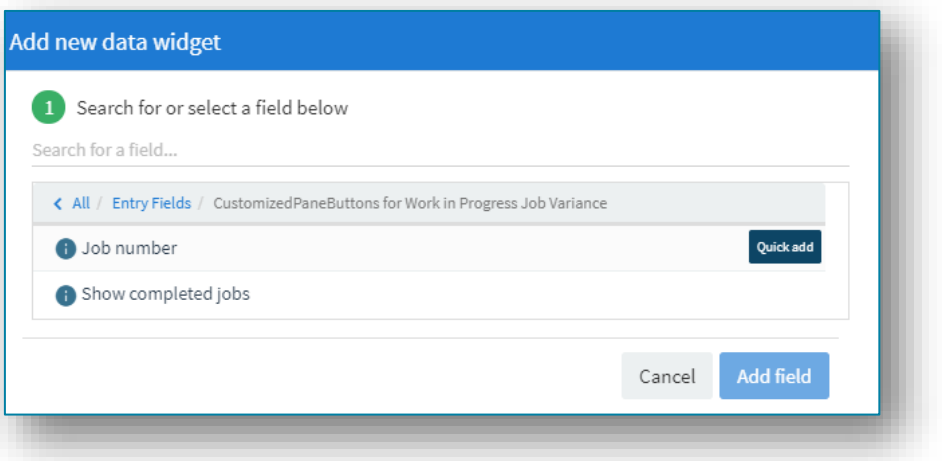
Select **Design Web View** and add a **FORM** layout section (Single Form) to left-hand section.

Click on the **PLUS** icon to add fields to the Form.

Click on **Entry Fields**, and select **CustomizedPaneButtons for Work in Progress Job Variance**:



Add the two fields **JOB NUMBER** and **SHOW COMPLETED JOBS** to the form:



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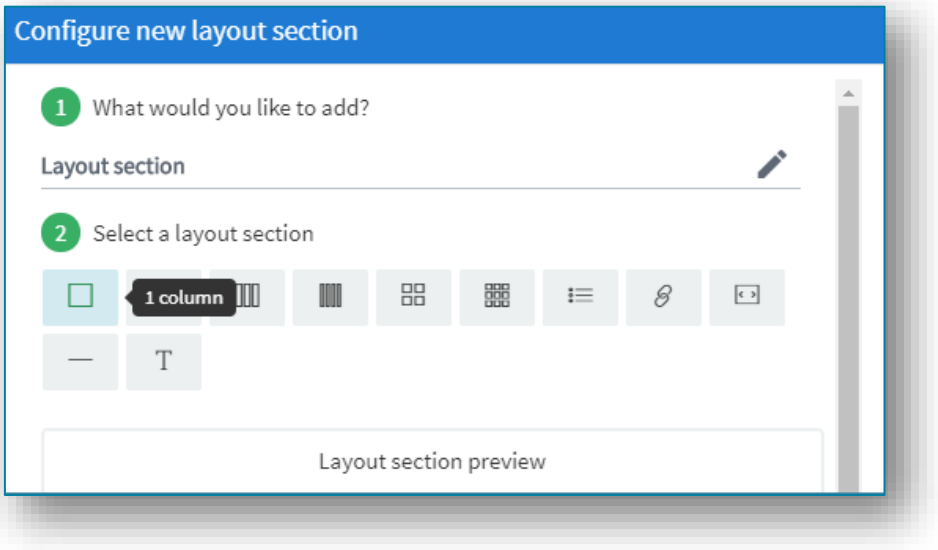
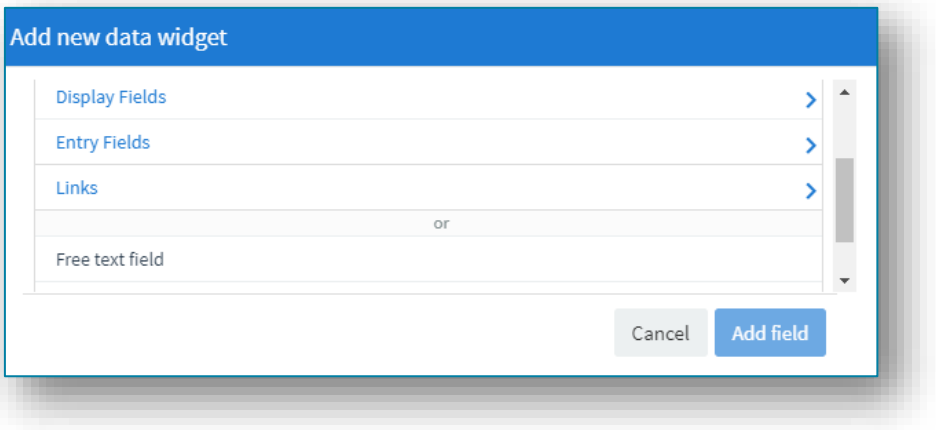
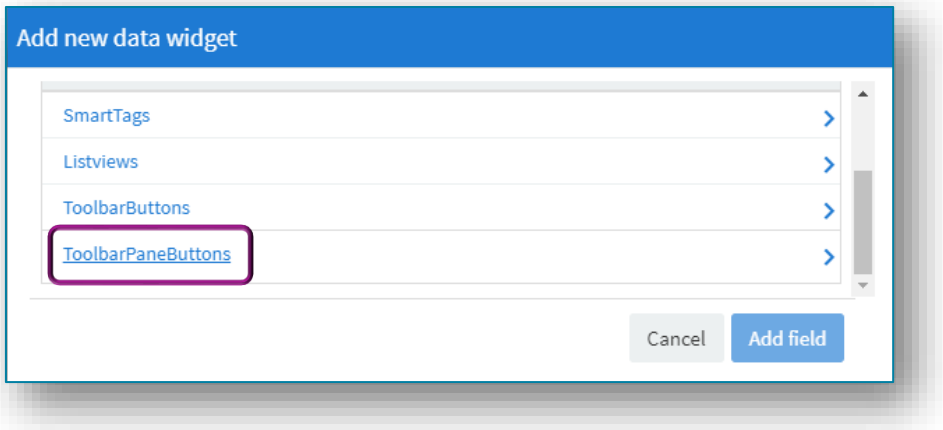
To add the **REFRESH** button to the Web View, add a single-column layout section:



Click on the **PLUS** icon to add a widget to this layout, select **Links**:



Select **ToolbarPaneButtons:**



And then select and add the field **Refresh (Customized Pane: Work in Progress Job Variance)**.

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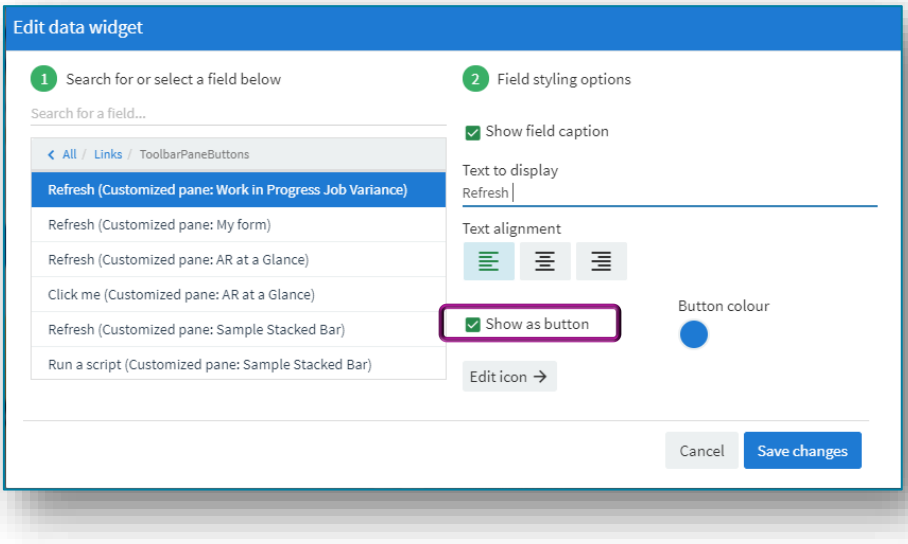
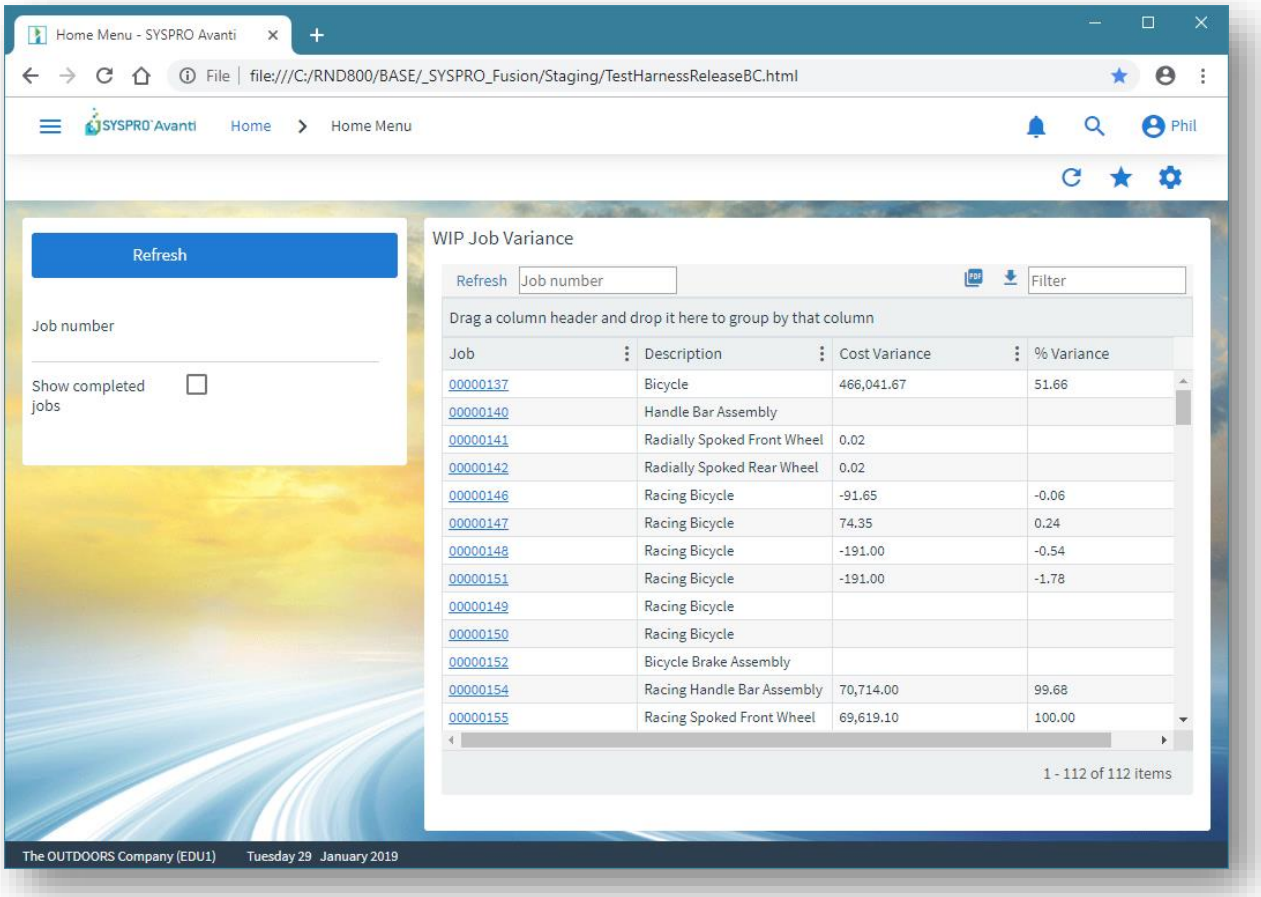
To enhance the appearance of the field, select **Show as button**.



Now click on **Save Layout**.

The **HOME Menu** Web View should now look like this:



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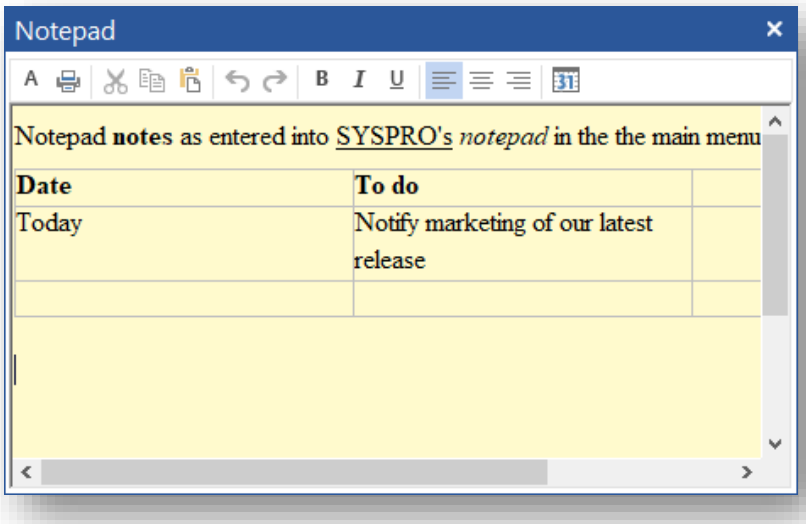
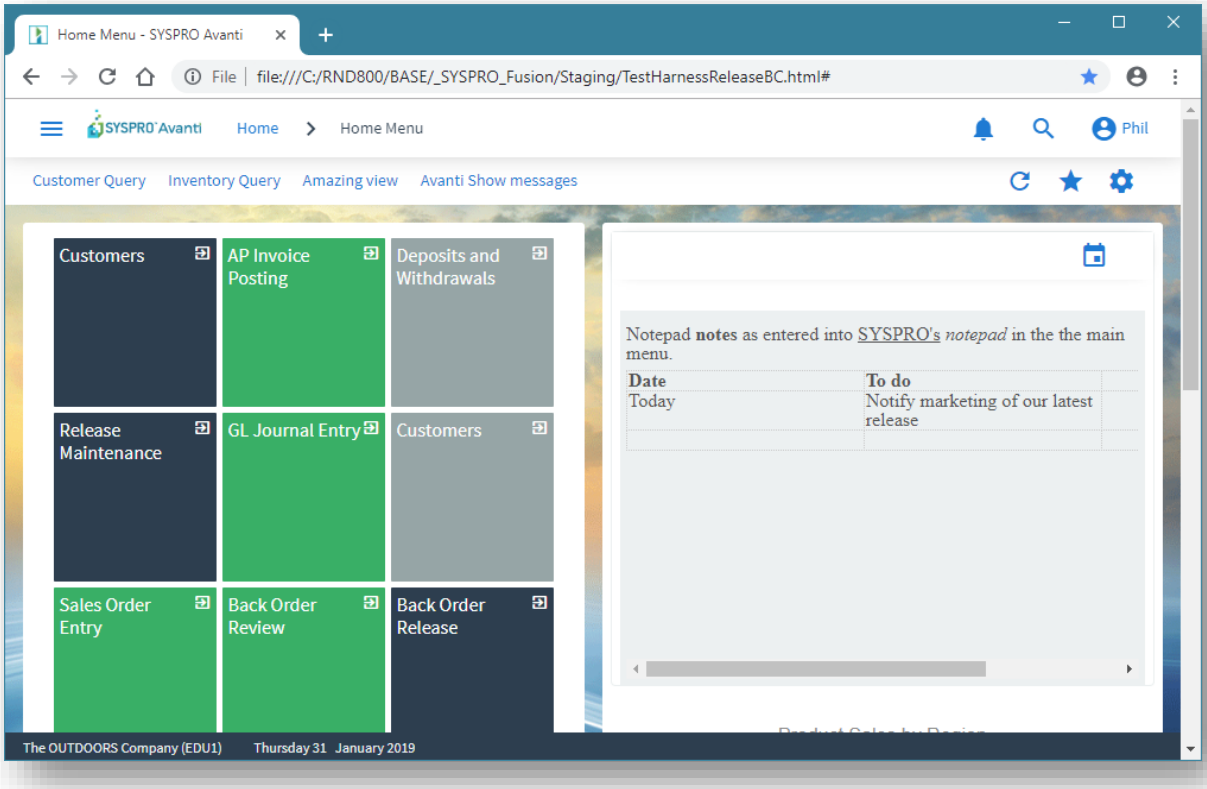
ADDING A NOTEPAD TO AVANTI

Notepads that are built into a SYSPRO application, or Customized Panes that use the notepad control, can be added to a Web View to be shown in Avanti.

Here's an example of SYSPRO's notepad that's included in the main menu:



And here are the same notes shown in Avanti:



To add a notepad to a Web View, launch the Visual Designer and select to add a new Layout Section.

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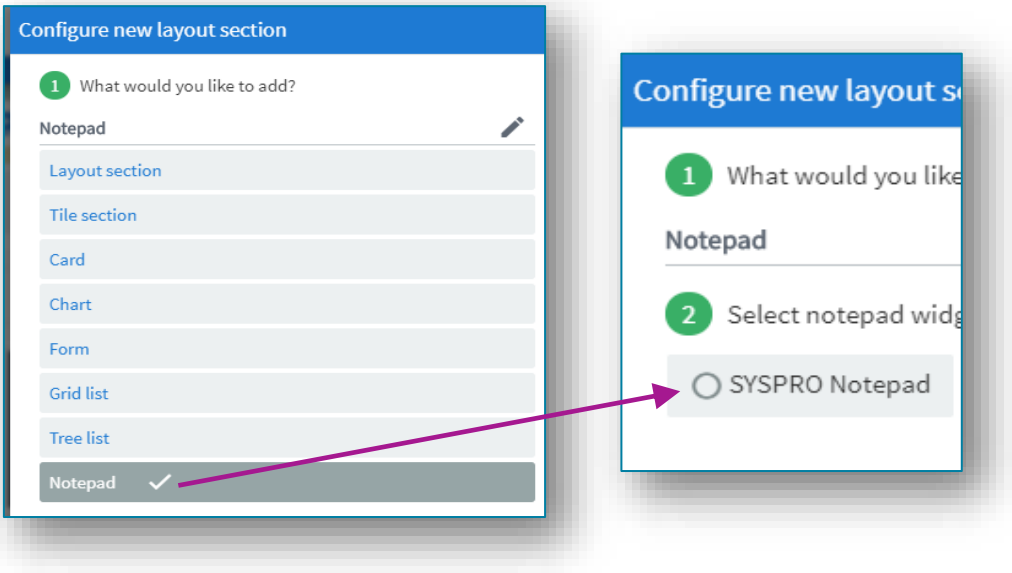
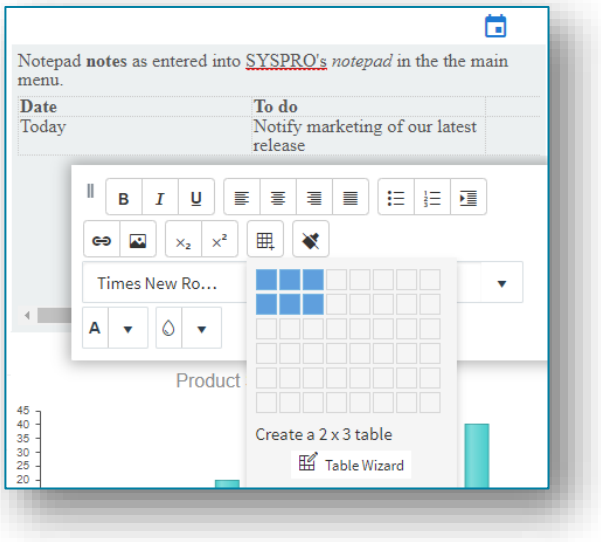
If the application includes a notepad control this will be indicated:



Both built-in notepads and any customized pane notepads will be shown here. Select the notepad, click on Save Layout and automatically any notes associated with the notepad will be shown in Avanti's notepad.

When you click anywhere in the Avanti notepad, a popup menu bar will display the available functionality:



Considerations:

- The notes entered in Avanti are in HTML format and these are converted on-the-fly to the RTF (rich text format) required by SYSPRO's notepad control.
- If the notepad in SYSPRO includes a SAVE button then this will be shown in Avanti's notepad toolbar as well.
- Notes in Avanti are automatically saved where appropriate, just as they are in SYSPRO itself. For example, there is no SAVE button in SYSPRO's main menu notepad because any notes entered there will be automatically saved when you exit SYSPRO. And in Avanti the same principle applies: when you exit Avanti then any changed notes will be automatically saved.

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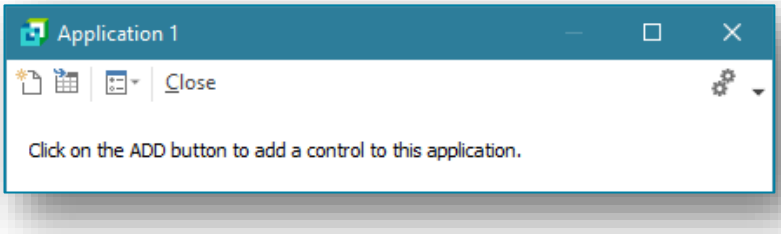
How to present Application Builders in Avanti

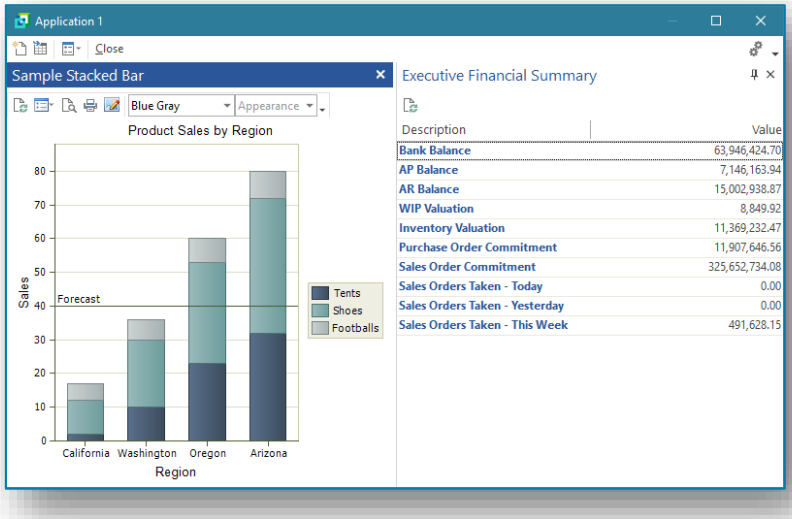
An application builder in SYSPRO is a collection of Customized Panes hosted in a SYSPRO program. Up to 20 such programs (named **IMPDH1** thru **IMPDH9**, and **IMPDHA** thru **IMPDHK**) can be built in SYSPRO, and these can be surfaced in Avanti, either at the operator or role level.

To present an application builder in Avanti, follow these steps:

1. Create the Customized Panes in SYSPRO first.
   For example: Here's a blank Application 1 in SYSPRO (**IMPDH1**):

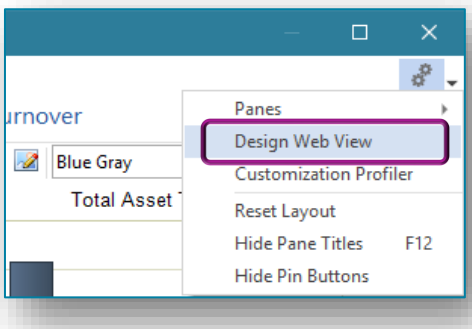


   After adding two Customized Panes using the built-in samples for a list view (Executive Financial Summary) and a graph (Sample Stacked Bar), it looks like this:



2. Exit out of the Application Builder to save away any new Customized Panes just added).

3. Relaunch the Application Builder and select **Design Web View**:



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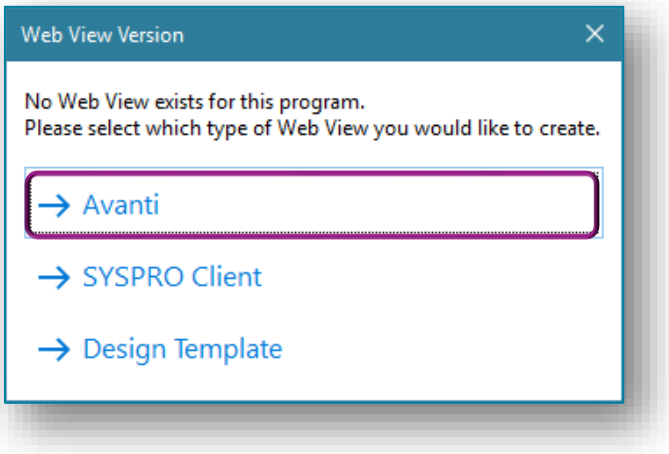
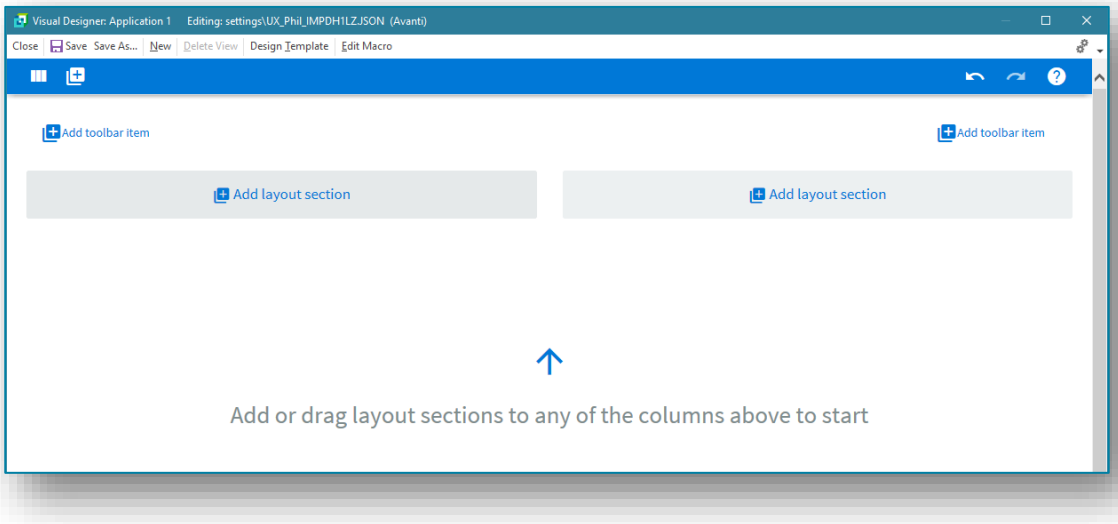
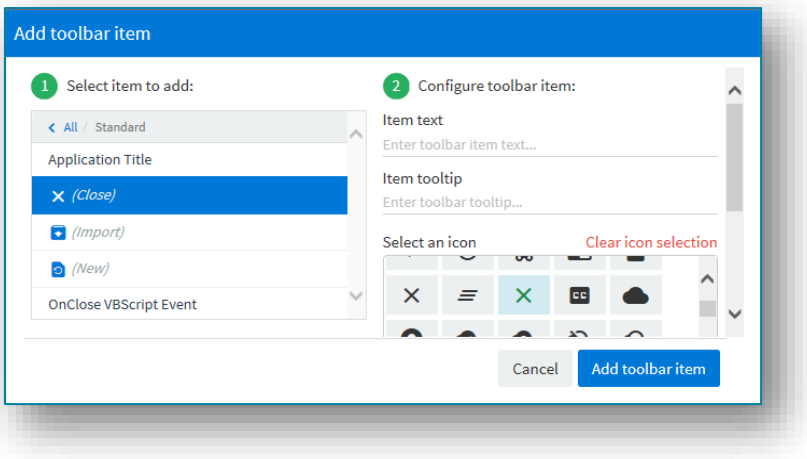
4. Select to design for Avanti:



5. Click on **Add layout section**, and add the Grid List **Executive Financial Summary** and the chart **Sample Stacked Bar**.



6. Remember to add a CLOSE button to the toolbar:



7. Save your Web View.

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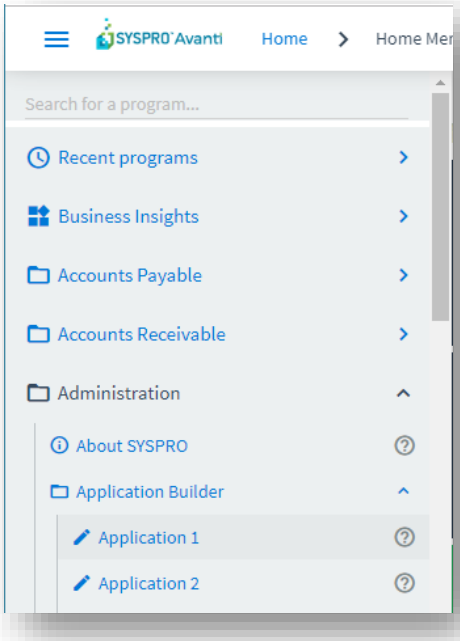
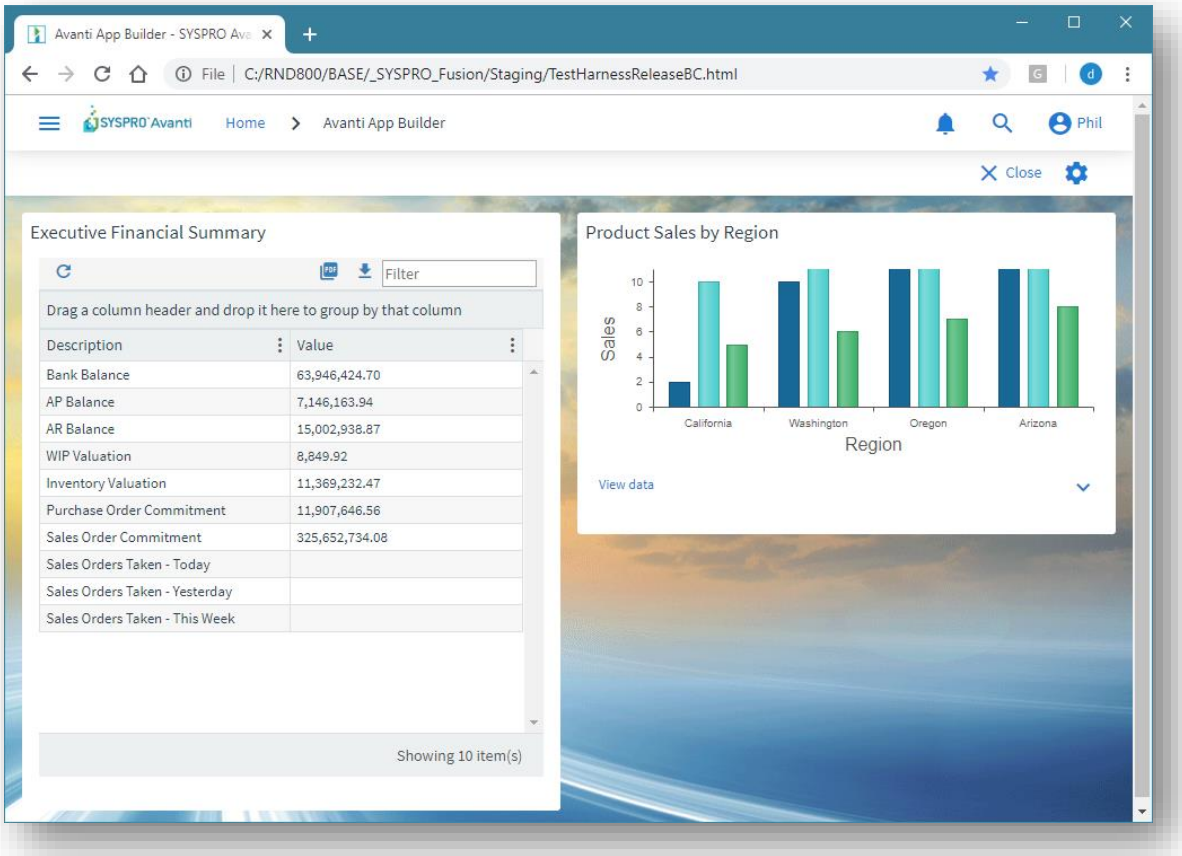
In Avanti, to run this Application Builder, click on the hamburger menu, open the **Administration** folder and click **Application 1** to run:



Your application 1 will now be launched. The title of the Application Builder will be shown in the Avanti menu bar:



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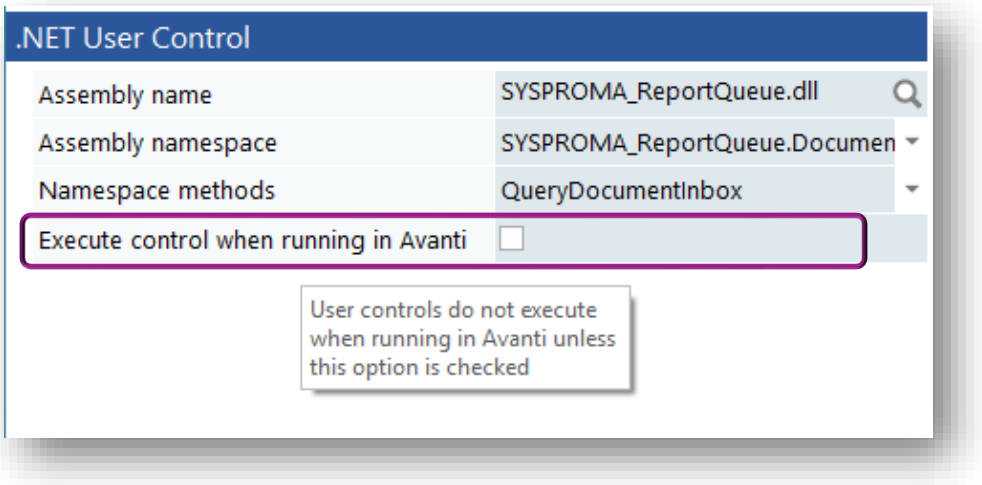
NOTES ON .NET USER CONTROLS AND AVANTI

By default, .NET User Controls added to an application in SYSPRO will not execute when you are running Avanti because the control is not necessarily suitable to be rendered in a Web page.

However, the output from a user control could be directed, for example, to a Listview which in turn can be shown in the Visual Designer.

The control must be explicitly informed that it must be executed by enabling the option **Execute control when running in Avanti**:



If a .NET User control has any User Interface interaction, then this will not appear in Avanti.

Here are some suggestions on how to convert User Controls for use in Avanti:

Option 1: Convert to SYSPRO UI and use VBScript

The business logic can be kept the same but all UI must be removed and instead sent to SYSPRO via events to create list views, forms and charts using VBScript Customization and power tailoring.

Option 2: Cards

For UI controls not supported for SYSPRO Avanti these would need to be built as a card with HTML and JavaScript. (Skills required: HTML, JavaScript, Jquery)

A card builder to be released in 2019 R2 will provide a WYSIWIG designer to build cards using business objects and other XML data sources.

Cards can be used in both Avanti and Web Views within SYSPRO, making them ideal for cross-platform use.

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Option 3: Native Avanti Application

A development extension for Visual Studio will be released to allow third party developers to develop new plugin modules for Avanti entirely in C# .NET. These will be completely debuggable, able to call Business Objects and will get all of Avanti's customization and personalization functionality out of the box for anything they develop.

There will be an extensive training guide and course put together to address this, when native Avanti applications become generally available.

USING E-SIGNATURES IN AVANTI

When an e-signature in SYSPRO is triggered various actions can take place.

The following actions will not work correctly in Avanti:

- Running an application (an .EXE)
- Running a SRS report
- Emailing

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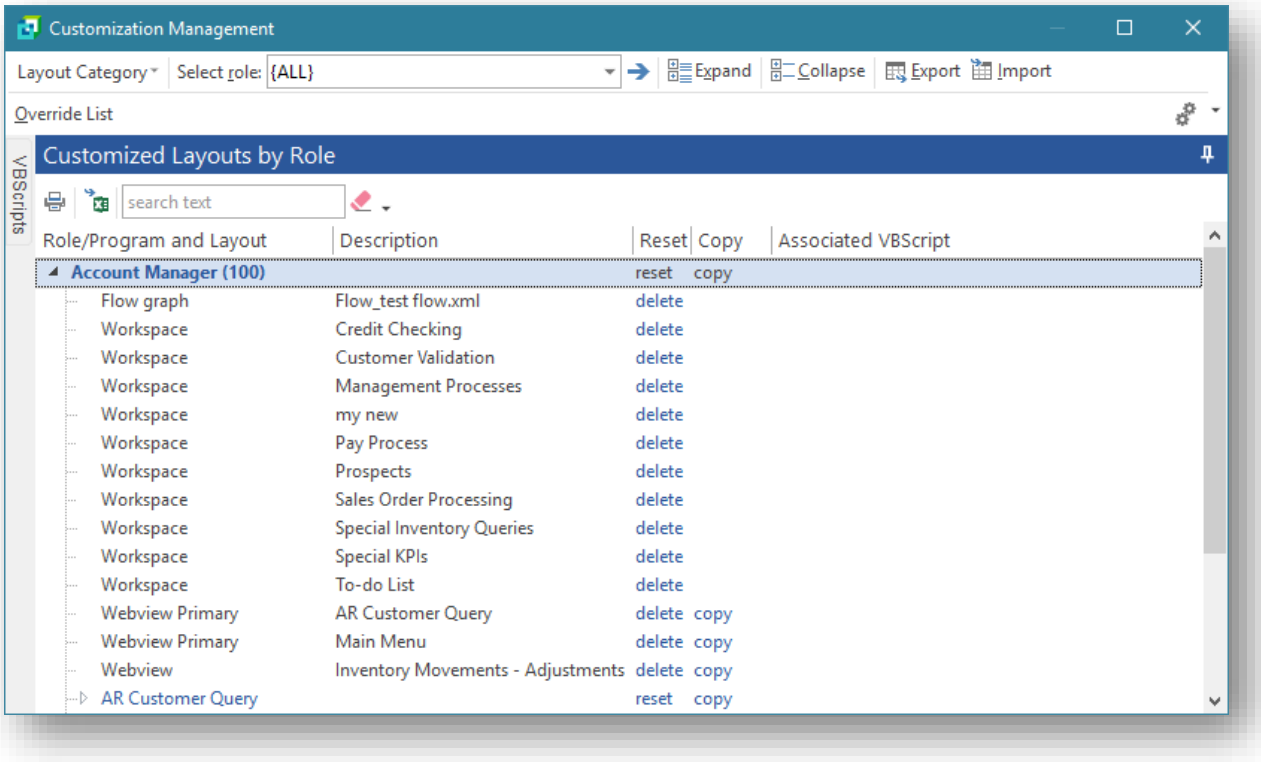
CUSTOMIZATION MANAGEMENT BY ROLE IN AVANTI

You can use the **Customization Management** program to manage customizations of Web Views or Workspaces by role. This is accessible from the **Administration** tab of the SYSPRO Ribbon Bar.

From here you can view and manage the workspaces and Web Views created at the role level.



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CURRENT RESTRICTIONS IN AVANTI

This section describes restrictions in Avanti in this pre-release.

These restrictions will be removed in the future.

ITEMS CURRENTLY NOT SUPPORTED IN AVANTI

The following items are not currently supported in Avanti:

- Structured GL entry.
  (Ledger code entries are presented by sections in a drop-down list)

- The facility to print list views content.
  (You can, however, export to Excel and PDF)

- SYSPRO Customized Panes are partially supported in Avanti.
  (Please read the section Showing Customized Panes in Avanti for more information)

- Form Actions associated with Forms in SYSPRO are currently not surfaced in the Avanti Visual Designer and therefore cannot be shown in a Web View.

- While Task Dialogs (message boxes and Toast Notifications) are fully supported in Avanti, any customizations done for Task Dialogs are currently being ignored.

VBSCRIPT FUNCTIONALITY SUPPORT IN AVANTI

Most of the VBScript functionality used within SYSPRO is supported in Avanti, except for the following VBScript form events which will have no effect in Avanti:

- **OnBeforeChange**
- **OnGainFocus**
- **OnLostFocus**
- **OnButtonClick**

The behaviour of list views in Customized Panes differs slightly between SYSPRO and Avanti.

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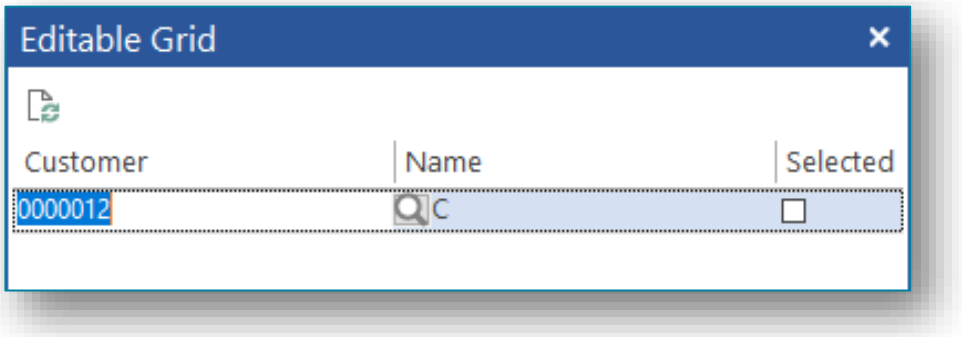
Consider the following list view, constructed using a customized pane:



This is a simple editable grid, with 3 columns, and was constructed using the following two properties for the <Columns> element in the VBScript:

AutoInsert='true'

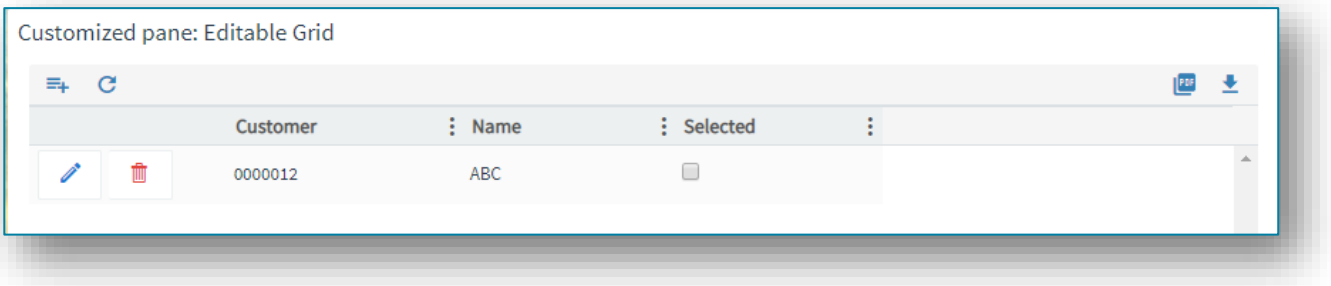
AllowDEL='true'

These properties mean that you can add rows to the grid, and that you can press the DEL button to delete rows.

In addition, the script for this list view has an **OnDblClick** event.

In Avanti, you cannot press 'DEL' and nor can you execute a 'double-click'. Instead, these button clicks are controlled through buttons added to each row.

And so, this is what this grid looks like in Avanti:



Clicking on the **DELETE** button in the row will execute the **OnDELPressed** VBScript event.

Clicking on the **ACTION** button will execute the **OnDblClick** VBScript event.

And because the property **AutoInsert** is set to 'true', the **ADD** button has been added to the grid toolbar.

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DESKTOP ALERTS

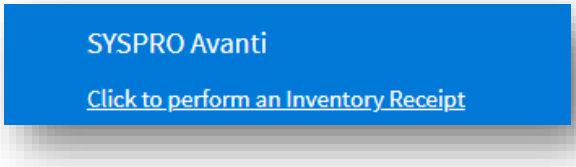
Using VBScript, you can create alerts that appear in SYSPRO as popup messages.

This simple script:

```
dim Popup
Popup = Popup & "<Popup Duration='05' Animation='Fade'>"
Popup = Popup & "<Heading Text='Click to perform an Inventory
Receipt' SYSPROProgram='IMP010'  />"
Popup = Popup & "</Popup>"
CustomizedPane.CodeObject.DesktopAlert = Popup
```

will result in the following desktop alert in SYSPRO, and clicking on the hyperlink will launch the program IMP010.

In Avanti, this desktop alert will look like this:



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Behavioral differences between Avanti and Windows client version

Custom form fields in Avanti

Custom fields that have been added to forms in SYSPRO Windows client can be surfaced in Avanti using the Visual Designer. By default, the applications that ship with Avanti do not and cannot include any custom form fields as it has no prior knowledge of them.

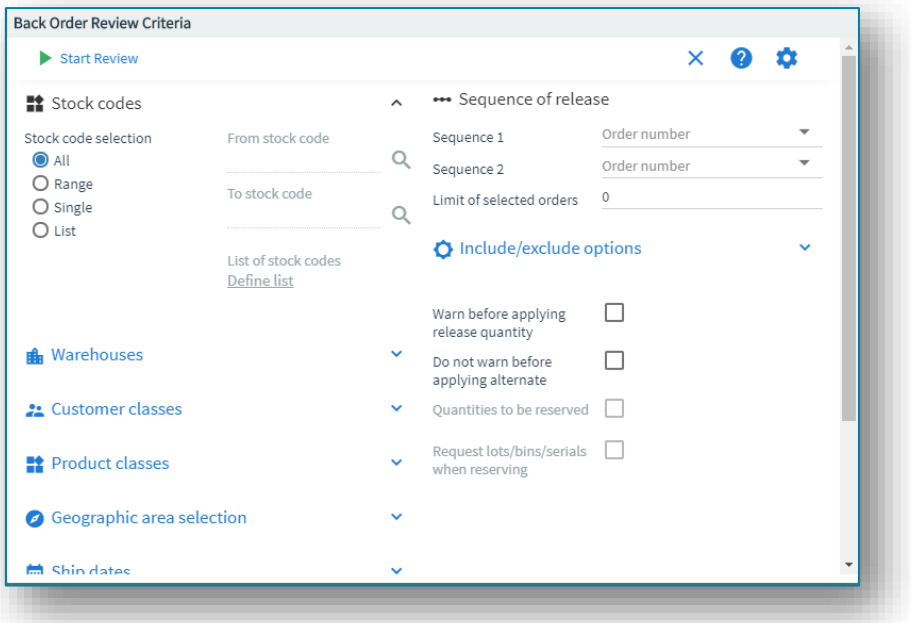
The same is true for any Customized Panes that have been added to an application. Such panes will need to be added to the Web View using the Visual Designer.

Auto-loading of form values in Avanti

Against certain FORMs in the SYSPRO Windows Client you can switch on the option to **Load Previous Form Values**.

This option indicates that SYSPRO will automatically remember any form options you have changed and reload them next time the program is launched. This only applies to forms that are editable and are appropriate to save their form values – typically, when the form values are criteria entries.

In Avanti this is automatically in use. As an example, any options changed in the criteria for the **Back Order Review** program (shown below) will be saved and re-applied when the program is next launched.



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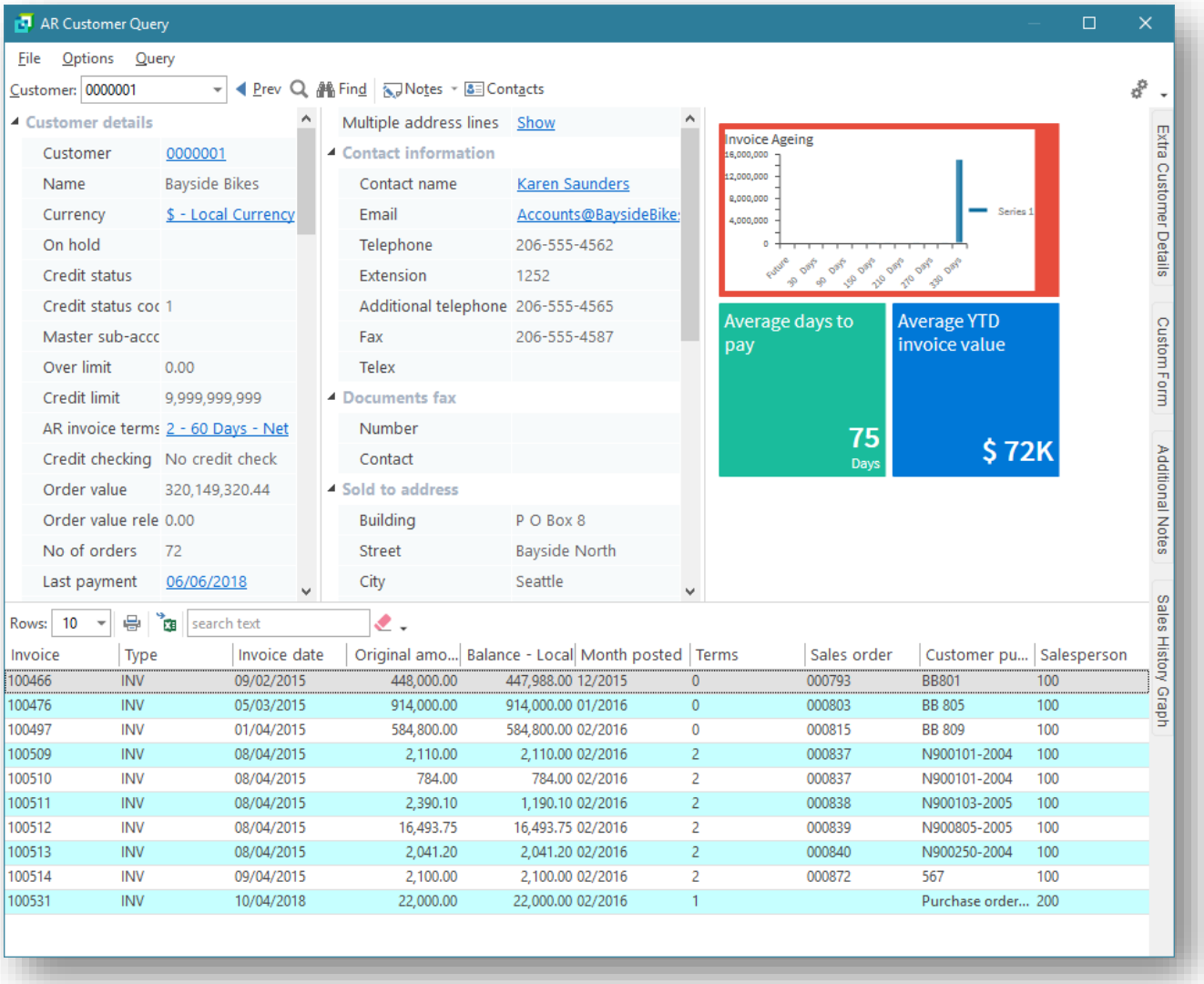
USING WEB VIEWS IN WINDOWS CLIENT VERSION

The Web Views that are used in Avanti can also be used in the Windows client version.

However, this is not generally recommended. While technically this would work (apart from some differences noted below), the Avanti Web View interface is quite different to that used in the Windows client version and it would be confusing to the user to have some programs displaying the web interface and others using the Windows interface.

Having said this, including a Web View that shows Business Insights in some SYSPRO programs might be very useful.

Here's an example of the **Customer Query** program in SYSPRO that includes a Web View showing some Business Insights:



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Considerations:

If you do use Web Views in the Windows client there are some differences:

- Predictive search is currently not enabled in toolbars or form fields.
- The search button is not shown next to toolbar 'key' fields.
- The standard SYSPRO toolbar will be hidden if the Web View contains a toolbar. The exception to this is that the Ribbon Bar in the main menu will always be shown.
- Remember that Web Views designed for the SYSPRO client will not appear in Avanti. This means you can design Web Views for SYSPRO that are appropriate for the SYSPRO client interface.

You can implement a Web View for most of the SYSPRO programs either by using a standard template (one already built for use with SYSPRO Avanti), or by designing a new Web View from scratch. In both cases you would use the Visual Designer to accomplish this.

UPGRADING TO SYSPRO 8 FROM SYSPRO 7

If Web Views were created in SYSPRO 7 then these will be assumed to have been designed for Avanti, and will therefore no longer appear in the SYSPRO Client.

If you wish any existing customized Web Views to appear in the SYSPRO Client, please read the section **Save as a different Web View**.

Prior to SYSPRO 8, version **2019 R1**, any customized web view by operator or by role would have been assumed to be surfaced in both SYSPRO itself and in Avanti.

In the latest release and onwards, this is not the case and any such pre-existing Web Views will be assumed to be for Avanti only, as you must now explicitly state if a web view is targeted for SYSPRO or for Avanti.

Therefore, if you have created Web Views for prior versions of SYSPRO and wish them to appear in SYSPRO in future, you will have to either rename the JSON file, or use the 'Save as...' option in the Visual Designer (please read the section **Save as a different Web View**).

To rename an existing Web View JSON extension residing in your `...\base\settings` folder or in a `Role_xxx` folder, you should add the **`_SYSPRO`** extension.

Example: If you have a Web View in `...\base\settings` (by operator) for the Customer Query application and you wish the Web View to continue being surfaced in SYSPRO, then the filename should be: `UX_operator_ARSPENLZ_SYSPRO.JSON`.

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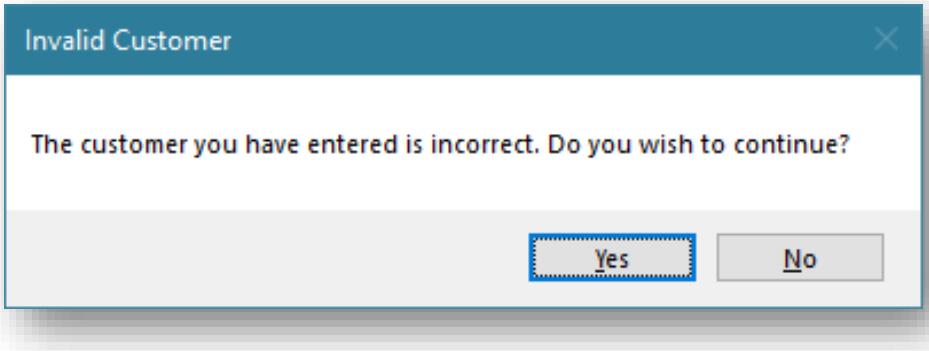
USING MSGBOX AND INPUTBOX FUNCTIONS IN A VBSCRIPT IN AVANTI

Any **MSGBOX** and **INPUTBOX** functions in a VBScript will execute within the SYSPRO system on the application server.

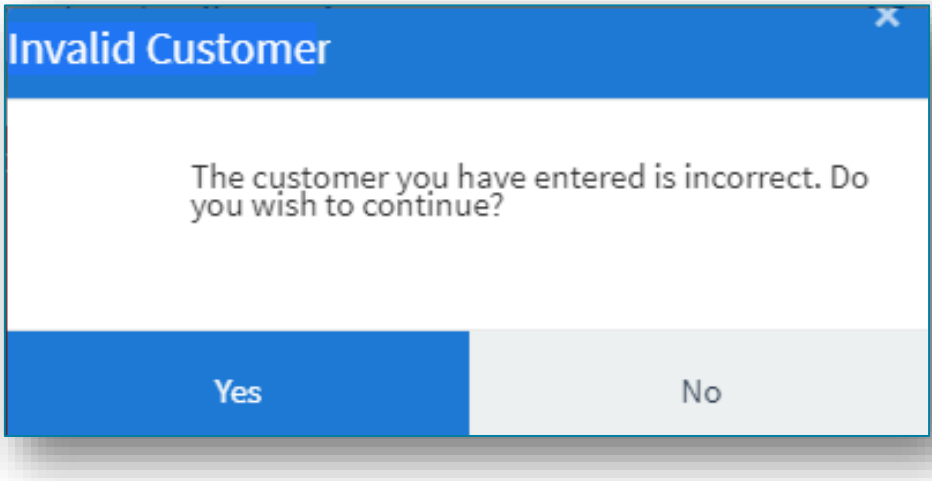
When running in Avanti such functions would cause Avanti to appear unresponsive as user action is required. To overcome this problem these VBScript functions are converted just before a script is to be executed so that the MSGBOX function calls a SYSMSG function, and INPUTBOX calls a SYSINPUT function.

SYSMSG and SYSINPUT are functions that convert a MSGBOX or INPUTBOX statement into an equivalent JSON Task Dialog format suitable for executing in Avanti.

Thus, a MSGBOX in SYSPRO that looks like this:



... will appear like this in Avanti:



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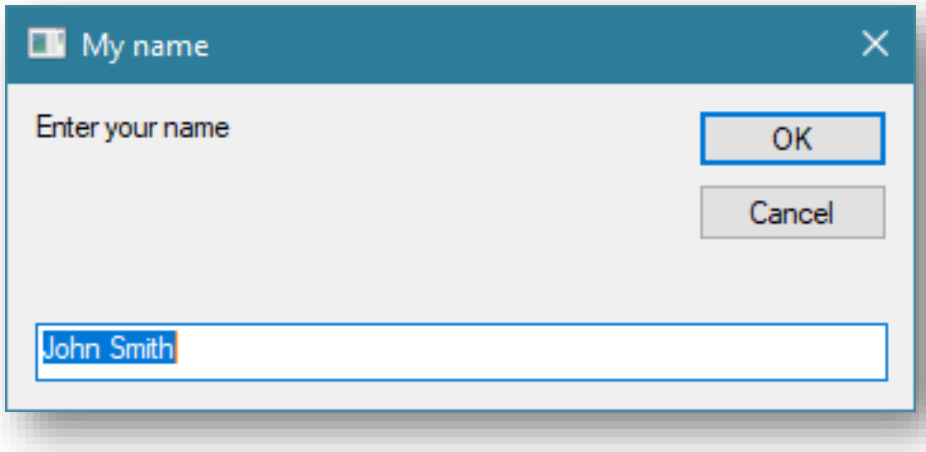
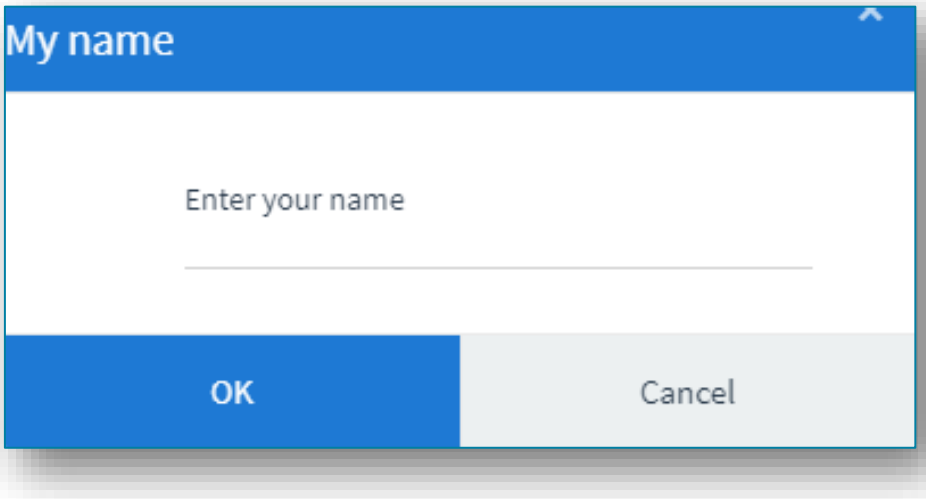
Similarly, an INPUTBOX in SYSPRO that looks like this:



... will appear like this in Avanti:



In addition, the Timeout value for a script will be set as -1, indicating no timeouts will occur.

Again, this is to prevent the system from appearing to be unresponsive if a timeout message were to be displayed.

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ARCHITECTURE

Avanti is built using modern web technologies.

Technically, Avanti has the following characteristics:

- **Avanti is a single-page application (SPA)**
  This allows Avanti to provide an experience akin to a native application on either a mobile device or a desktop browser. Avanti improves performance because only data is transmitted to the browser, which takes less time and bandwidth than constantly sending fully constructed HTML pages.

- **Avanti is a responsive web application**
  The design of the UI is fluid, meaning the web page content automatically fits into the available screen size, whether you are using a desktop browser or a smartphone. In short, Avanti ensures that it is effective and easy to use on any device.

The purpose of this section is to provide a high-level technical overview of the SYSPRO Avanti Architecture. It details the different deployment tiers as well as the technologies used by SYSPRO Avanti along with the key benefits.

The technologies discussed will be both from an on-premise and cloud deployment perspective.

HOW AVANTI WORKS

The following process/workflow describes how Avanti, authenticates and how information is passed from one tier of the architecture to the other:

1. A user will access Avanti through a web browser using an address specifically setup by the SYSPRO administrator for the installation of SYSPRO.

2. Once the address of the Avanti website is entered into the browser, a logon screen will be displayed, allowing the user the capture their user name, password along with the company details.

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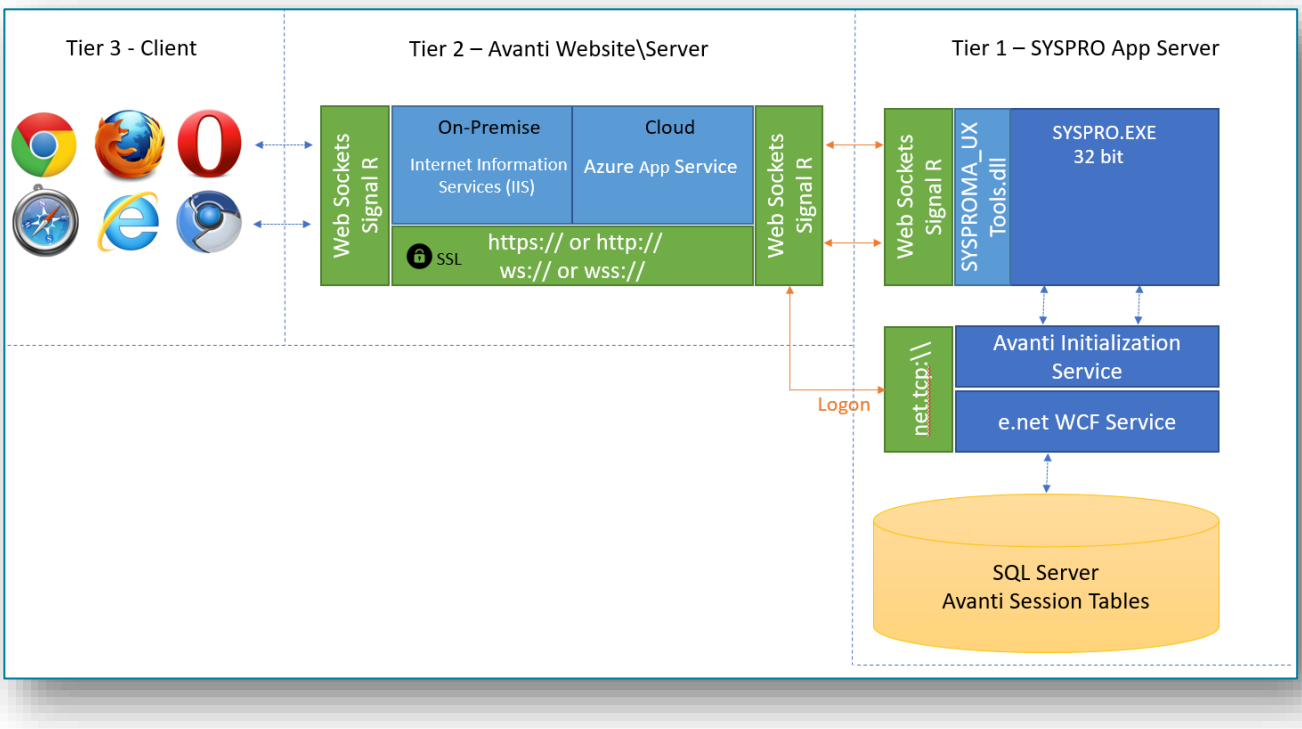
3. When the logon button is clicked, a request is sent to the Avanti Website, which will in turn sends a request to the Avanti Initialization Service for the credentials to be validated. The initialization service does not have any authentication built into it. It relies on the "standard" authentication model of core SYSPRO.

4. Once authenticated there will be no further workloads for the Initialization service until another user logs on. From there on in the SYSPRO executable will respond to any requests made by the web browser.

5. All requests and responses made from web browser will be routed to the Avanti website then relayed to the SYSPRO App server, then back to the Avanti website and finally back to the browser.

SYSPRO Avanti Architecture Diagram



The above diagram illustrates the 3 different tiers.

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TIER 3 – CLIENT (THE BROWSER)

The client tier is the initial touch point for any users wanting to make use of SYSPRO Avanti.

Using a web browser that supports HTML 5, a user can browse to the website where Avanti has been installed to. All UI (User Interface) elements in Avanti have been built using modern web based technologies such as HTML 5, JavaScript and CSS3.

Avanti has been developed from the ground up to adhere to responsive web designs. This enables Avanti to run on any device and any platform regardless of form or size factor. As the size of the device or web browser increases or decreases, Avanti will automatically adjust itself to best suit its environment.

Avanti has also followed the SPA (Single Page Application) design philosophy. This allows data to be dynamically bound to a page instead of the page being regenerated all the time, thus saving time, bandwidth and increasing the overall performance. This modern design also avoids disruption in the users experience within the application. SYSPRO Avanti is delivered via a web browser and requires no pre-requisites or software to be installed on the user's machine, making Avanti have a zero footprint on the client.

TIER 2 – AVANTI WEBSITE\SERVER

Tier 2 the Avanti Website, is the tier that handles the requests/responses from the web browser to the SYSPRO Application Server.

This tier can be installed on a traditional Windows Server running IIS (Internet Information Services) or it can be installed to an Azure App Service. This tier has been purposefully built to run in the cloud but can run on premise just as effectively.

The Avanti Website can be secured by the administrator using SSL. The data in transit from the Website to the web browser and vice versa is compressed by the Avanti infrastructure and provides compression levels of up to 95%, thus adding to the overall performance of Avanti.

A web technology called WebSockets in conjunction with Signal R allows for robust communication between the Avanti Website and the web browser. With this technology, SYSPRO Avanti can reconnect to the SYSPRO App Server and web browsers when there is a drop-in network connectivity, once again adding to the reliability of SYSPRO Avanti.

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When running Avanti on-premise, it has been optimized to have an auto update setting. This allows any new Avanti features that was released on a SYSPRO port to be updated on the Avanti Website automatically, without the need of the administrator.

When running Avanti in the cloud and making use of the Azure App Service infrastructure, we also make use of a technology call ARM (Azure Resource Manager) templates that allows the Avanti Website to be updated automatically.

Along with this there are several out of the box benefits that customers inherit with running in the cloud, i.e.:

- **Cost**, it is much cheaper to run in an Azure App Service. App Services make use of server less compute, so you only pay for the compute, that is, no windows licenses.

- **Scaling**, you can scale the infrastructure up or down depending or your requirements. There is also an auto scale feature that will detect the workloads on the website and will automatically scale the infrastructure accordingly.

- **Phishing/DSA,** the Azure App Service infrastructure has intelligent M/L algorithms that can detect Phishing attacks as well as Denial of Service attacks and can notify administrators before any major harm is done.

TIER 1 – SYSPRO APP SERVER

There has been an introduction for an Avanti Initialization Service, this service's sole responsibility is to do a handshake between the SYSPRO executable and the Website for each user that has logged on.

A few new tables have been also included to the SYSPRO SQL Server company wide database which is used to maintain state for the users using Avanti.

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