User Reference

Getting Started v10x

By CMiC

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Contents

Getting Started

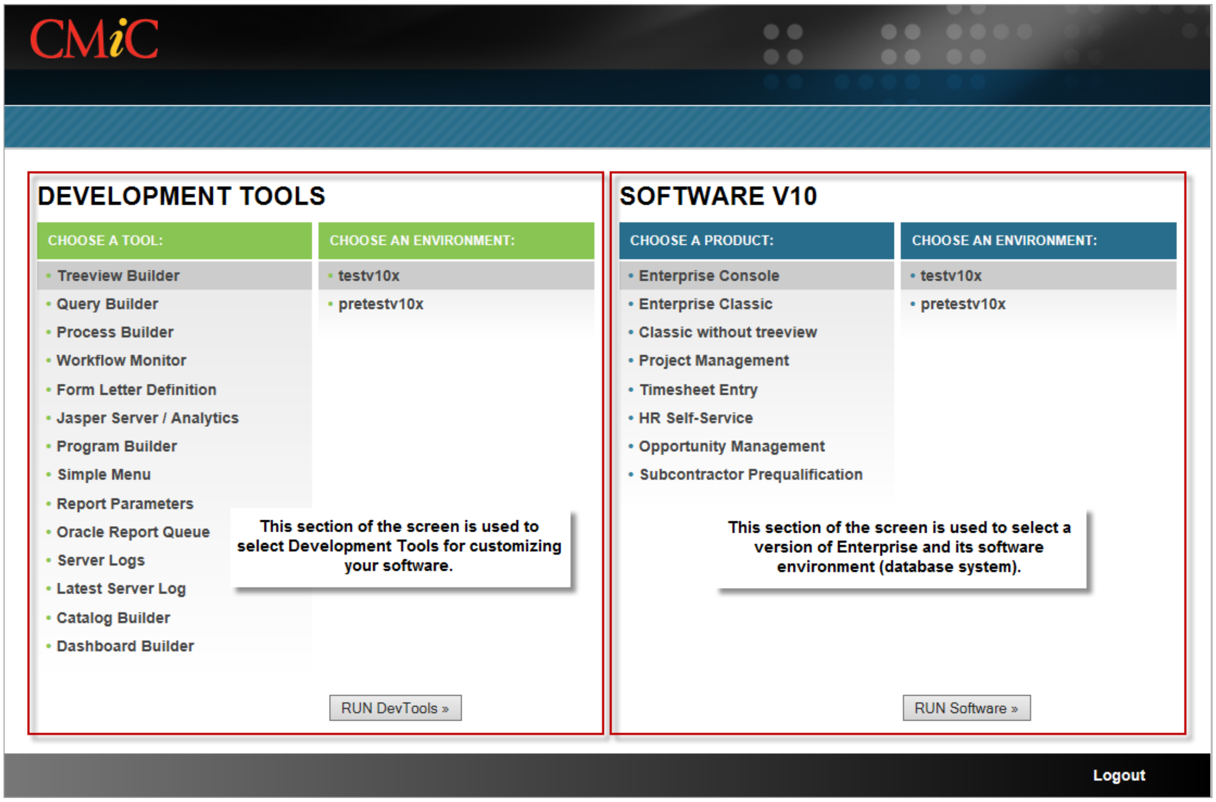
Overview – Getting Started

This Getting Started guide provides a general overview of CMiC Enterprise, specifically, Enterprise Console and running screens in ADF, Forms and JSP. It provides an overview of CMiC Enterprise's environment, navigation, and the functionality that is common to its screens.

CMiC Software Environment

CMiC Enterprise is a web-based software package, meaning that it runs through an internet browser. As with all web-based software, the type of web browser and the version of the web browser is relevant to its smooth operation. Currently, Enterprise operates through Internet Explorer 11, and the latest versions of Firefox and Chrome.

The following screenshot is a sample of a screen used to launch Enterprise.



Sample screen allowing user to choose a version of Enterprise, and its software environment (database system)

Development Tools

The left-hand section of the screen, **DEVELOPMENT TOOLS**, in the screenshot above, provides tools for customizing Enterprise software to suit your specific needs. For example, there are tools to build custom treeviews, queries, processes, dashboards, etc.

There are two lists of options available: **Tool**, and **Environment**. The first list is for selecting the development tool to run. Several of these tools are described in more detail under the "Customizing Enterprise Console" section in this guide. The second list is for choosing in which environment you want to operate the tool.

Once you have selected the two options, press the [**RUN DevTools**] button, underneath the **Choose An Environment** list, as shown in the above screenshot.

Software V10

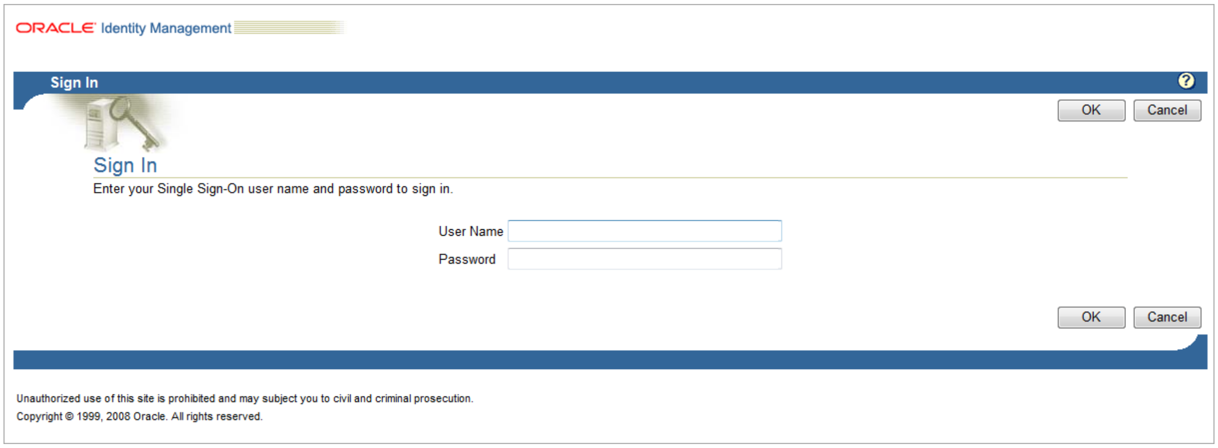
Under the right-hand section of the screen, **SOFTWARE V10**, in the screenshot above, there are two lists of options available: **Product**, and **Environment**.

The first list is for selecting the CMiC product to run, and its options depend on the products purchased by your company. The product covered in this manual is **Enterprise Console**. **Enterprise Console** launches screens in ADF, Forms and JSP.

The second list, the Environment list, is for choosing which environment you want Enterprise to operate in. There are at least two environments (i.e. two distinct databases) in which Enterprise can operate, for instance, PROD and TEST. One or more environments would be used for actual company operations, and others would be used for testing and training purposes.

Once you have selected the two options, press the [**RUN Software**] button, underneath the **Choose An Environment** list, as shown in the above screenshot.

Login



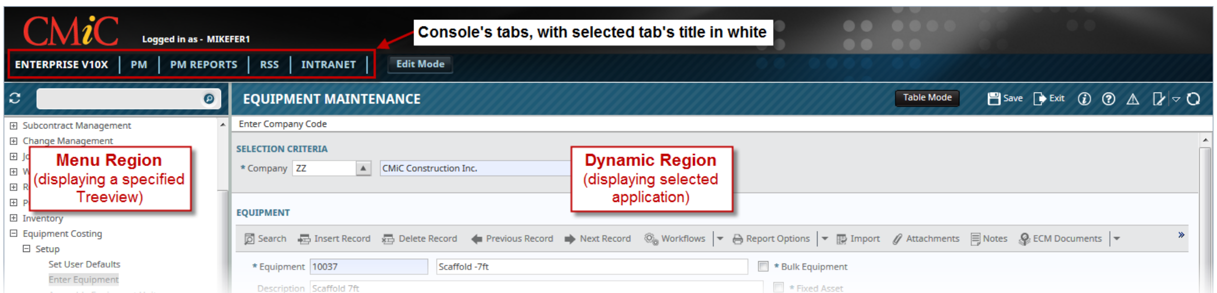
Sample Login Screen

Above is the Single Sign-On Login screen. Enter your user name and password (password is case sensitive), and click [**OK**].

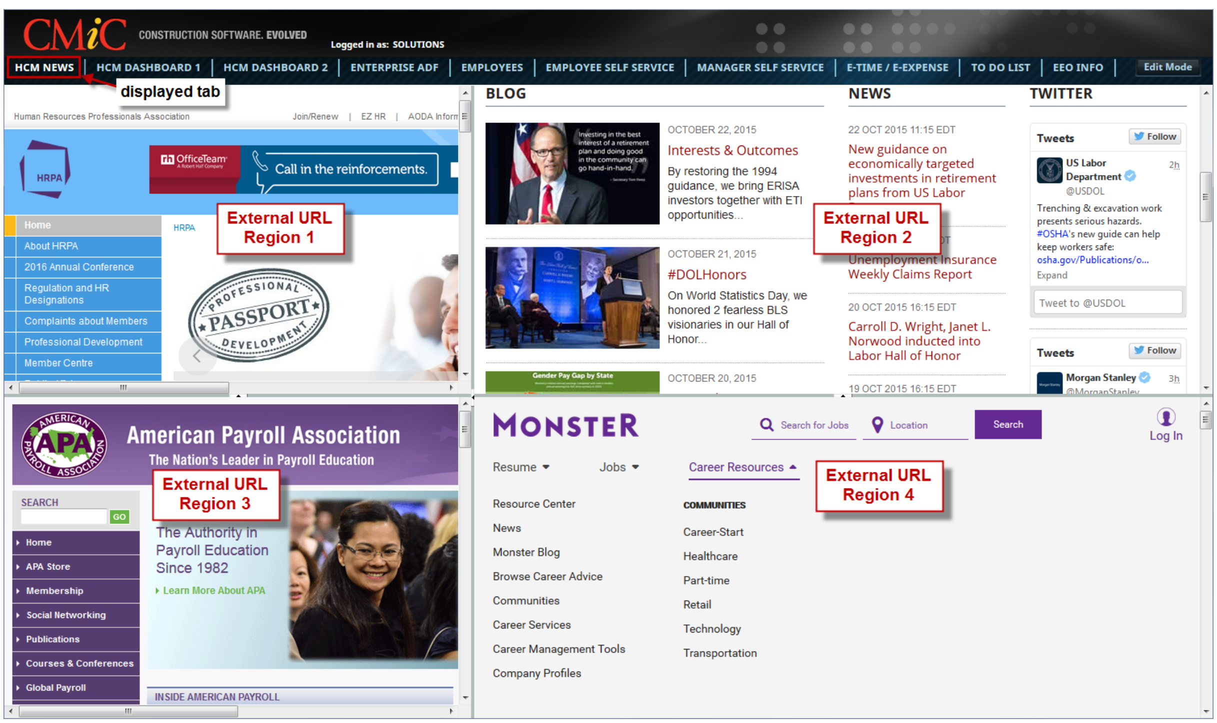
Depending on the product selected to run, the system will then display the corresponding CMiC product.

Enterprise Console

Overview



Sample of a customized UI Console, with a tab for CMiC Enterprise displayed



Sample of a customized UI Console, displaying a tab for Human Capital Management related news

Enterprise Console functions like a customizable window into the CMiC Enterprise system, or into any other system that may be reached via an internet or intranet address. Customized Consoles are designed to facilitate a user's tasks in Enterprise by providing menus and applications relevant to them, and to facilitate making informed business decisions by providing information relevant to their particular needs. To achieve this, Consoles contain tabs, and the tabs contain customizable regions, such as a Menu region to launch Enterprise applications and a Dynamic region to display the launched applications. Additionally, regions can display items like a company's intranet home page, an RSS feed, or an internet site.

As an example, to further illustrate the potential of a customized Console, one tab could be customized to facilitate a user's PM related tasks, a second tab could facilitate a user's tasks related to PM Reports, a third tab could display the company's intranet home page, and a fourth tab could display web feeds.

Sample of a tab displaying some KPIs

To further aid the making of informed business decisions, Enterprise Console also includes intuitive Dashboard and Log Building solutions (BI Dashboard Builder and Log Builder) that are second to none in helping users bridge the gap between data and usable information in a manner that is flexible and accurate. BI Catalog Builder is also used in conjunction with BI Dashboard Builder to create a catalog of Data Sources used in the design process. Specifically, Enterprise Console can be configured to display customized logs of crucial information, and display Key Performance Indicators (KPIs) via dials, graphs (CMiC Analytics), alerts, and dashboards.

To simplify routine processes, Process Builder can be used to turn a multi-step process into a simplified process train linking a series of screens, so users will never miss a step.

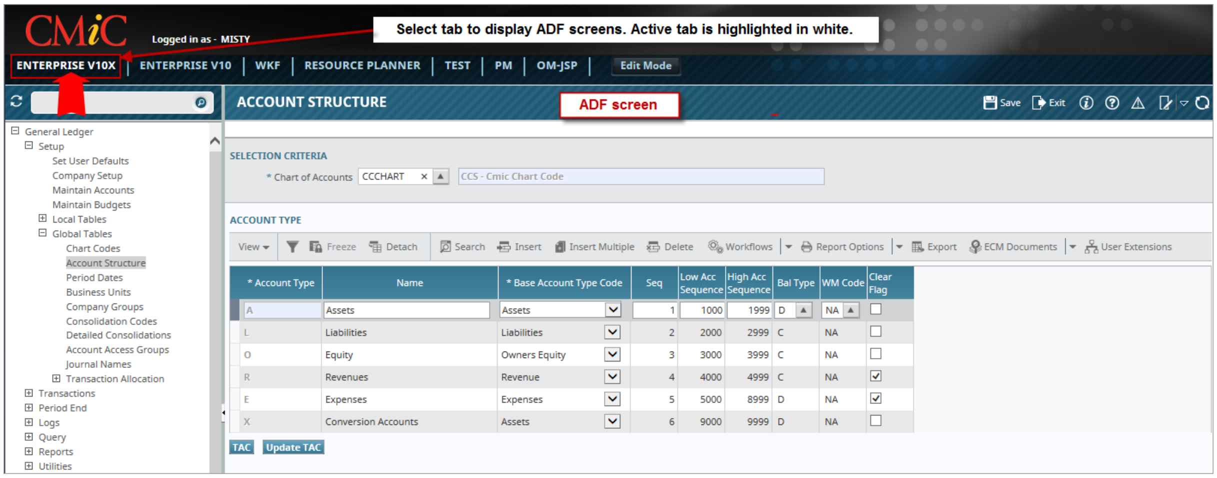
Take advantage of Treeview Builder and Lite Editor solutions to further fine-tune your console. Treeview Builder allows you to customize the Treeview menu used to list and launch the applications of Enterprise, external URLs, and created UI Logs and Dashboards. The Lite Editor can be used to create customized versions of screens for specific users and UIC Groups. For example, you can customize existing fields, table columns or tabs, add a new field, or set a screen's initial display mode.

The combination of tools provided in this advanced toolset will help users tailor the Enterprise Console to meet their unique and individual business needs. Each of these innovative, cutting-edge tools is discussed in more detail in the "Customizing Enterprise Console" section in this guide.

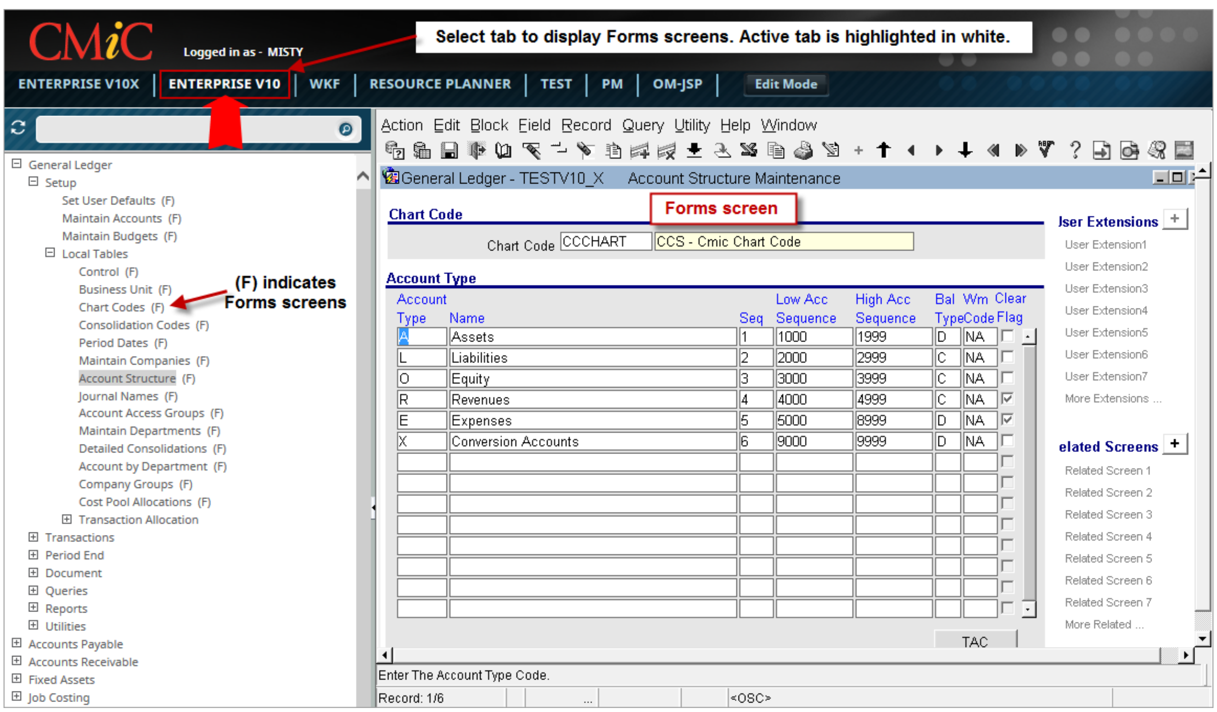
ADF, Forms & JSP Screens

ADF, Forms and JSP screens can all be launched from the Enterprise Console using the console tabs. JSP screens can also be launched from ADF and Forms Treeviews.

The screenshots below show examples of each of the screens being displayed in Enterprise Console.

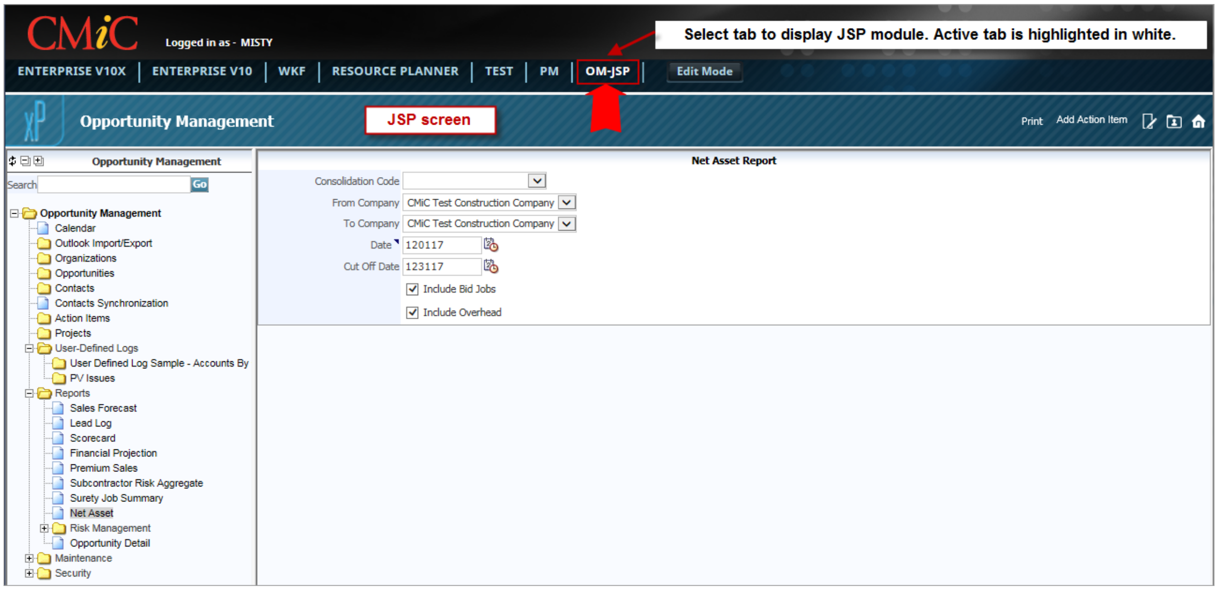


Example of ADF screen launched from console tab in Enterprise Console

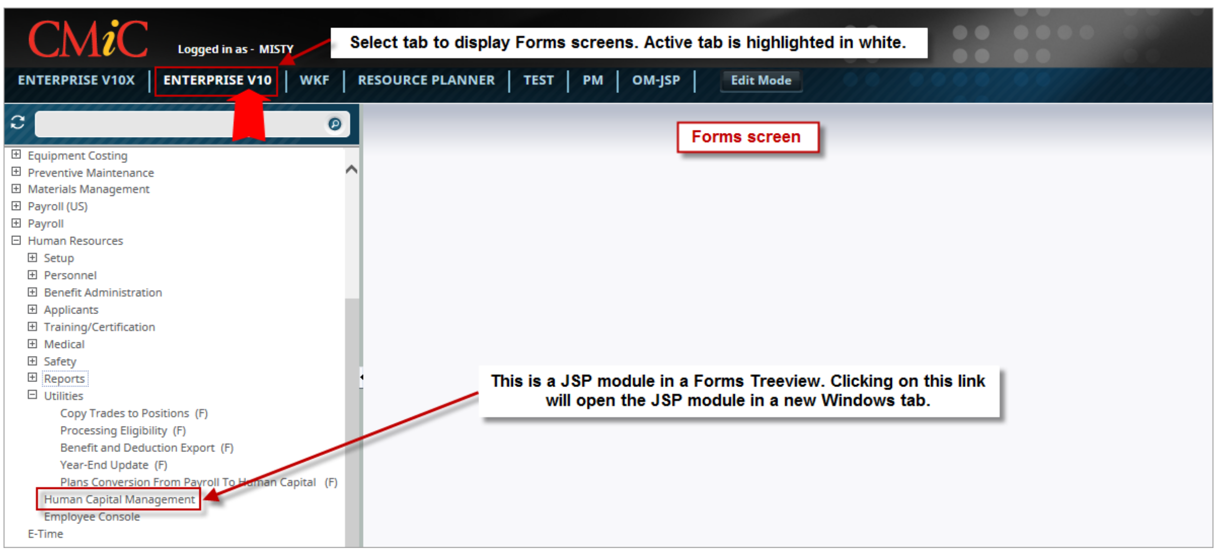


Example of Forms screen launched from console tab in Enterprise Console

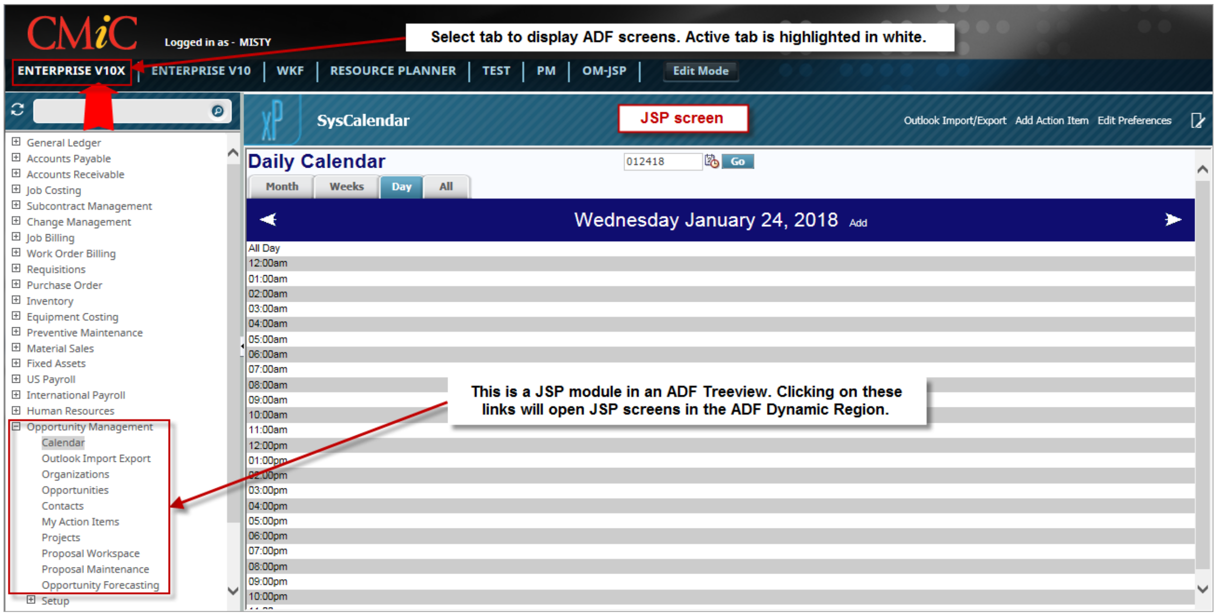
JSP screens can be launched from the Enterprise Console tabs or from ADF and Forms Treeviews, as shown in the screenshots below.



Example of JSP module launched from console tab in Enterprise Console



Example of JSP module listed in Forms Treeview



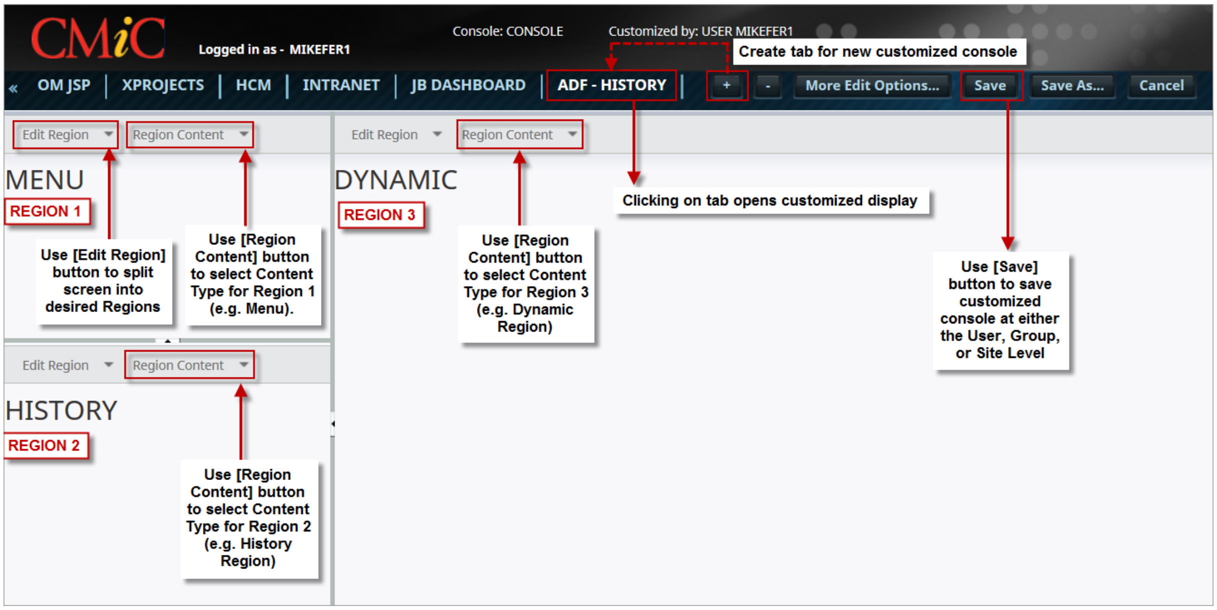
Example of JSP screen launched from ADF Treeview

Customizing Enterprise Console

The following tools are used to customize your Enterprise Console.

UI Console

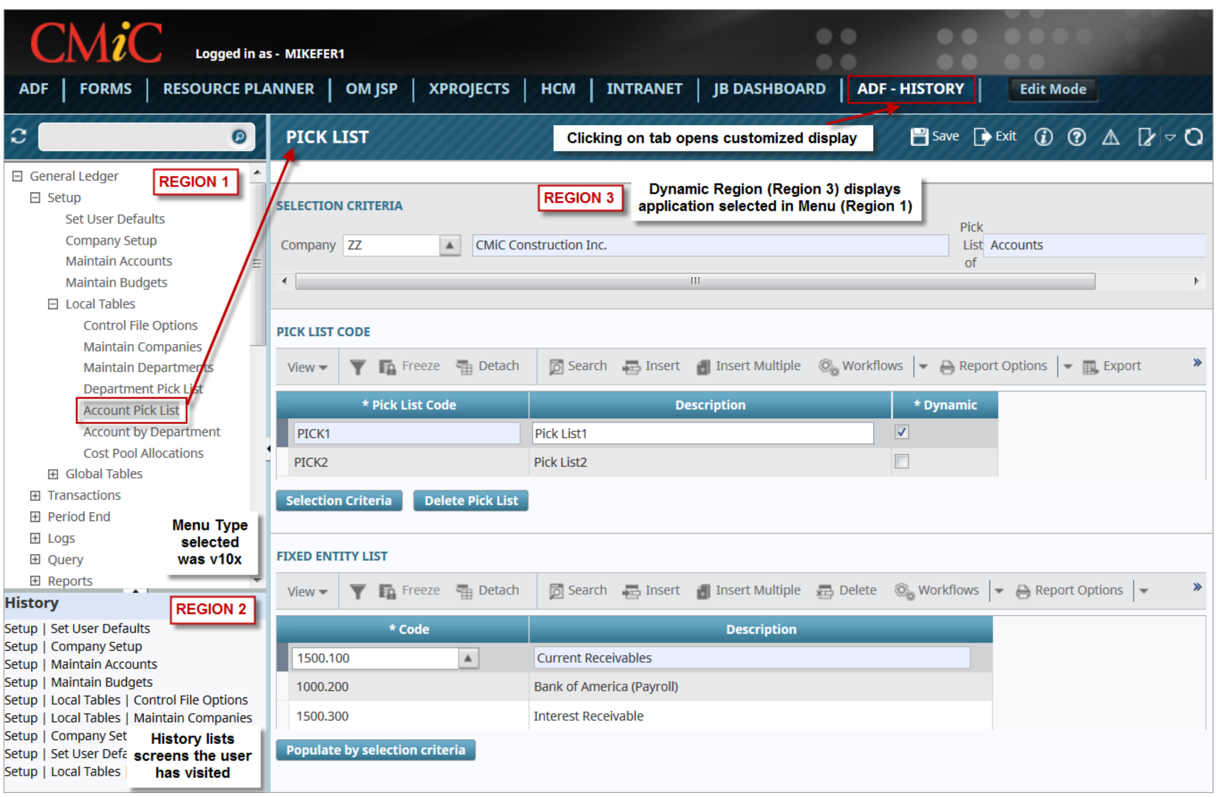
After privileges to UI Console are granted, the [**Edit Mode**] button used to launch UI Console tool becomes available to the user, as shown in the screenshot above. Clicking on the [**Edit Mode**] button launches a screen where a new customized console can be created.



Sample display of Enterprise Console in Edit Mode: regions are split, and their content is defined

A new tab is created for each new customized console. Each tab is composed of different regions that can contain a variety of content. A new region can be added by splitting a single region into two regions using a region's **Edit Region** drop-down menu. A region's content can be selected and defined using a region's **Region Content** drop-down menu.

In the screenshot above, the console's Dynamic Display Region is one region, and Menu/Treeview Region is split into two regions. The content of each region is user defined.

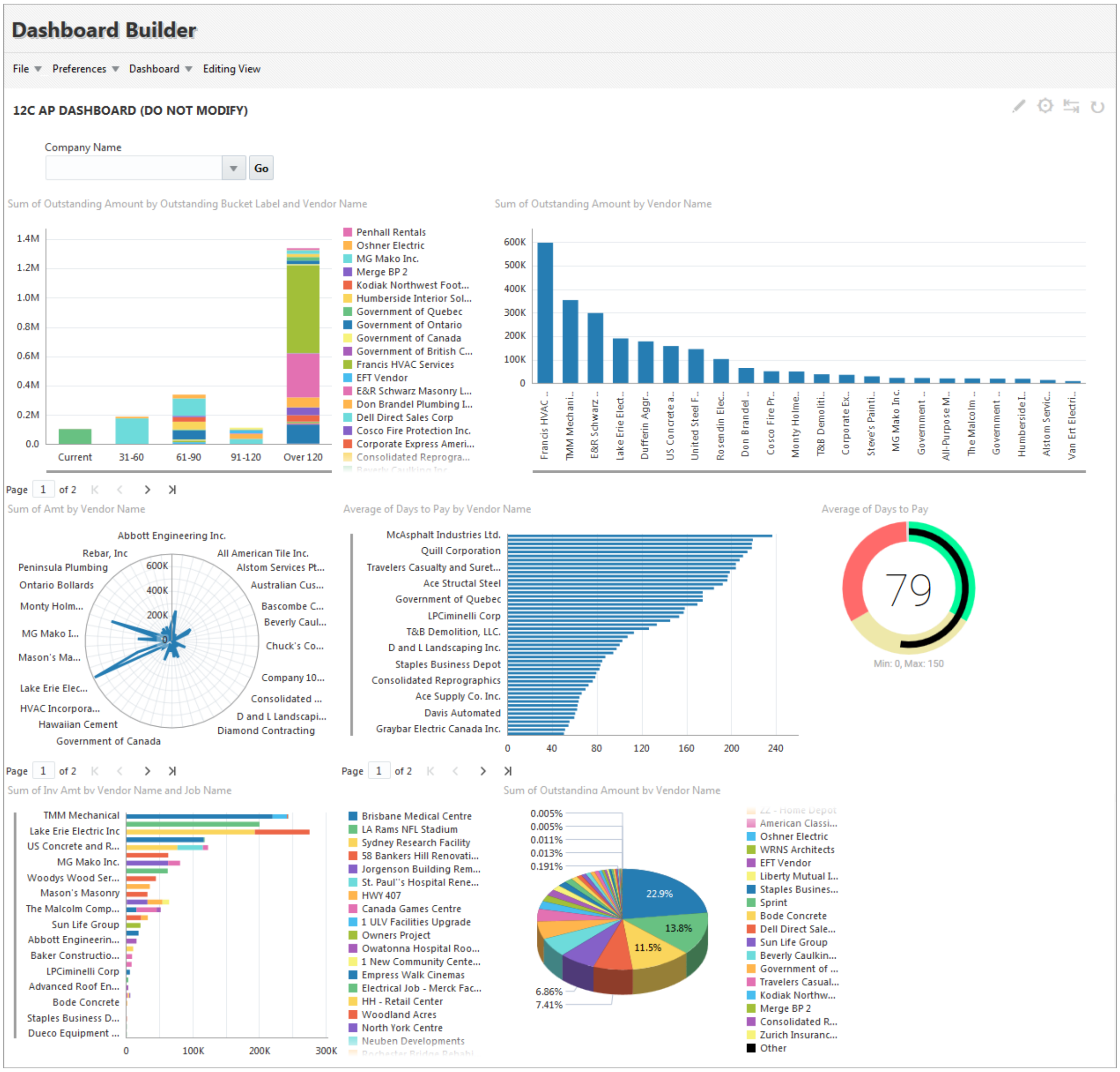


Sample of a customized console

The above screenshot shows a sample of a customized console.

For instructions on customizing the Enterprise Console, please refer to the UI Console Tool Reference Guide.

BI Dashboard Builder



Sample of a Dashboard in BI Dashboard Builder

BI Dashboard Builder is launched from CMiC Enterprise's launch page. It is listed in the **Development Tools** section. Users need to select **Dashboard Builder** under 'Choose A Tool', choose an environment under 'Choose An Environment,' and then click on the [**RUN Dev Tools**] button.

BI Dashboard Builder is a powerful business intelligence tool for building custom dashboards with interactive charts, gauges, and tables that use real-time data directly from your CMiC system to:

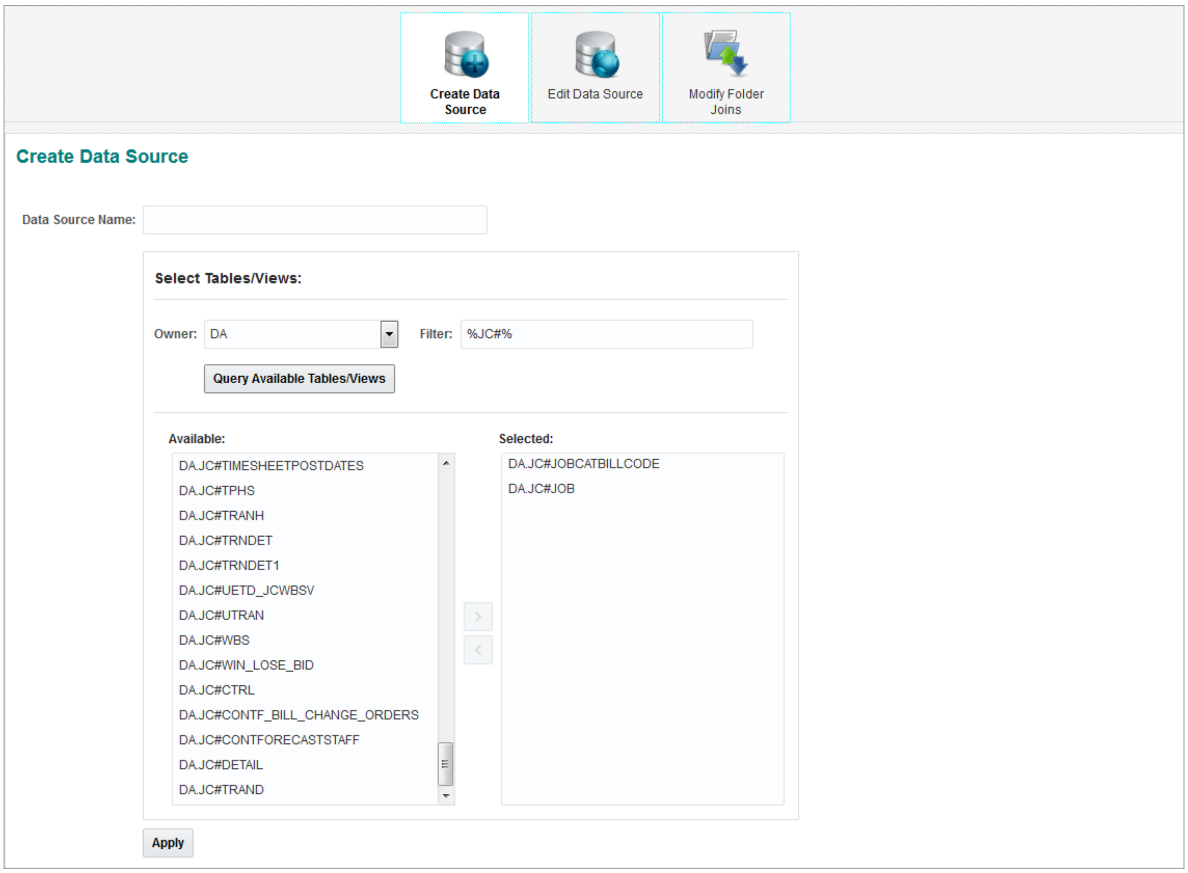
- consolidate and visualize large amounts of data from departments to provide high-level overviews that display current statuses and reveal insights and trends

- provide operational metrics and KPIs to monitor and track performance and progress, and to measure the impact of activities and investments
- provide real time monitoring of any data in your CMiC system
- help make informed and effective decisions

Since these dashboards use data directly from your CMiC system and are native to it (i.e., use same data formats), no data synchronization is required between the dashboards and your system, as would be for third-party BI dashboards, which means better performance and reliable up-to-date data. Furthermore, links to created dashboards can be added to Treeviews using our Treeview Builder tool, or to new Enterprise Console tabs using our UI Console tool.

For more information, please refer to the BI Dashboard Builder Reference Guide.

BI Catalog Builder



Sample of BI Catalog Builder – ADF Tool

BI Catalog Builder is launched from CMiC Enterprise's launch page. It is listed in the **Development Tools** section. Users need to select **Catalog Builder** under 'Choose A Tool', choose an environment under 'Choose An Environment,' and then click on the [**RUN Dev Tools**] button.

BI Catalog Builder, shown above, works in conjunction with BI Dashboard Builder to create custom, dynamic dashboards, as shown in the BI Dashboard Builder section. BI Catalog Builder is used to create a catalog of Data Sources, and the BI Dashboard Builder tool uses these Data Sources to create custom dashboards that provide high-level overviews, operational metrics and KPIs.

For more information, please refer to the BI Catalog Builder Reference Guide.

Treeview Builder

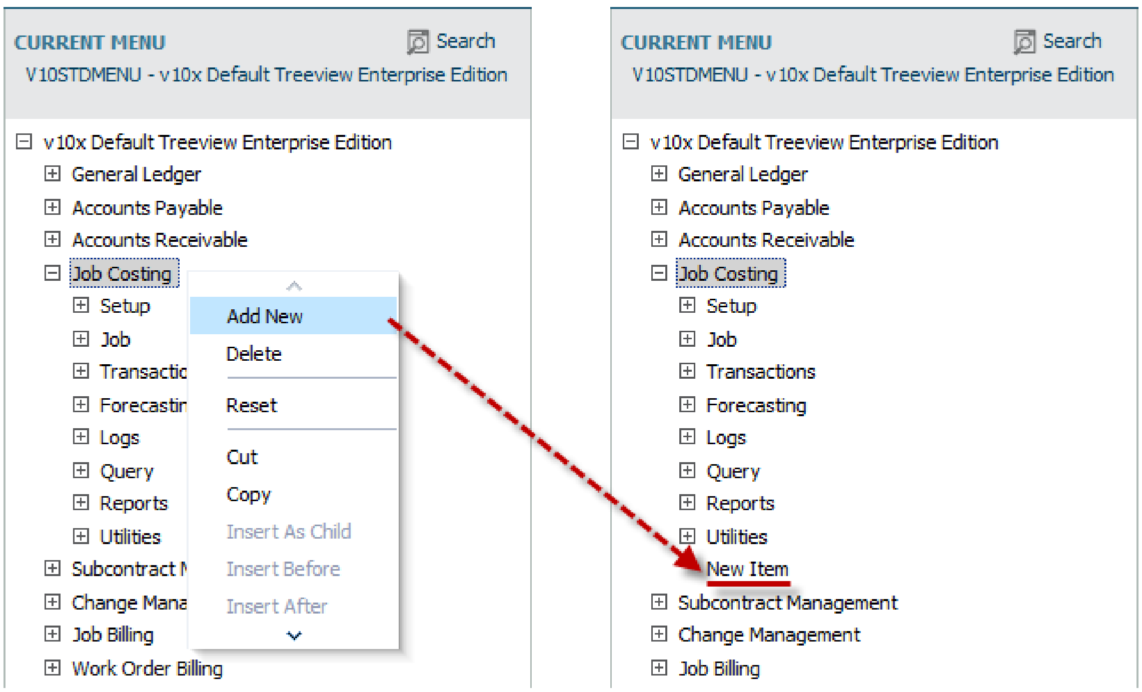
Treeview Builder is launched from CMiC Enterprise's launch page. It is listed in the **Development Tools** section. Users need to select **Treeview Builder** under 'Choose A Tool', choose an environment under 'Choose An Environment,' and then click on the [**RUN Dev Tools**] button.

Treeview Builder allows an administrator to customize the Treeview menu used to list and launch the applications of Enterprise, external URLs, and created UI Logs and Dashboards. Also, it allows Treeviews to be saved at either the User, Group, or Site Level, so that Treeviews can be customized for just one user, a group of users, or for all Enterprise users. Its functionality is similar to that of the JSP Menu Maintenance tool for JSP based applications.

The following sections provide examples of configuring treeview menus. These new treeview menus can be easily added to Enterprise Console.

For more information, please refer to the UI Treeview Builder Reference Guide.

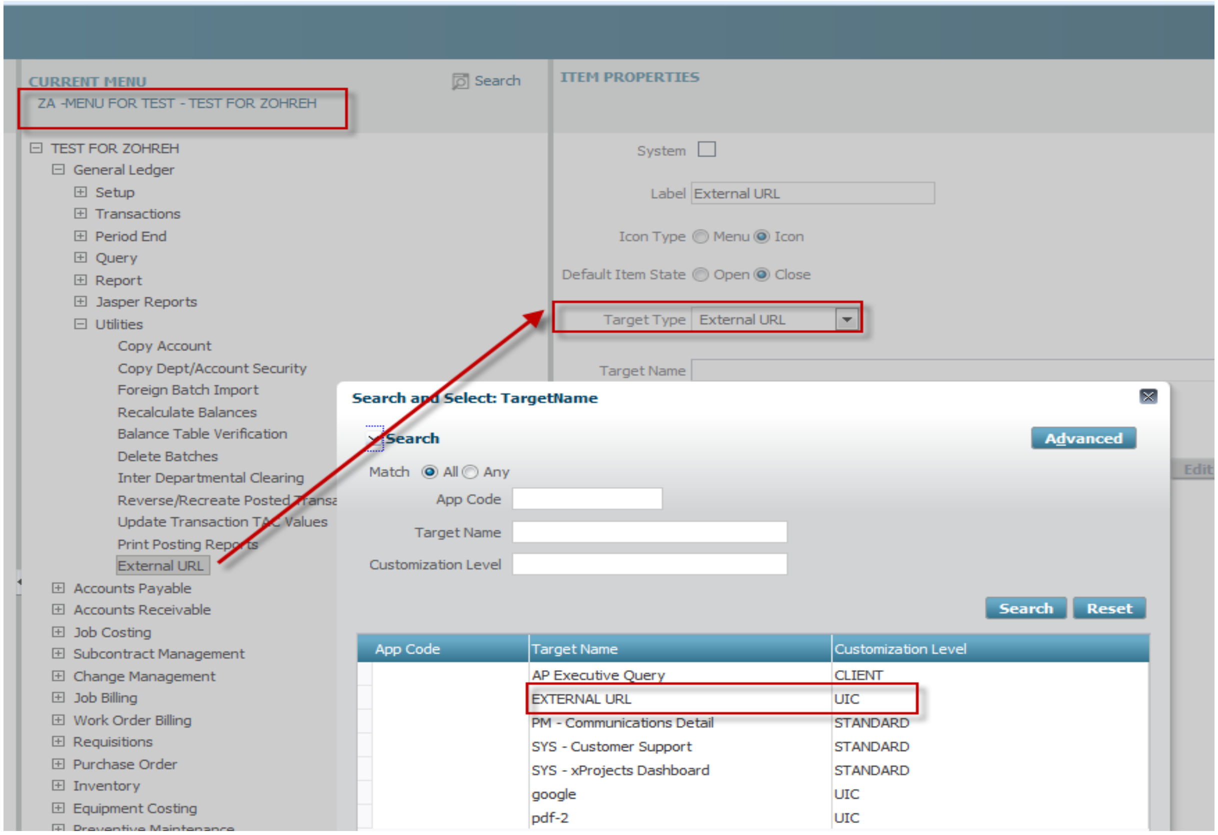
Adding a New Menu Item

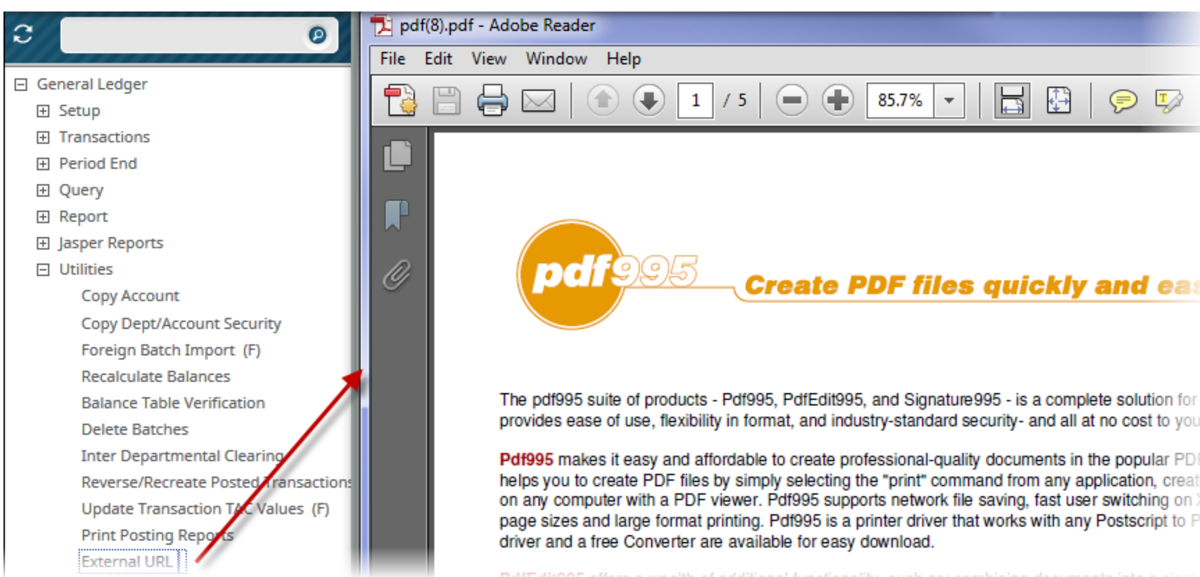


Example of adding a new menu item to Treeview

To add a new menu item to the Treeview being configured, left-click the node to contain the new menu item to bring up the context menu and select **Add New**. A new menu item will be added to the selected node, as shown in the above-right screenshot.

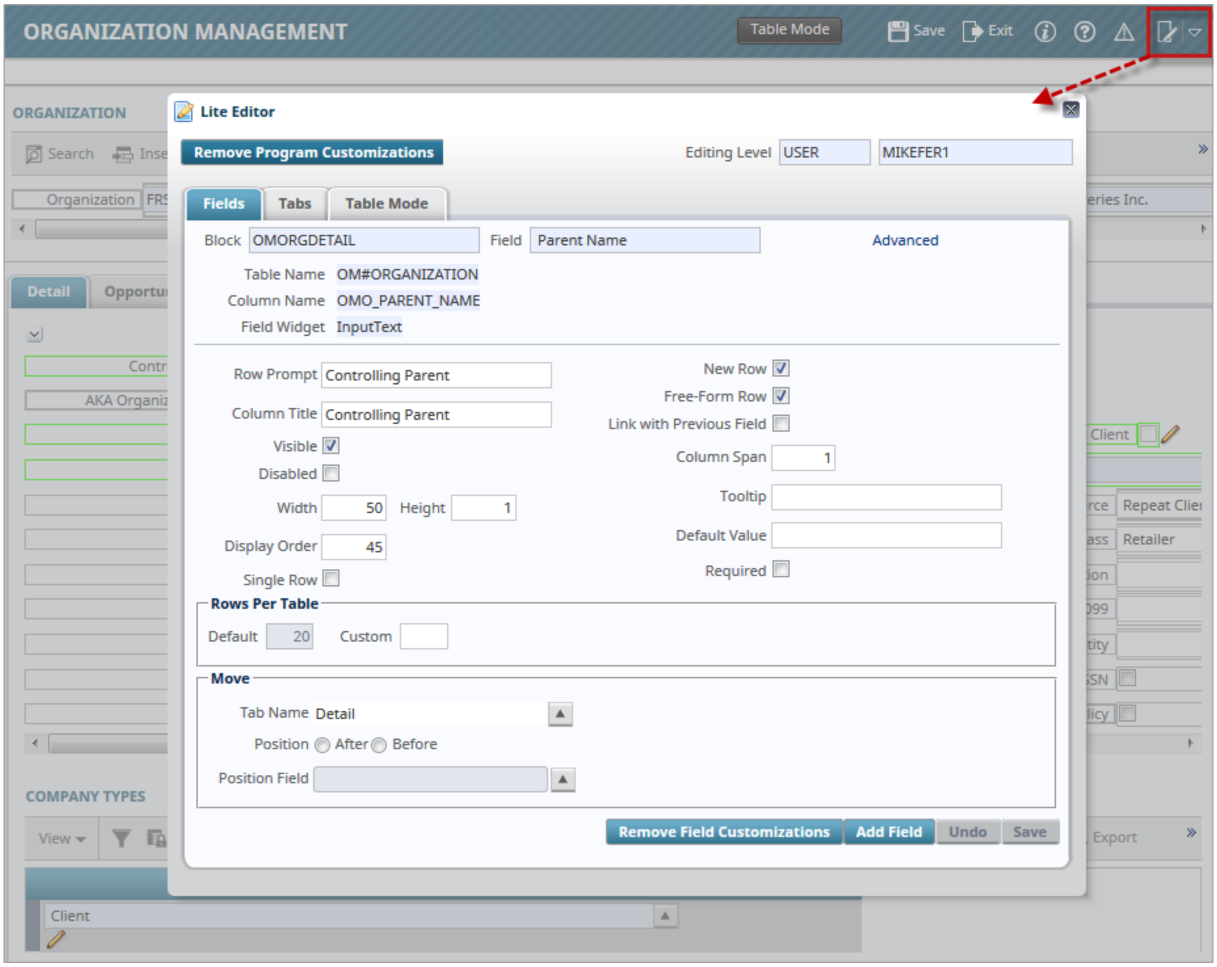
Linking Menu Item to External URL





Sample of an External URL opened through a configured Treeview's menu item.

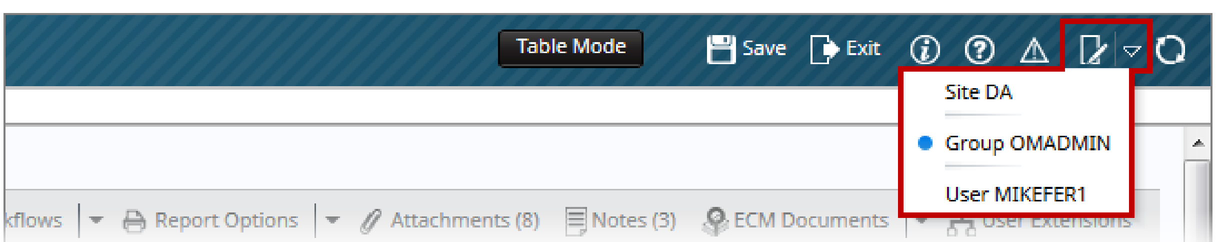
Lite Editor



CMiC's Lite Editor is used to create customized versions of screens for specific users and UIC Groups. Via the editor, various properties of a screen's fields and tabs can be modified, new tabs and fields can be added to the screen, and the screen's startup mode (Table Mode or Form Mode) can be altered.

Launching Lite Editor for Customizations

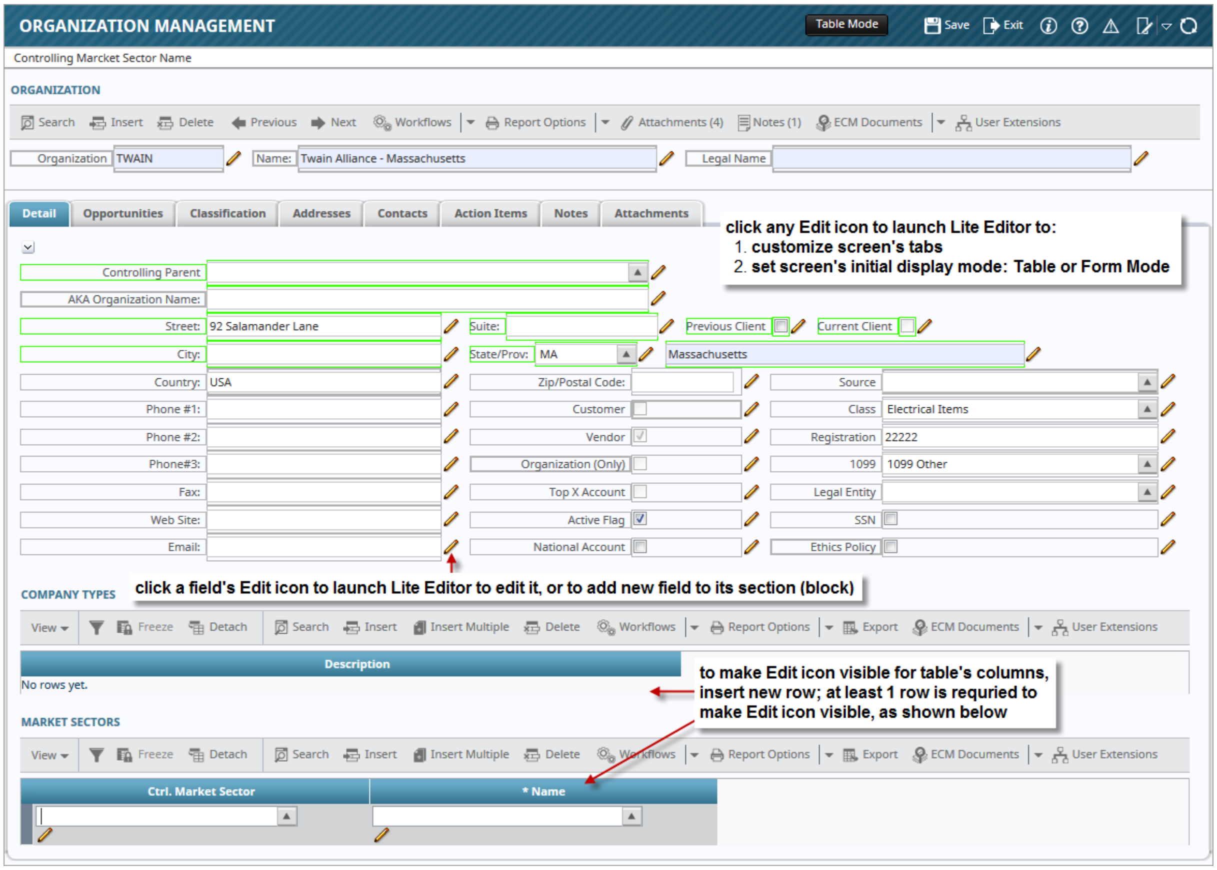
Step 1: Load Screen at Level to Customize Screen



The first step in launching the Lite Editor to customize a screen is to load the screen at the level you wish to customize it.

This is done by clicking the down-arrow on the Lite Editor icon, which causes a list of the customizable versions of the screen available to you to be displayed (as shown in above screenshot). Via the list, select the desired version. The blue dot indicates which version of the screen is displayed.

Step 2: Switch Screen to Edit Mode & Click Relevant Edit Icon



Once the screen is loaded at the level it is to be customized, for the target user or UIC Group if at the User or Group Level, it can be switched to Edit Mode via the Lite Editor.

To switch the screen to Edit Mode, as shown above, click the Lite Editor icon. Then, to launch the Lite Editor, click the relevant Edit icon. Below are details about how to click the relevant Edit icon:

Customize Existing Fields

To customize an existing field, click the field's corresponding Edit icon.

Customize Table's Columns

To customize a table's column, click the column's corresponding Edit icon.

NOTE: The Edit icon will only be available if the table has at least 1 row. As shown in the above screenshot, if a table has no rows, click the table's [**Insert**] button to insert a row and make the Edit icon available.

Add New Field

New fields can only be added to sections with existing fields. They cannot be added to tables or any area in which there are no other fields.

To add a new field, click the field which will be before or after the new field.

Customize Tabs: Add New Tab

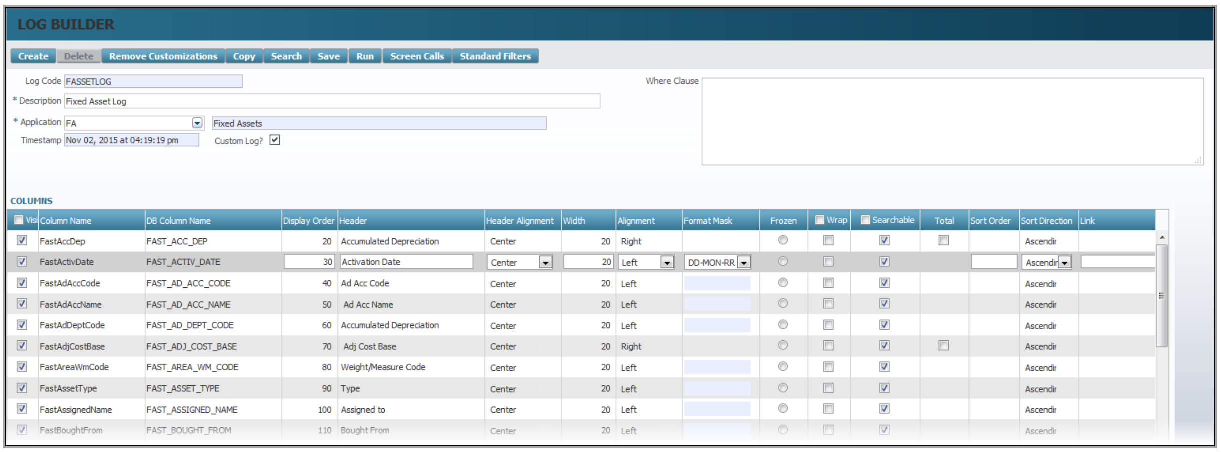
To customize or add new tabs, click any Edit icon.

Set Screen's Initial Display Mode: Table Mode or Form Mode

To set a screen's initial display mode, click any Edit icon.

For more information, please refer to the Lite Editor Reference Guide.

Log Builder

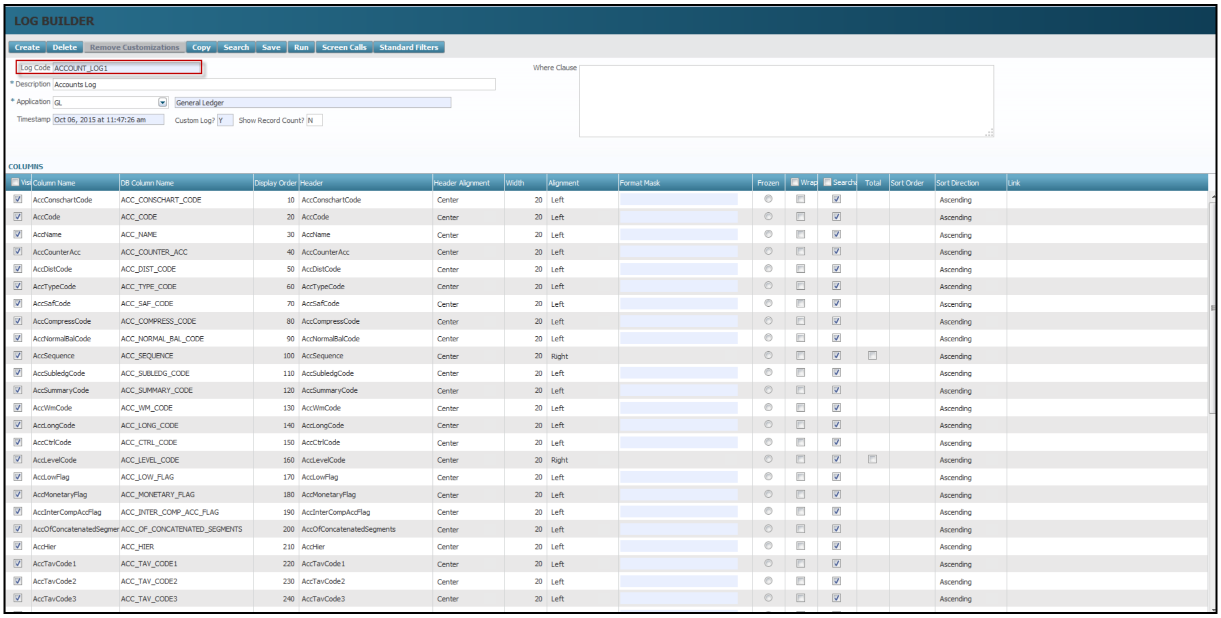


Sample of Log Builder screen

Log Builder is launched using the following Treeview path: System > Logs > Log Builder.

Log Builder is an Enterprise business intelligence tool that enables users to filter, organize and present a complex table's data in a manner that helps them make informed business decisions. In this way, customized Logs are similar to reports, and if required, their data can be exported to a spreadsheet.

Log Builder can be used to create a new log or edit an existing log. One way that users can customize their log is by editing column definitions.



Example of Log Builder screen showing column parameters

The Log Builder screen will display every column for the selected table, in rows, with parameters for each column that control how the Log displays them. Basically, a Log is defined (customized) by defining how each of its columns are displayed, such as setting their visibility, their header title, width, whether or not their values are hyperlinks, and the order of their values (ascending, or descending).

The following table provides descriptions of the parameters used to control a column's display by the log:

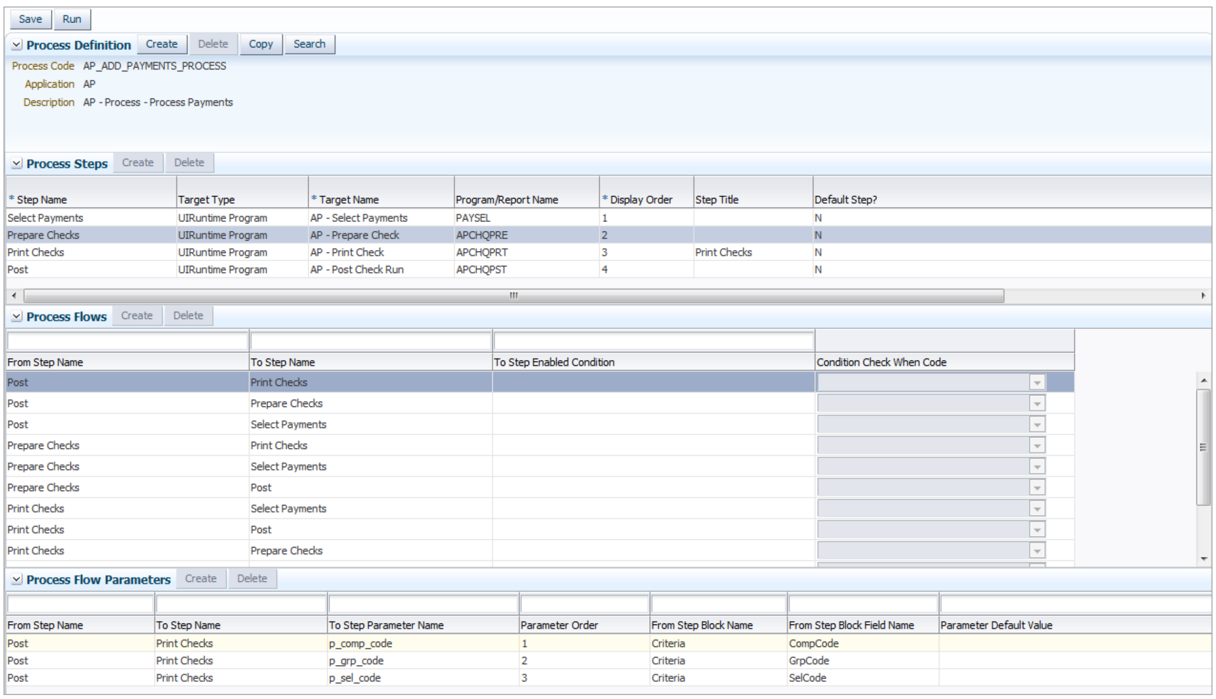
Field	Description
Visible	Specifies whether the column is visible in the Log.
Display Order	Order in which the column will be displayed by the Log.
Header	Column's header, as it is to be shown by the Log.
Header Alignment	Column header's alignment (left, center, or right).
Width	Maximum number of characters that can be displayed by the column.
Alignment	Alignment for the data displayed in the column (left, center, or right)
Format Mask	Only relevant to columns with numeric values; this mask is a character literal that describes how numeric values should be formatted.
Frozen	This radio button is used to determine which of the first columns, with respected to the order of their display, are to be fixed (always displayed) when the table is scrolled horizontally. Only one column can be selected. The result is that the first column up to the column with this radio button selected remain fixed, when the remaining columns are horizontally scrolled through.
Wrap	Indicates whether the column data can wrap to the next line.
Search	Indicates whether the column can be searched against or not; only columns with this check-box checked and that are visible are searched against when a user performs searches.
Total	Only relevant to columns with numeric values; if checked, the column will have a total of all of its values at the end of it.

Sort Order	For columns with numeric values, the entered value specifies the starting value from which the Log will begin displaying the column's values, in the order set by the Sort Direction field. For example, if a user would like to view Account Code column entries that start with a minimum value of 1000, and sorted by the direction specified by the Sort Direction field, enter 1000 for this parameter, for the Account Code column.
Sort Direction	Value that specifies how the column data should be sorted (ascending or descending)
Link	This field is used to specify an Enterprise application, using a Screen Call, to display information associated with the column's value. If an application is specified, this column's value, in the Log, becomes a hyperlink to launch the selected application to display its associated information.

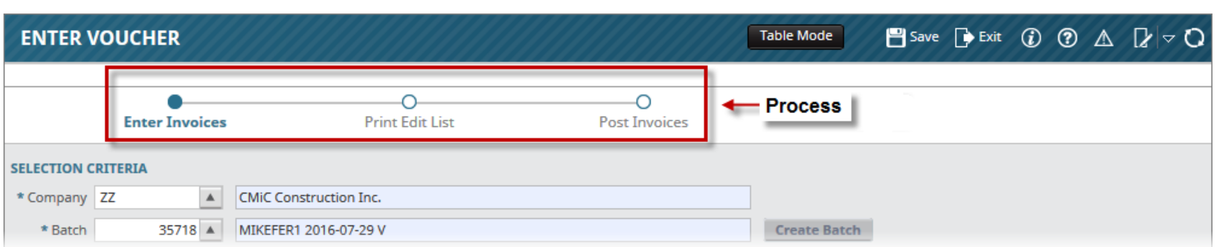
Users can make custom logs accessible by adding them to Treeview using [Treeview Builder] or to the UI Console Region.

For more information on Log Builder, please refer to the Log Builder Reference Guide.

Process Builder



Sample of Process Builder



Sample of a Process, on Enter Voucher screen (VOUCHENT)

Process Builder is launched from CMiC Enterprise's launch page. It is listed in the **Development Tools** section. Users need to select **Process Builder** under 'Choose A Tool', choose an environment under 'Choose An Environment,' and then click on the [**RUN Dev Tools**] button.

CMiC's Process Builder is used to create a Process, which is comprised of a series of links to screens used to complete a particular process, such as the one required to enter, review, and post invoices.

Users also have the option to create a copy of an existing Process, including CMiC's standard Processes (provided with system). This is useful if you would like to create a customized version of a standard Process or of a user-defined Process, by adding steps to, or removing steps from the copy.

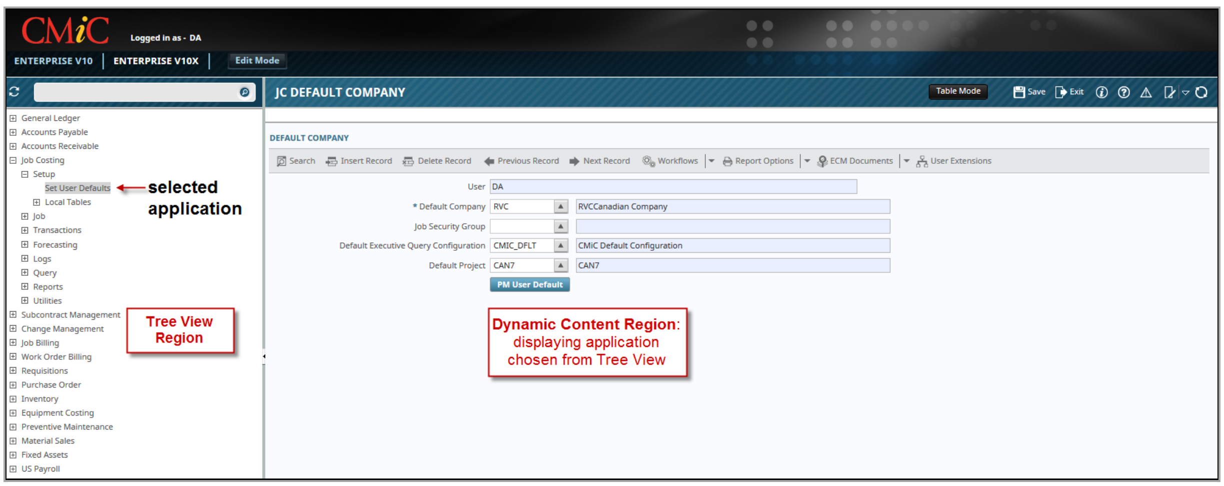
When finished, users can add new Processes to Treeview using Treeview Builder.

For more information, please refer to the Process Builder Reference Guide.

ADF Screens

Screen Layout

Console Regions: Treeview & Dynamic Content

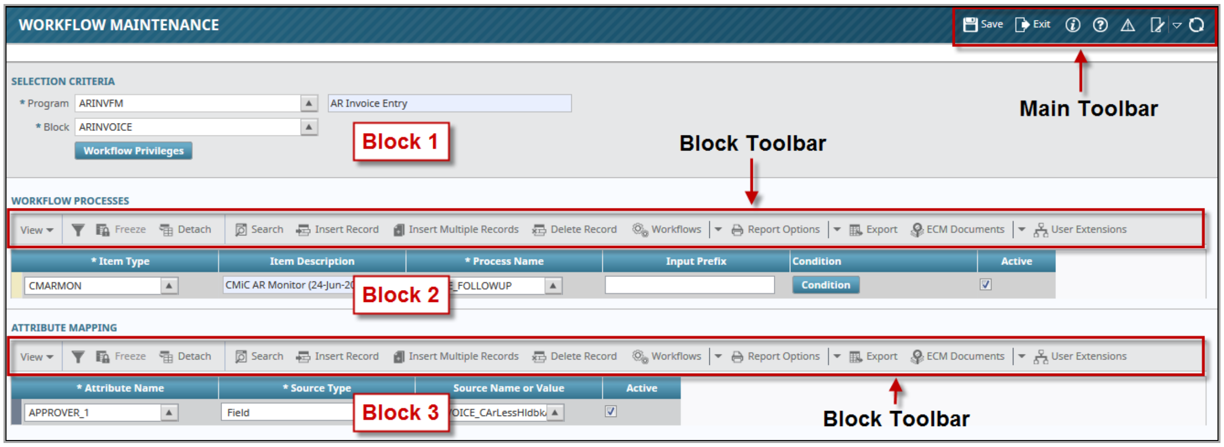


*Sample display of **Enterprise Console**, showing selected application in **Treeview Region** (Path: **Job Costing** > **Setup** > **Set User Defaults**) and ADF application in **Dynamic Content Region***

Like other menus, the Treeview Region is used to launch the applications of Enterprise. The Treeview is structured using nodes, which have a '+' or '-' symbol. Each node represents a main application, or in other words, a module of Enterprise. The '+' symbol means that the node is expandable, to reveal other nodes or actual menu options for launching applications. If the node has a '-' symbol, it means it is collapsible, hiding any of its child nodes or menu options. The options given by the Treeview are dependent on a user's security rights, and it only shows applications for which the user has rights.

The system is delivered with some standard Treeview configurations to choose from, however, functionality is provided for creating customized Treeviews for all users, user groups, or specific users. For details about building Treeviews, please refer to the UI Treeview Builder Reference Guide.

Toolbars & Blocks



Sample screenshot of an application with three blocks (sections) and the two main toolbar types used by Enterprise Console

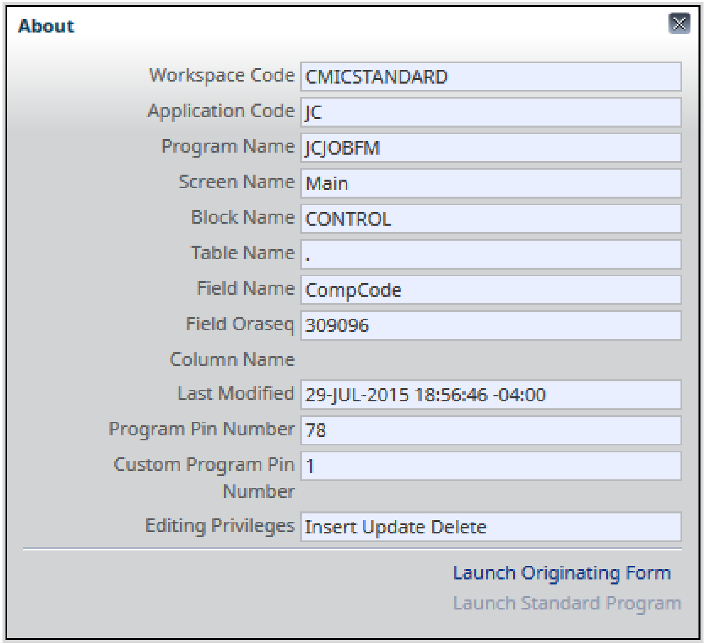
NOTE: In CMiC reference guides, the terms “screen”, “application” and “program” are used interchangeably, as are the terms “block” and “section”.

The screens (applications) of Enterprise Console use two main toolbar types: **Main Toolbar** and **Block Toolbar**. The Main Toolbar handles the broad functionality of the screen, and the Block Toolbar handles block-specific functionality. The options available in these toolbars can vary.

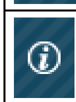
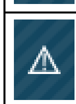
Main Toolbar Options

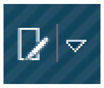
About – Current Application

About, on the Menu Toolbar, displays information about the current application and the editing privileges of its current user. It also displays the name of a selected table or field. This function is particularly useful to retrieve information about the current application in case you need to communicate with CMiC about it.



Main Toolbar Icons

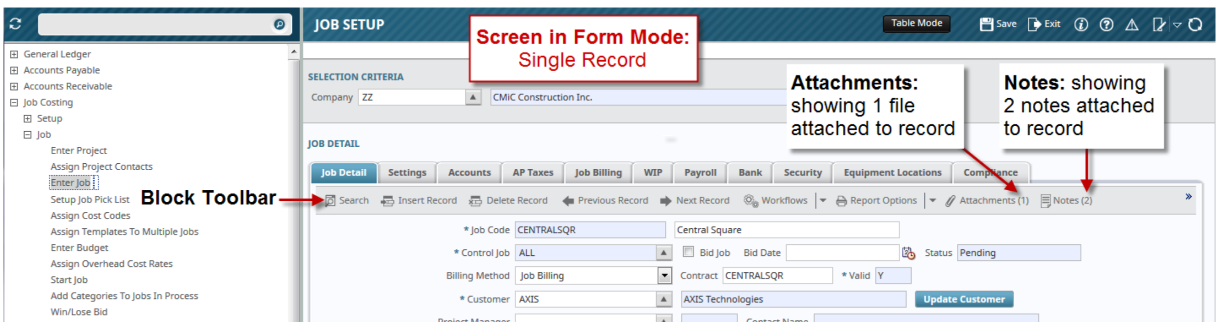
Main Toolbar			
Icon	**Name**	**Usage**	**Function Key**
	**Add New**	Add/Insert a new record.	
	**Table Mode**	Switch from displaying a single record to displaying a table of records.	
	**Save**	Save the record(s) in the current application.	**Ctrl-S**
	**Exit**	Exit the current application.	**Ctrl-Q**
	**About**	Displays information about the current application and the editing privileges of its current user.	
	**Help**	Launches Help for the current application in a new browser window. Refer to the ADF Help section of this guide for further details.	
	**Error Details**	Displays details about any errors that may been encountered in the current application.	

Main Toolbar			
Icon	**Name**	**Usage**	**Function Key**
	**Toggle Edit Mode**	Used to customize the application's display for a user. After clicking this option, click any of the Pencil icons to bring up the customization screen. The screen will display up to 3 tabs: **Fields**, **Tabs** and **Table Mode**. You can then customize how the application displays its records, such as what fields or tabs to display, and whether you want the application to start in Table Mode or Form Mode. Note: Application must be in Form Mode to customize the tabs.	
	**Restart**	Restarts the current application.	

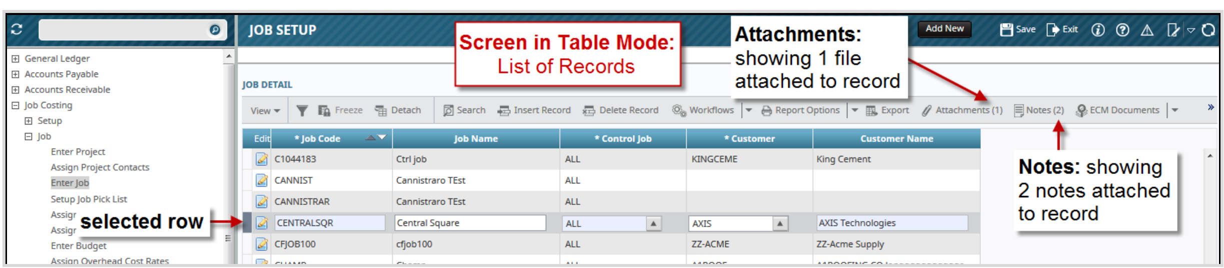
Block Toolbar Options

This section provides further details about the more involved options of the Block Toolbar.

Attachments and Notes



Sample of a screen in Form Mode, displaying a record with associated attachments and notes



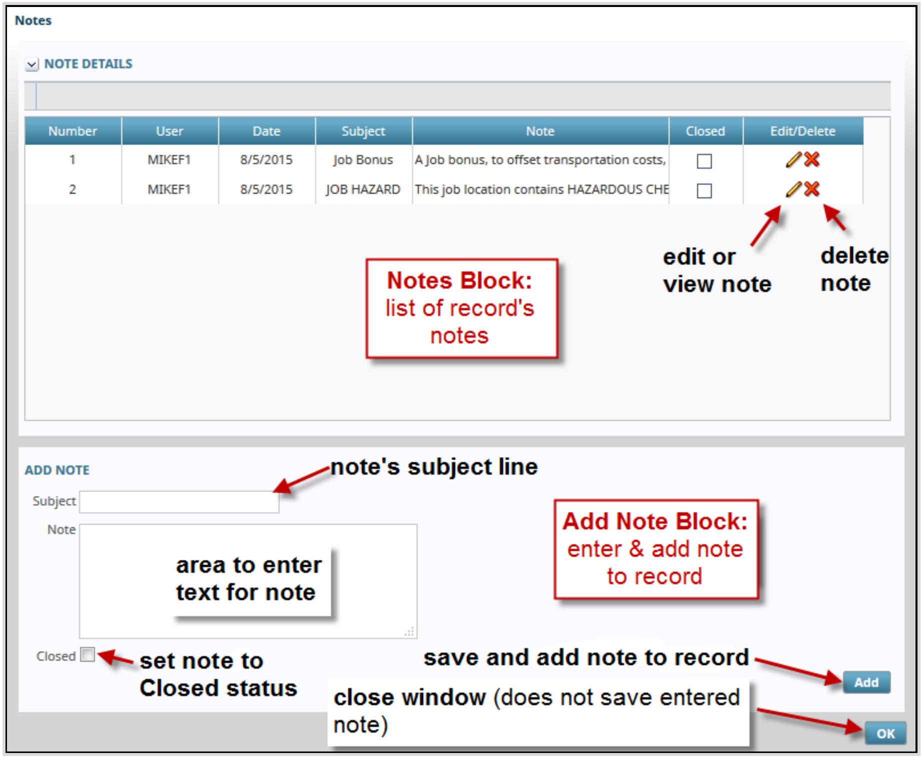
Sample of a screen in Table Mode, displaying a record with associated attachments and notes

Attachments and Notes enable the storing of additional information related to Enterprise objects, such as Projects, Jobs, Contract Forecasts, and Work Items. Attachments can be any type of file format (XLS, CSV, DOC, PDF …), and require an appropriate application to open and view them. Notes, in comparison, are like Post-It Notes, and their text is displayed by their Enterprise application.

Screens displaying records that can have associated notes or attachments, or both, have the **Notes** or **Attachments** option on the Block Toolbar. Also, if a record has any associated notes or attachments, the

[**Notes**] or [**Attachments**] buttons will display how many, within brackets, as shown by the above screenshots.

Notes



The above screenshot shows the Notes pop-up screen that is displayed when the **Notes** option is selected. In the Notes Block area, the fields displayed for each note are for display only.

The Closed field indicates if the note's status is Closed or Open. The Closed status can have different meanings for different companies. One meaning, for instance, is that the note is no longer current.

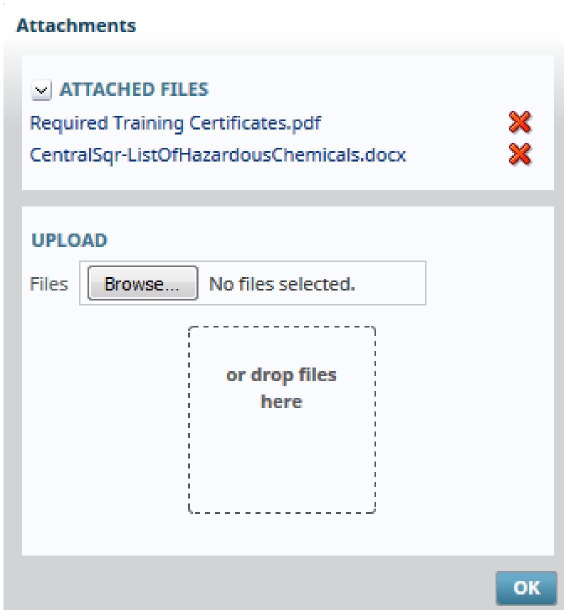
To edit or view a note, click the corresponding Pencil Icon. To permanently delete a note, click the corresponding Delete Icon ('**X**').

Notes are added using the Add Note Block area. Enter the note's subject line (if enabled in System Options), and enter the note into the note's text area. The **Closed** check-box is available if the note's entry is belated and no longer current, but could still be helpful. Once the note's information has been entered, click the [**Add**] button to save and add the note. The note will be displayed in the Notes Block.

Click the [**OK**] button to close the window, but note, this will not save the note. To save the note, the [**Add**] button must be used.

NOTE: The subject line for notes is optional. It will appear, system wide, if it is enabled by the flag, **Subject Line Appears In Notes Entry**. The flag is found on the **General** tab of the System Options screen (**System** > **Setup** > **System Options**).

Attachments



The screenshot above shows the Attachments pop-up screen that is launched when the **Attachments** option is selected. This pop-up is comprised of two sections.

Attached Files – Section

The list of attached files can be collapsed or expanded using the and icons, respectively.

To view an attached file, simply click the file's name (file names are hyperlinks).

To delete an attachment, click on its corresponding Delete icon (**X**).

Upload – Section

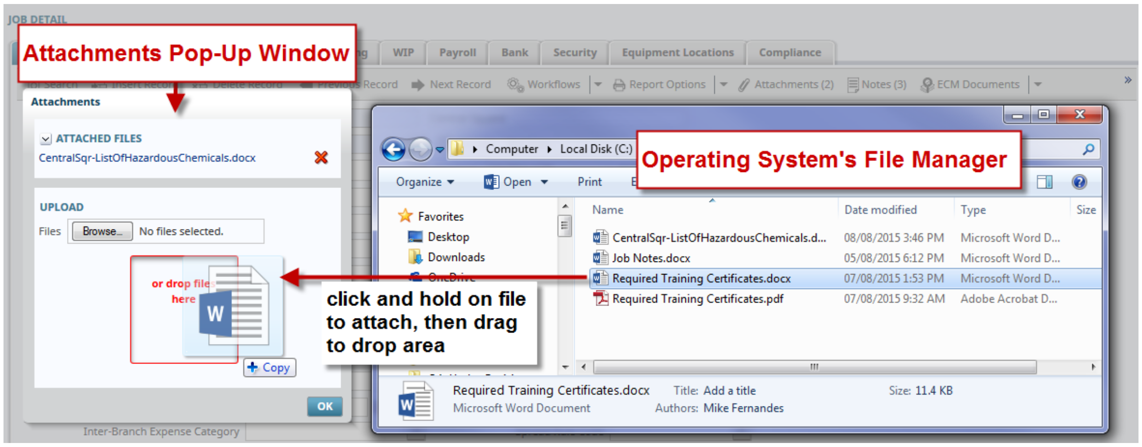
To upload an attachment, there are two options:

Upload Option 1

Use the [**Browse**] button to bring up a File Manager window to search for and select the file to upload.

Upload Option 2

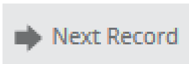
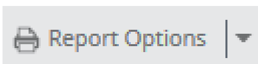
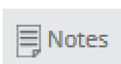
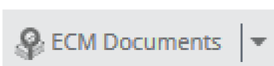
If you have a File Manager window already open, you can use the Drag-and-Drop method to attach the file by clicking and holding the mouse button on the file to attach, and then dragging it over to the drop area in the Attachments window, as shown in the below screenshot.



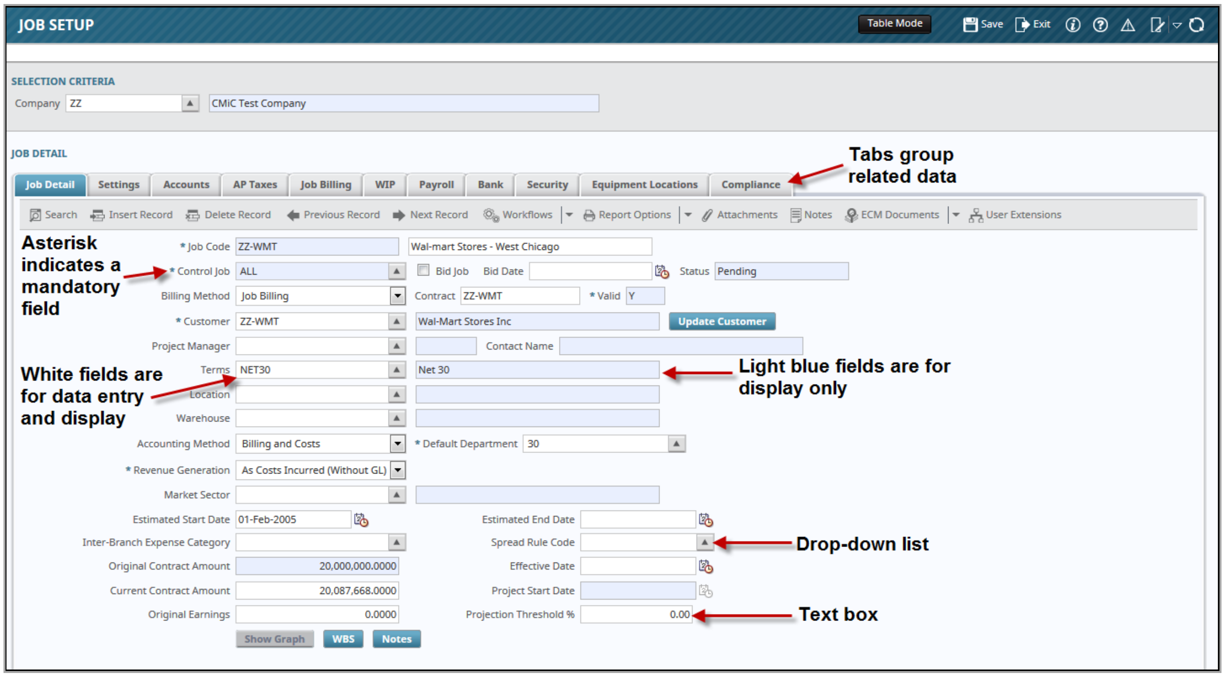
For both methods, once the green Upload Status Bar is full, showing that the upload has finished, click okay to complete the attachment.

Block Toolbar Icons

Block Toolbar		
Icon	**Name**	**Usage**
View	**View**	Control how records are displayed in a table, such as how they are sorted, how the columns are ordered, and what columns are displayed. Refer to the "Searches, Table Filters & Sorts" section of this guide for further details.
	**Query by Example (Filter)**	Available in Table Mode, and used to filter the records displayed by the table. Refer to the "Searches, Table Filters & Sorts" section of this guide for further details.
Freeze	**Freeze**	Prevent current record from being altered.
Detach	**Detach**	Detach the corresponding screen or block from the console.
Search	**Search**	Similar to Query by Example, but has more options. Used to find and display a record or a group of records. When activated, a Filter (Search) section will appear with key fields that correspond to the fields of the records handled by the current application. Enter the particular value or text in the field(s) that you want to match records against and press the [**Go**] button. Refer to the "Searches, Table Filters & Sorts" section of this guide for further details.
Insert Record	**Insert Record**	Create a new record for data entry and insertion into the system.
Insert Multiple Records	**Insert Multiple Records**	Bring up a table of new, empty records for data entry and insertion into the system.

Block Toolbar		
Icon	**Name**	**Usage**
	**Delete Record**	Delete selected record from the system.
	**Previous Record**	When in Form Mode (displaying a single record), this option displays the record that is before the current record.
	**Next Record**	When in Form Mode (displaying a single record), this option displays the record after the current record.
	**Workflows**	Deals with the workflows defined for the current application, block and row. Please refer to the Workflow manual for further details.
	**Report Options**	Used to set up and print reports for the screen or block. Please refer to the Form Letters manual for details about Form Letters.
	**Export**	Creates an Excel, XLS file of the records handled by the current application or block within an application.
	**Import**	Used to import records into the system through an Excel, XLS file.
	**Attachments**	Add or view attachments associated with the current record. Refer to the "Block Toolbar Options" section for further details.
	**Notes**	Add or view notes associated with the current record. Refer to the "Block Toolbar Options" section for further details.
	**ECM Documents**	Enterprise Content Management
	**User Extensions**	Display user extensions, which are custom fields that have been added to the records handled by the current application. Refer to the "User Extension" section of the System Data manual for further details.

Tabs and Data Fields



ADF screen showing tabs and data fields

Tabs

For applications that deal with a large number of fields, related fields are grouped into tabs, as shown in the above screenshot.

For Enterprise Console, the tabs displayed by the application can be customized, per user, using the Toggle Edit Mode option in the Main Toolbar.

Data Fields – Types and Navigation

As shown in the screenshot above, data fields that are light blue are for display only, and white data fields are for both display and data entry. Data fields that are marked with an asterisk (*) are mandatory fields.

Drop-Down Lists and List of Values (LOV)

Data entry fields that are drop-down lists, as shown in the screenshot above, have a pre-defined list of values called **List of Values** (LOV). Drop-down data fields limit the data that can be entered for that field by forcing the user to choose one of the predefined values.

Data Field Navigation

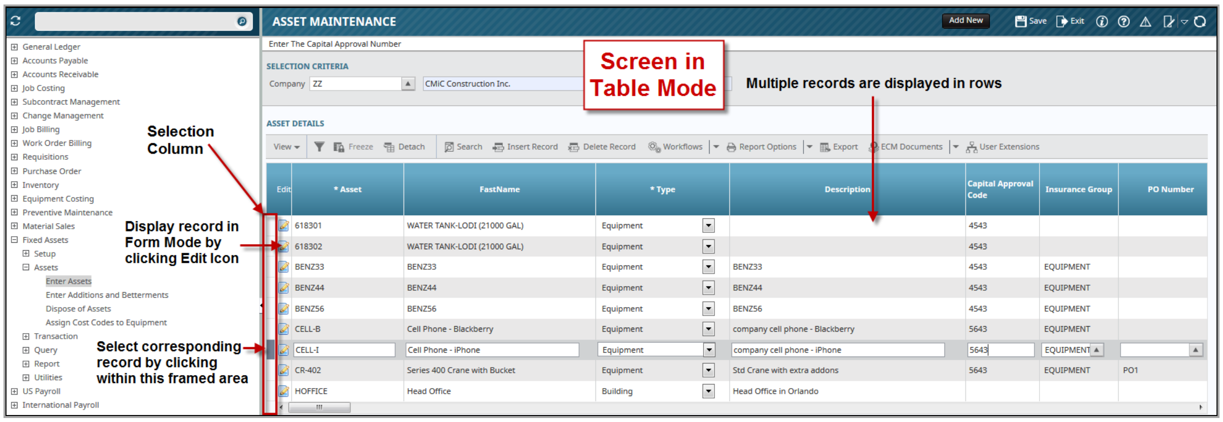
To move from one data entry field to the next, you can use the Tab keyboard key, and use the Shift-Tab keyboard keys together to move to the previous data entry field.

Screen Modes: Table & Form Modes

To greatly enhance a user’s experience with viewing, inserting or editing an application’s records, Enterprise Console takes full advantage of Oracle’s ADF technology to allow the user to specify how a screen (application) displays its records. Depending on a user’s preference and task, a user can choose whether the screen displays all of its records in a table (Table Mode), or just one of its records (Form Mode).

To set which of these modes is the default for a screen, use the **Toggle Edit Mode** icon on the Main Toolbar. Then click one of the Pencil icons that appear, and in the pop-up, click the **Table Mode** tab, then check or uncheck the **Start This Screen in Table Mode** flag.

Table Mode

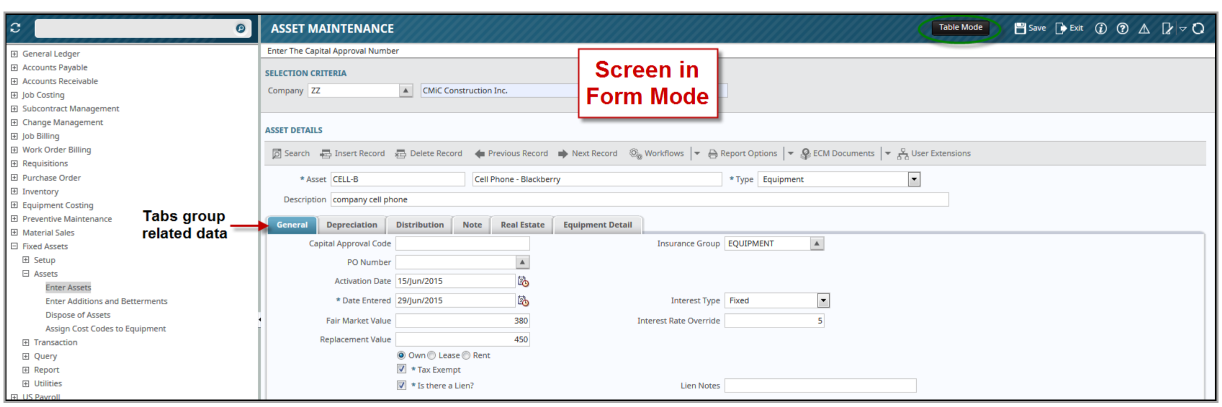


Sample of a screen in Table Mode, displaying multiple records in rows

The Table Mode displays multiple records in rows. Depending on the screen, the fields of these records can be edited in this mode, or just viewed. To view a single record in Form Mode, click the record's corresponding Edit icon, as shown in the above screenshot.

Operations related to the records can be done through the Block Toolbar, just above the table. To select a record (for deletion, for instance), click the area in the Selection Column (framed by red rectangle) that corresponds to it. To filter the displayed records, or to search for a record or group of records, refer to the following "Searches, Table Filters & Sorts" section in this guide.

Form Mode



Sample of a screen in Form Mode, displaying a single record

The Form Mode displays a single record, and it may group the record's data into tabs. To switch the screen back to Table Mode, click the [**Table Mode**] button on the Main Toolbar, encircled by green oval in the above screenshot.

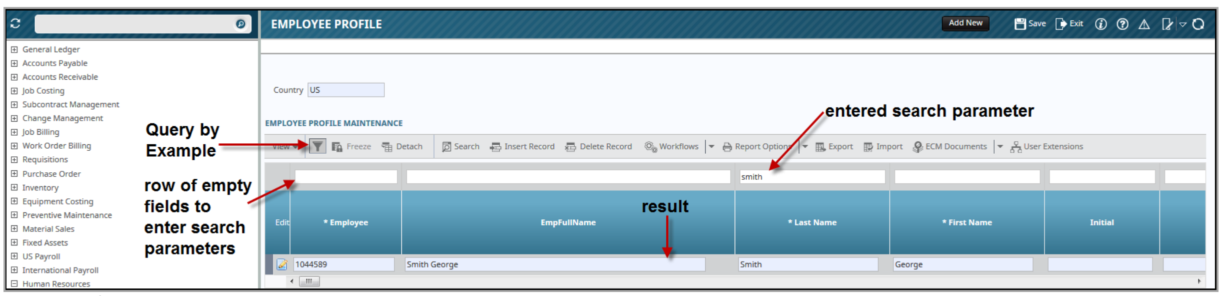
Operations related to the record can be done through the Block Toolbar. To search for a record or group of records, refer to the section below, "Searches, Table Filters & Sorts".

Searches, Table Filters & Sorts

Enterprise Console takes full advantage of Oracle's ADF technology to simplify and enhance advanced searches, customize how tables display their records, and enhance how a table's records are sorted (ability to sort records by up to 3 columns).

In this section, the Block Toolbar options, **Query by Example** and **Search** are explained, which includes a section detailing how the Search option can be used to set a default filter for a screen's table. The Query by Example option is only available for a table of records, when the screen is in Table Mode, while the Search option is available when the screen is in Table Mode or Form Mode.

Query by Example



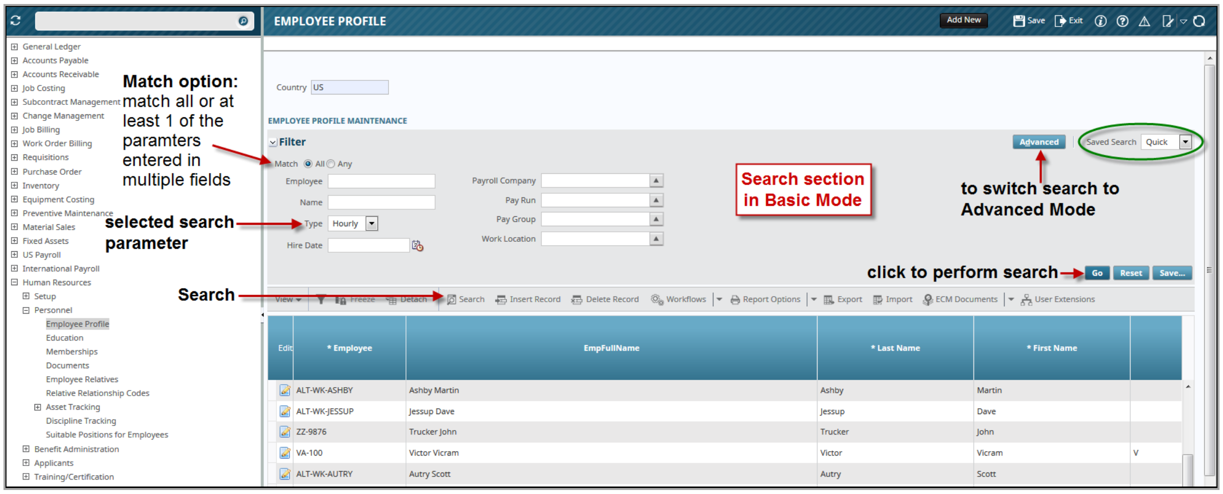
Sample of using Query by Example

The **Query by Example** option is on the Block Toolbar that corresponds to a table of records. It is used to filter the records displayed by the table.

When activated, empty fields (columns) that correspond to the fields of the records will be displayed. Enter the particular value or text in the field(s) that you want to match records against and press Enter to have the matched records displayed. To remove the filter, click the Query by Example icon again. This option is a basic filtering method; however, it supports the use of wildcards. For details about the use of wildcards, please refer to the "Wildcards – Pattern Matching" section of this guide.

For advanced filter (search) operations, which use relational operators (>, >, >=, …) and variables, and to allow for more search options such as searching for blank fields, Enterprise Console provides an Advanced Search Mode. As documented below, the Advanced Search Mode is found in the **Search** option of the Block Toolbar. For details about the Advanced Search Mode, however, please refer to the "Advanced Search Mode" section of this guide.

Search



Sample of a search section in Basic Mode

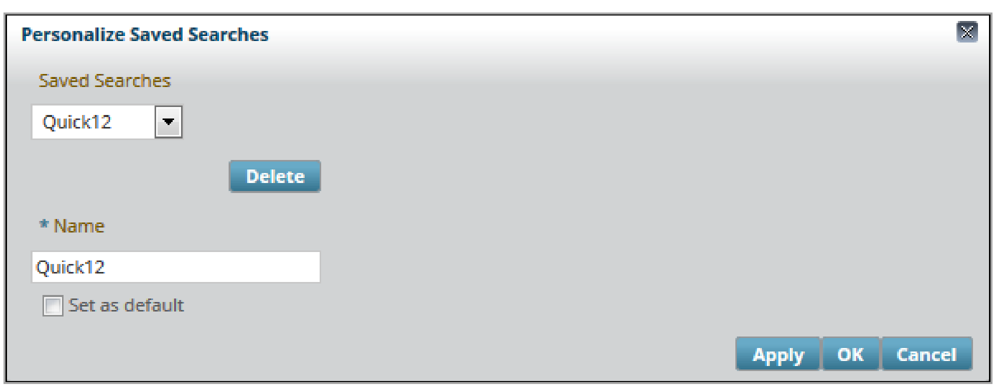
The **Search** option is also on the Block Toolbar, and it is available when the screen is in Table Mode or Form Mode. When activated, a Filter (Search) section will appear with key fields that correspond to the fields of the displayed records. It is similar to Query by Example, in that it is also used to find and display a record or a group of records, but it has more options, such as simplifying the use of relational operators and multi-variable searches. Also, it has two modes: Basic Mode and Advanced Mode. The Advanced Mode handles multi-variable searches and the use of relational operators in a simplified manner.

To do a basic search, enter the particular value or text in the field(s) that you want to match records against and press the [**Go**] button. To match all or at least one of the search parameters entered in multiple fields, select either **All** or **Any** from the **Match** option, as shown in the above screenshot. To remove the search section, re-click the [**Search**] option on the Block Toolbar.

Wildcards (**%**, **_**) can also be used, and their use is covered in the "Wildcards – Pattern Matching" section of this guide.

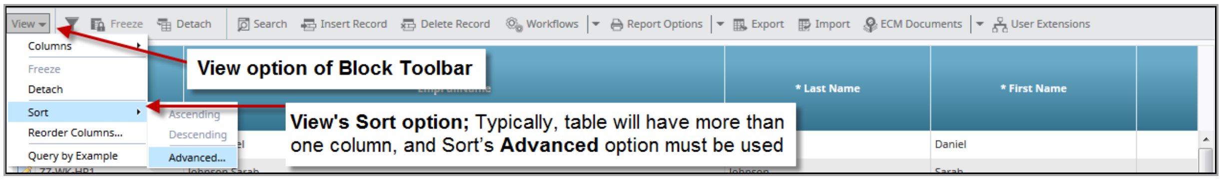
For advanced searches, using relational operators, and to search for blank fields, click the [**Advanced**] button to switch the section to Advanced Mode. In Advanced Mode, the search (filter) section contains drop-down lists of search operators for each field to search on. The use of Advanced Mode is covered in the "Advanced Search Mode" section of this guide.

Saved Searches and Default Table Filters

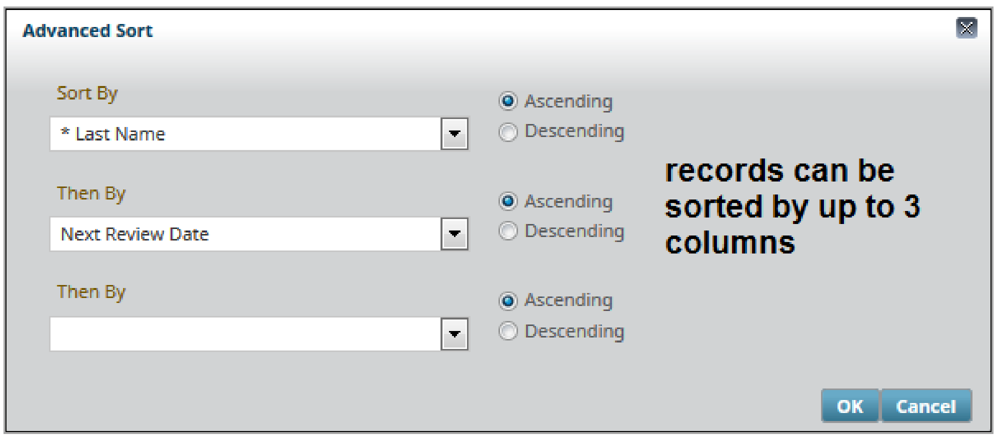


To save a specified search and set it as a default filter for the current application and user, click the [**Save**] button. On subsequent uses of the application, the saved search will act as a filter, filtering the records displayed by the table. To remove the saved search as the table's default filter, or to change which saved search is to be the table's default filter, click the arrow for the **Saved Search** drop-down list, encircled by the green oval in the second screenshot above, and select **Settings**. In the pop-up window that appears, as shown above, select the saved search from the drop-down list and check or uncheck the **Set as default** flag. To use a saved search, use the **Saved Search** option, encircled by the green oval in the previous screenshot, to select and load a saved search.

Sorting Displayed Records



To sort the records displayed by a table, click the **View** option on the table's Block Toolbar, then select **Sort** and choose the **Advanced** option (typically, tables will have more than one column, and Sort's **Advanced** option must be used).



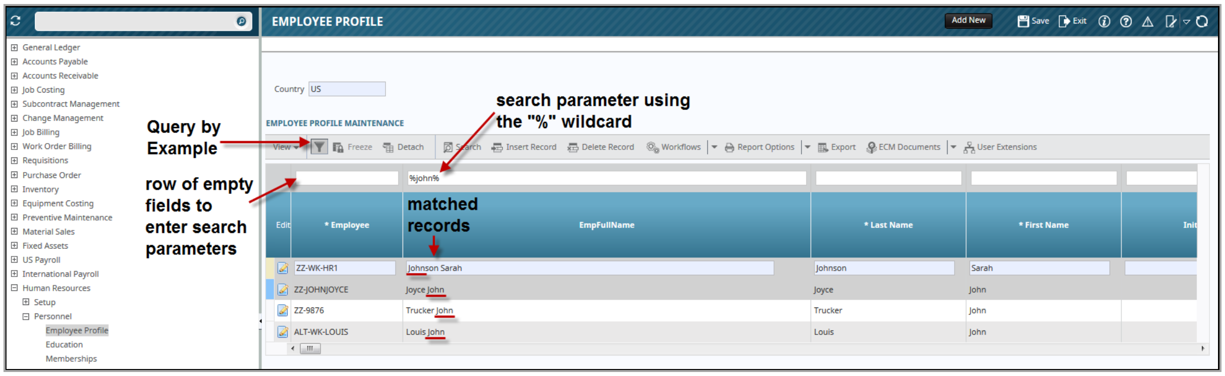
In the pop-up window that appears, choose up to three columns by which to sort the table. You can also choose whether you want the columns to be sorted in ascending or descending order.

Advanced Searches

This section details the use of more advanced searches, which use wildcards, relational (comparison) operators, and variables. The use of wildcards is the same for both ADF and Forms, however, the use of relational operators and multi-variable searches differs between the two products. As documented below, ADF simplifies the use of relational operators and multi-variable searches through the Advanced Search Mode option.

Wildcards – Pattern Matching

Wildcards can be used in the search parameters entered into the fields to search against.



Sample screen of Enterprise Console, in which the "%" wildcard was used in a query (filter)

When entering a search parameter in a search/query field, wildcards can be used to create a pattern to match against the pattern of the corresponding field of the records. They are used when exact matches are not sufficient. There are two wildcards: one represents any *single character*, and the other represents any *string of characters*. They are used with regular characters to create a pattern, as a search parameter, and the pattern is used to match fields that follow the specified pattern.

Wildcard Characters

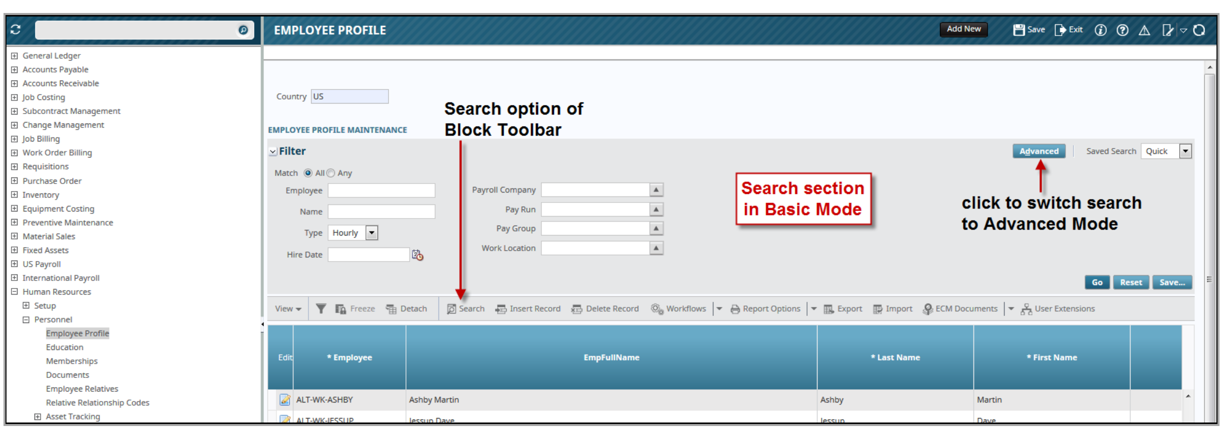
Single Character: "_"

String of Characters: "%"

Example Patterns and Possible Matches

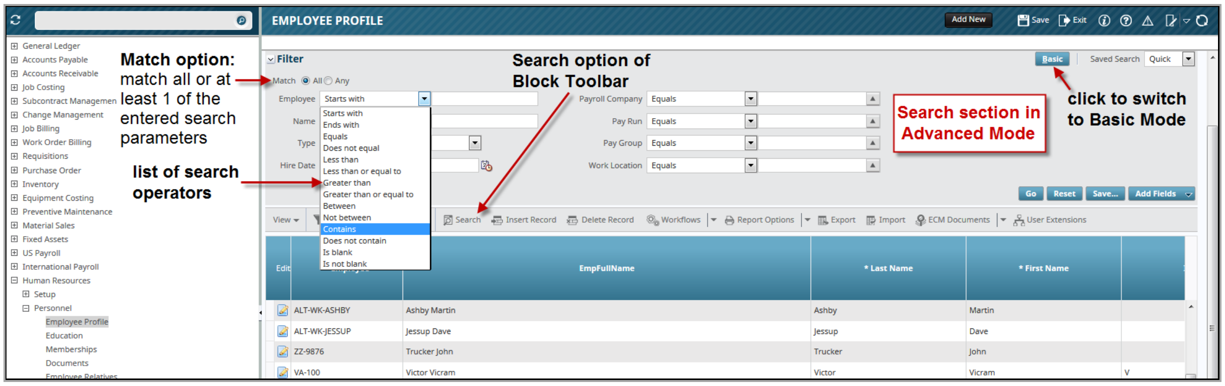
Example Patterns	Possible Matches
JON_S	JONES, JONAS, JONOS, JON-SRA
JON%S	JONSTONES, JONES, JONAS….
ENTER%	ENTER, ENTERS, ENTERTAIN…
S_AR_	SHARE, SMART, SHARP, SNARE
S%AR_	SAMARTRA, SHARE, SMART…

Advanced Search Mode



Sample of a search/filter section in Basic Mode

Advanced searches have been simplified and enhanced through the Advanced Mode of the **Search** option on the Block Toolbar. To switch the Search (Filter) section from Basic Mode to Advanced Mode, click the [**Advanced**] button, as shown in the above screenshot.



Sample of a search (filter) section in Advanced Mode, which has drop-down lists of search operators for advanced searches

In Advanced Mode, the search section contains drop-down lists of search operators and options like “Is blank” to search fields against, as shown in the above screenshot. Enter in the search parameters, and choose whether all of them or at least one of them must match a record via the **Match** option. Click the [**Execute**] button to run the search.

Date Formats

For dates, use either the format DD-MON-YY (01-JAN-15) or DD/MON/YY (01/JAN/15).

CMiC Logs & Queries

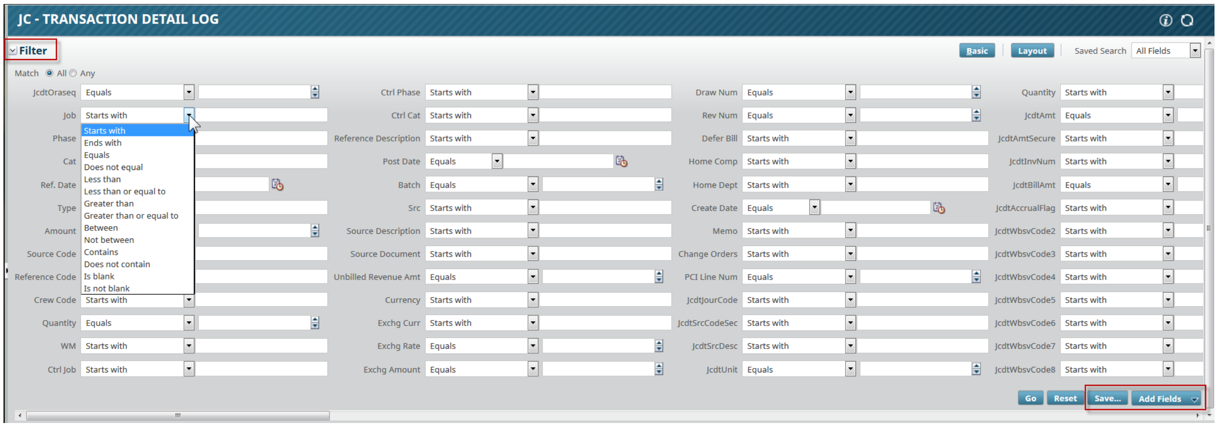
CMiC Logs and Queries augment the standard reports delivered with each module in a more dynamic fashion. Both provide the ability to:

- Filter the data
- Rearrange the data
- Export the data to Excel

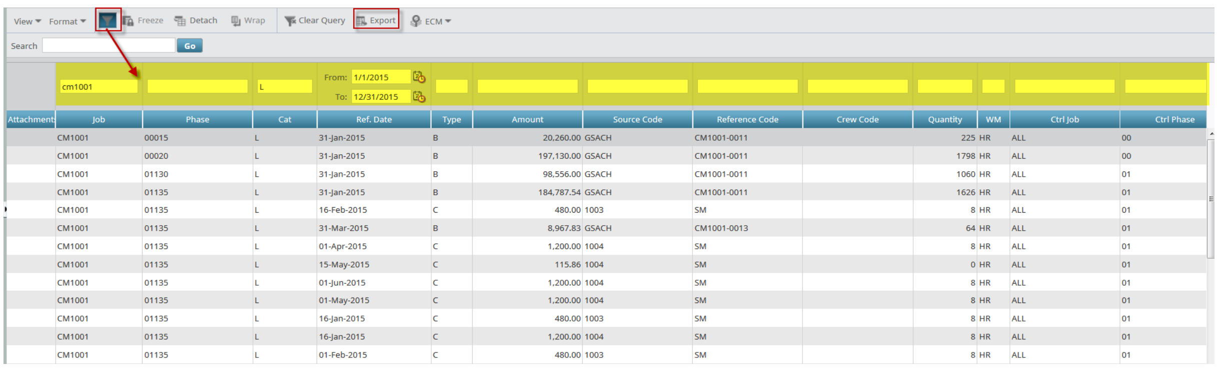
Logs are lists of data, some with hyperlinks. Queries are more structured and have additional programmed functionality.

CMiC Logs

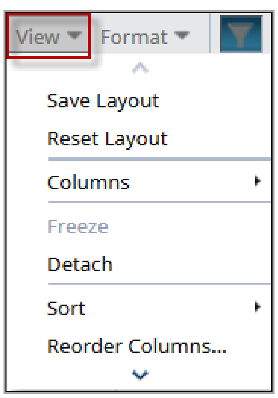
CMiC Logs support the ability to enter and save filters so they can be recalled and executed repeatedly.



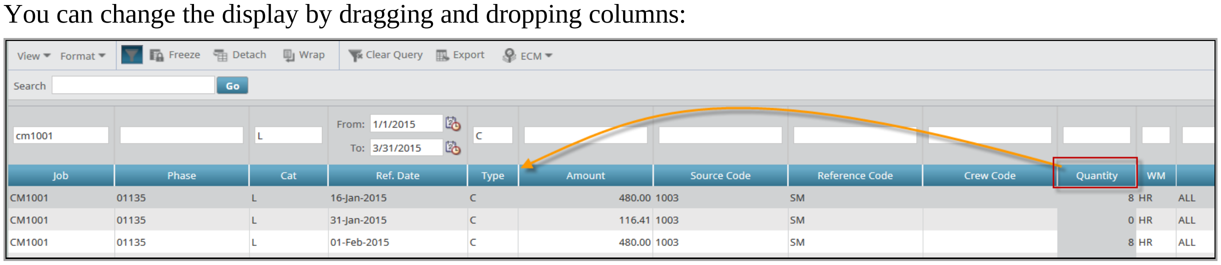
In addition, the QbyX icon allows you to further query and refined the records displayed.



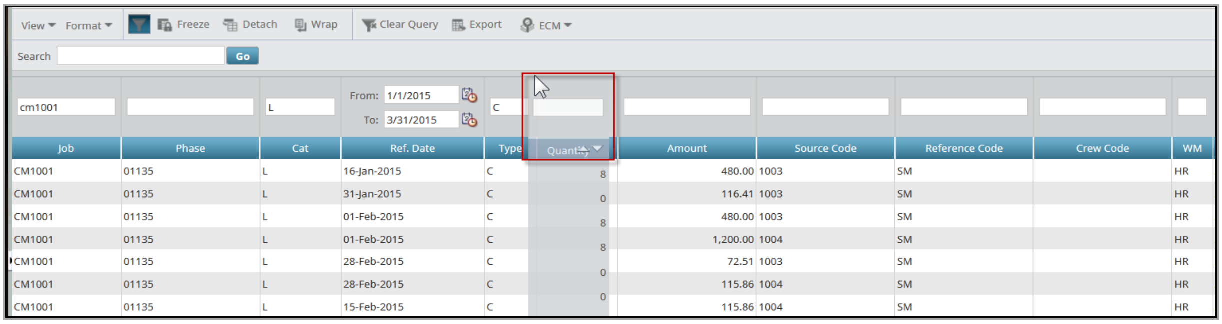
You can change the view of the log:



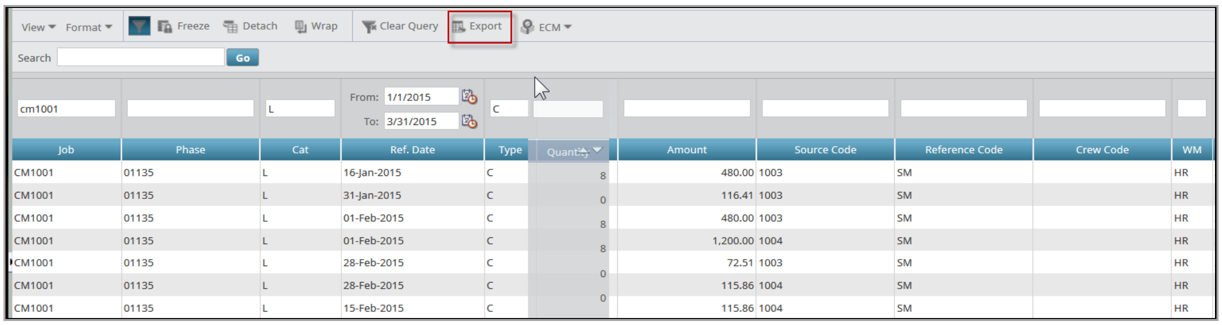
You can change the display by dragging and dropping columns:

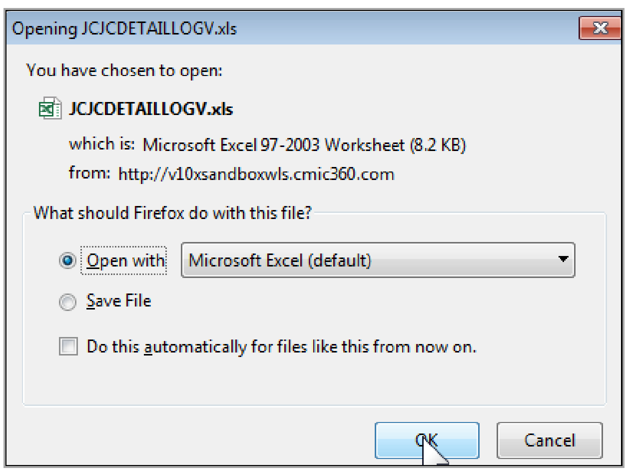


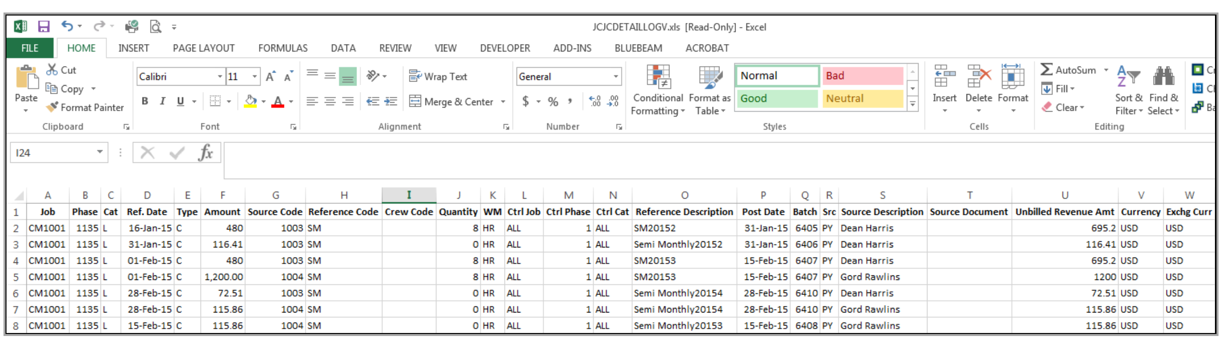
In this example, the Quantity field was dragged and dropped to the left of the Amount field:



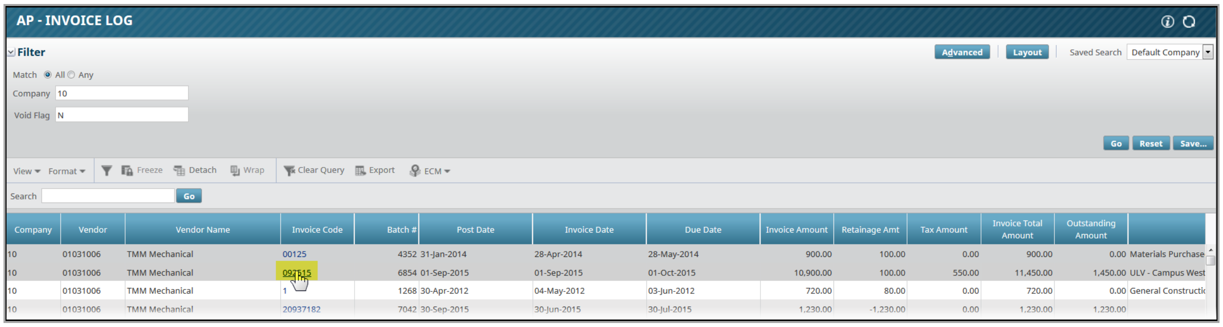
Results can be exported to Excel:

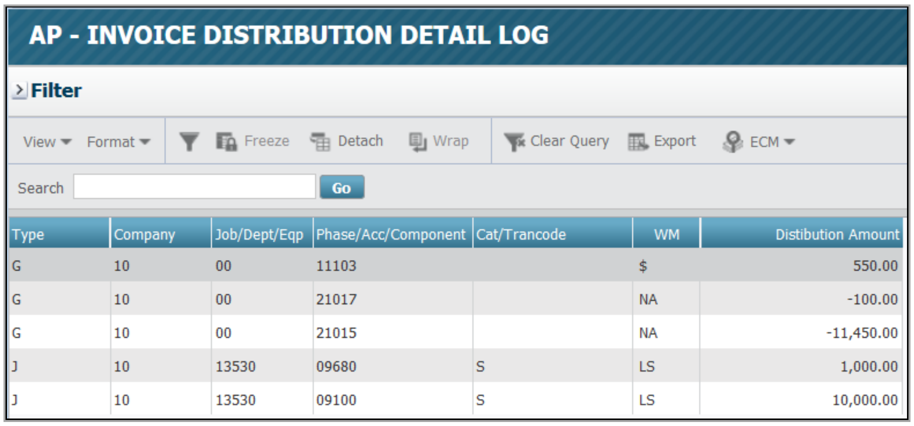






Drill Down via column links for Details





CMiC Queries

Queries have additional programmed functionality, such as popups for details launched via buttons, such as those highlighted below:

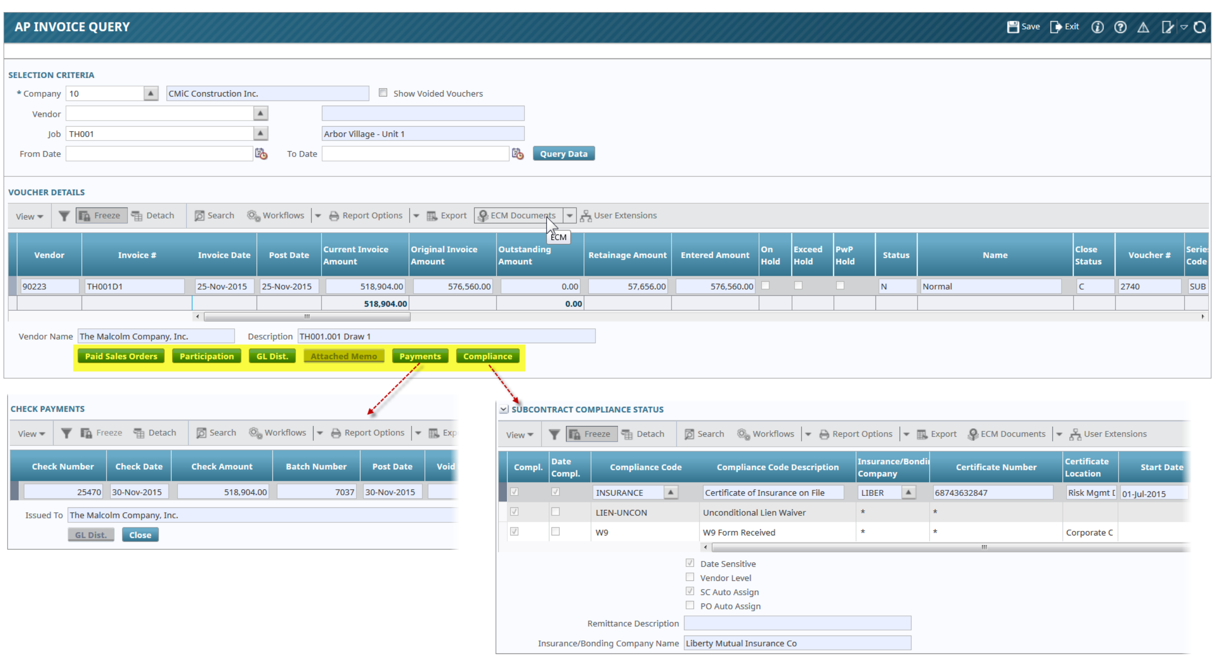
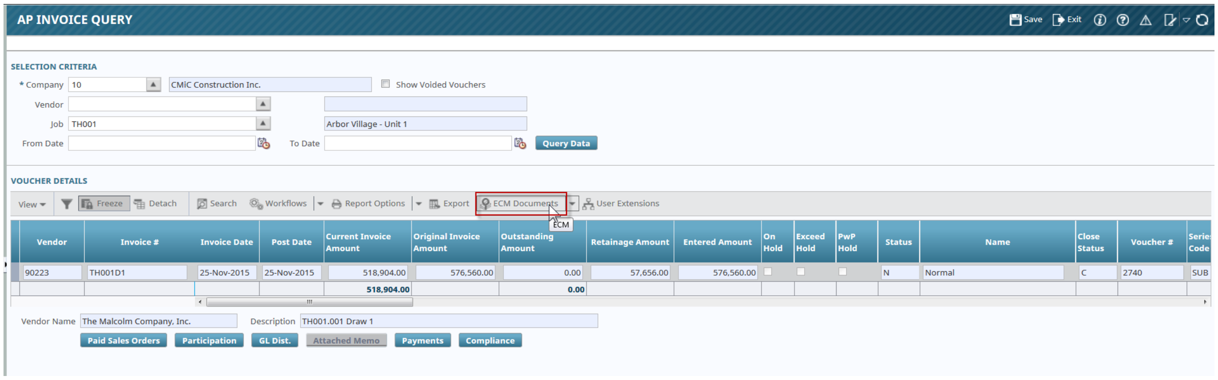
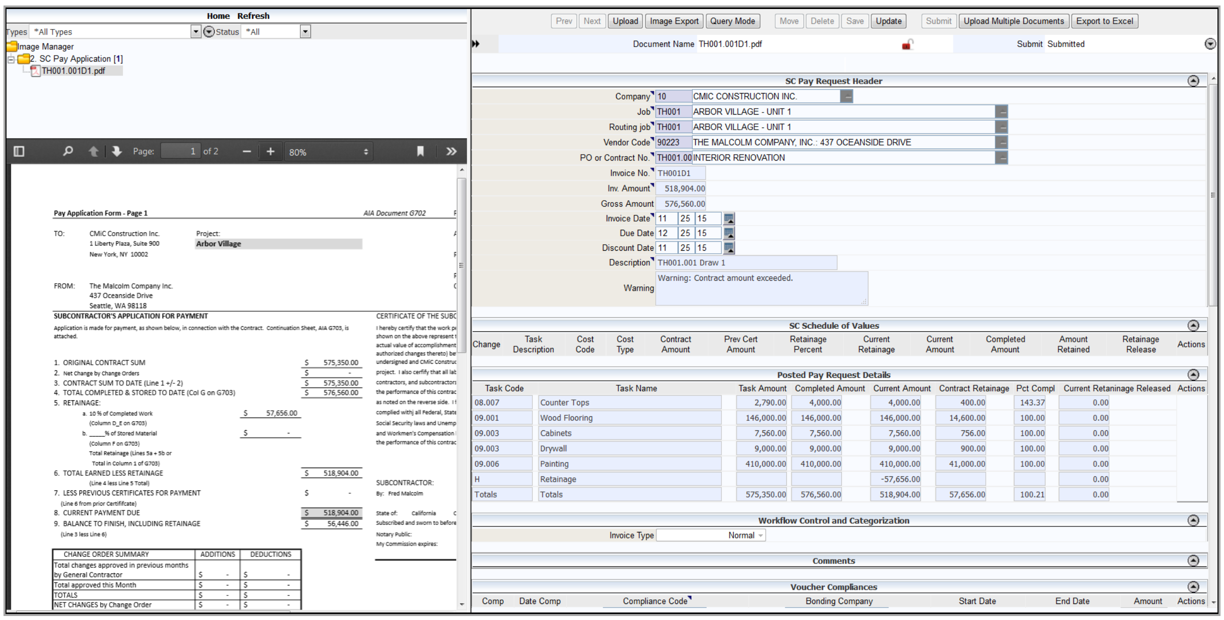


Image searches may be defined to drill back to scanned images in CMiC's ECM repository:

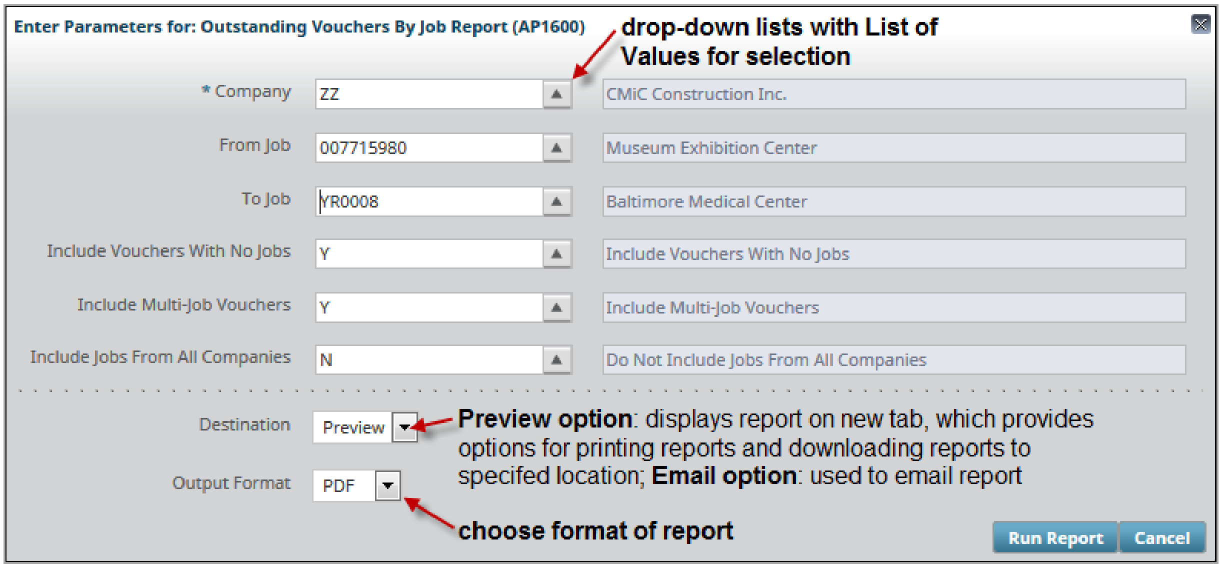




Reports

All Enterprise modules that handle records have a **Reports** menu option that lists the module's reports. This section covers running reports for ADF screens.

Printing Reports



Enterprise Console: Sample of a printing options screen

ADF based screens use Oracle's ADF technology and modern web browsers to streamline reporting. Above is a screenshot of a printing options screen, after choosing a report from a module's **Reports** menu. Printing options screens contain drop-down lists with preloaded values (List of Values) and other entry fields to set the parameters for restricting the records that get printed on the report.

After selecting the parameters, choose the reporting option using the **Destination** drop-down list. **Preview** displays the report on a new tab of your web browser, and the browser is used to print the report, set printer settings if necessary, or to save (download) the report to a desired location. **Email** brings up an Email window for emailing the report. Further details are provided in the following "*Reporting*" section.

NOTE: Ensure your web browser is set to allow pop-ups for the server running CMiC Enterprise, as reports are displayed on new browser tabs.

Reporting

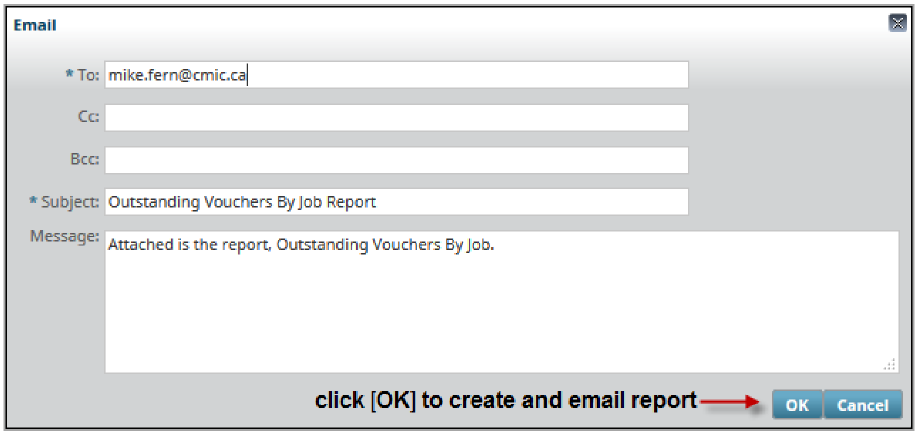
Preview and Print

Select **Preview** from the **Destination** field of the Reporting Options window, and use the **[Run Report**] option to preview the report on a new tab of your web browser. From the browser, select its printing option to bring up the print settings window to print the report.

Preview and Save Report to User Specified Location

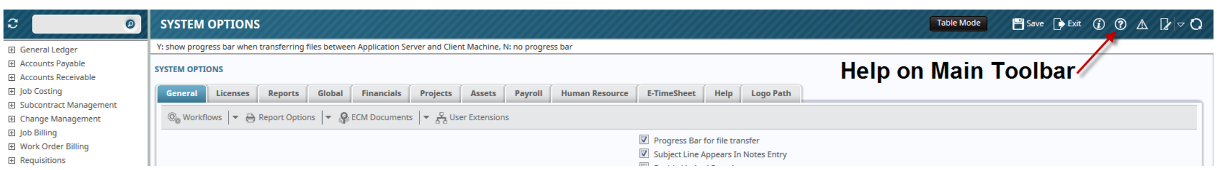
Select **Preview** from the **Destination** field of the Reporting Options window, and use the **[Run Report**] option to preview the report on a new tab of your web browser. From the browser, select the save or download option, depending on your browser, to bring up a window to navigate to a location to save the report.

E-Mail Report



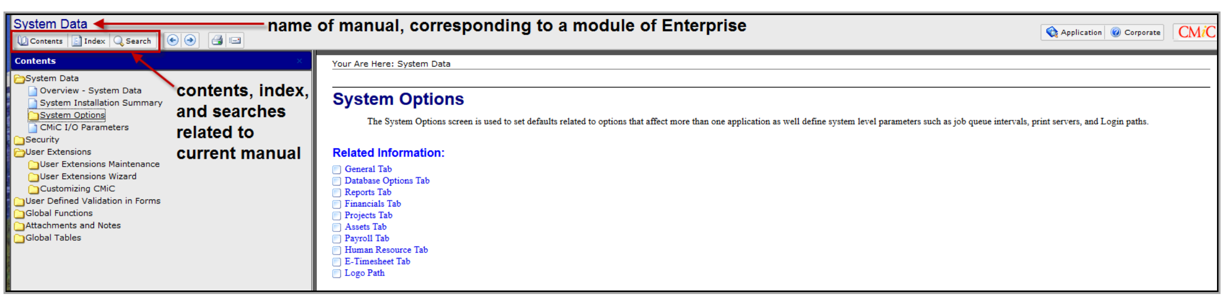
Select **E-Mail** from the **Destination** drop-down list of the Reporting Options window, and select the report's format (PDF, HTML, Excel, RTF, CSV) using the **Output Format** drop-down list. Next, click the [**Run Report**] button to bring up the Email window, as shown above, to enter the email information. To enter more than one address, use a comma as a separator. Click [**OK**] to create and send the report via Email.

Help



ADF: Help icon found on a screen's Main Toolbar

In ADF, the Help Icon is located on the screen's Main Toolbar. When the Help option is clicked, a new browser window will be launched for the Help application.



Sample of the Help screen

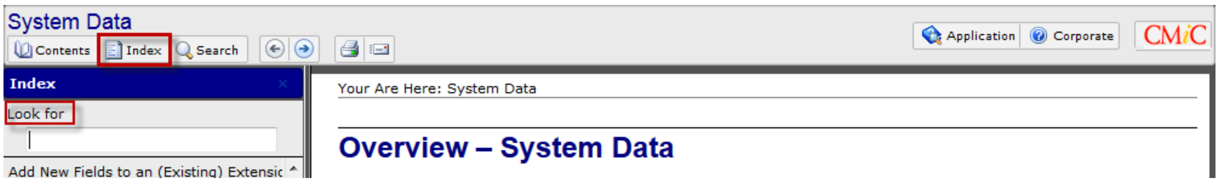
This will open a version of the 'User's Reference Manual' for the current application and allow you to navigate within the loaded manual. Above is a sample of a standard help screen for Enterprise's System Data module.

The side panel displays the contents of Help for this particular module. A folder can be opened by clicking it, and a folder's contents can be displayed by clicking on a page icon. The manual's text and links to its sub-sections will display in the larger panel. The Previous and Next icons along the top-left of the screen, next to the red rectangle in the screenshot above, can be used to move through the sections of the manual.

Contents

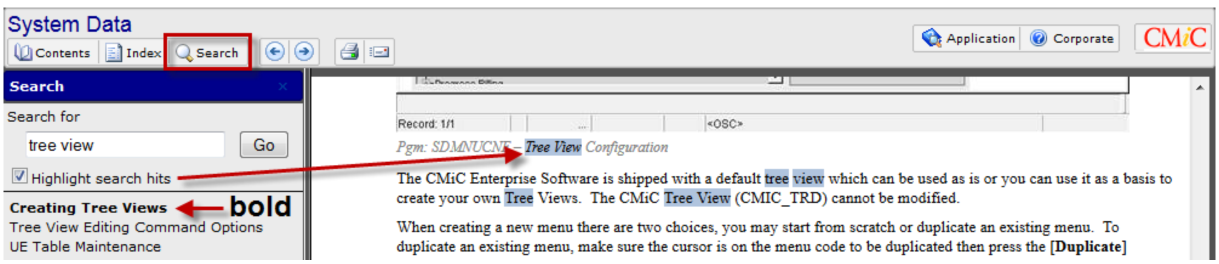
Clicking the Contents page will redisplay the Table of Contents for the current manual. This might be necessary after having used the Index or Search options and needing to view the manual's Contents again.

Index



This option will display the manual's Index. Note that a **Look For** option appears to filter the Index as needed.

Search



The Search option is for searching the current manual for particular words.

As shown in the screenshot above, the words entered for the search can be highlighted in the display region by clicking the **Highlight search hits** check box. By default, the flag is checked, however users may uncheck the flag that will highlight on the page the actual words matching the search term.

Additionally, the page selected from the Search results, as shown above, will be shown in bold.

Next Page/Previous Page

These options allow the user to navigate through the Help on a page by page basis. Next will display the next page, with respect to the page currently displayed, and Previous will display the previous page.

Print Page

The Print option allows the user to print the currently displayed page.

Email Link

The Email Link option will create a new email with the current page's title as the subject line, and a link to the current page in the body of the email.

Application and Company Specific Page – Customizable HTML Pages

This option is customizable (likely with the help of someone in the IT department), and it can be used to display an internal, company generated help document, or any other type of document that is of an HTML format. Also, the displayed page could be customized to contain links to various company generated documents that relate to the current manual displayed by Help.

As an example, when displaying the help for the Accounts Payable module, the **Application** option (framed by the red rectangle) could be customized to display a company specific Corporate Policy page for Accounts Payable operations.

For each manual displayed by Help, the corresponding, customizable file that is displayed by clicking the **Application** option is found at the root of the HTMLHelp directory. The name of each of these customizable files is formatted as follows: {*application code*}MODULE.HTM. For instance, since the *application code* for Accounts Payable is *AP*, its customizable help file is *AP*MODULE.HTM, and since the *application code* for the System Data manual is *SD*, its customizable help file is *SD*MODULE.HTM.

NOTE: If there are no customizations made, the default page titled, Module Specific User Defined Help, will be displayed.

Company Specific Page – Customizable HTML Page

The **Corporate** option, framed by the red rectangle above, displays one particular HTML file, regardless of what manual is being displayed by Help. Thus, this page should not be specific to a particular application. The name of this customizable HTML file is CORPORATE.HTM, and it is located in the same location as the other customizable files displayed by the **Application** option, which is at the root of the HTML Help directory.

The page displayed by this option could be customized to display a company specific document, or to display links to various documents.

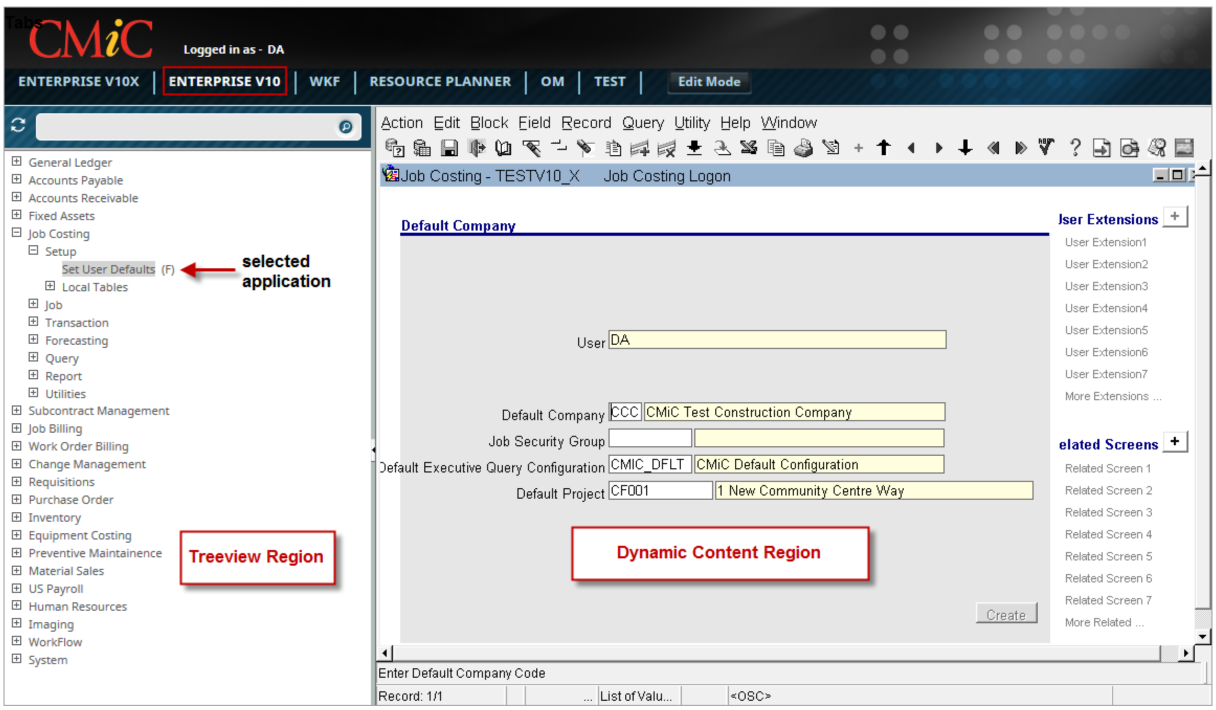
CMiC Link

Clicking on the CMiC Logo will open a new browser, and display the www.cmicglobal.ca home page.

Forms Screens

Screen Layout

Console Regions: Treeview & Dynamic Content

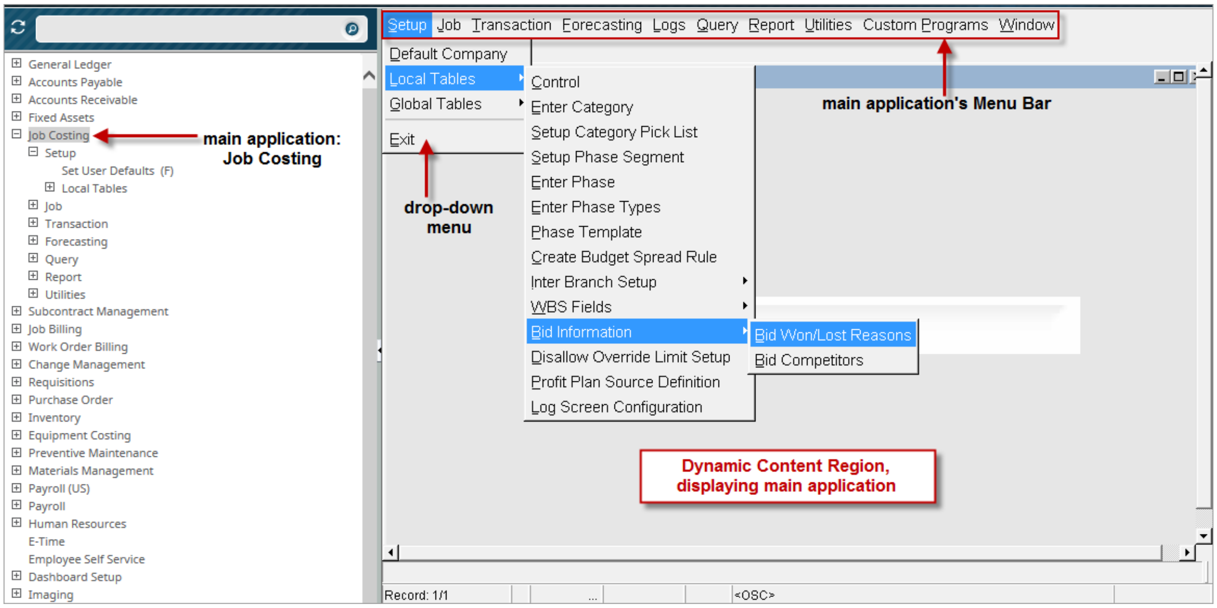


*Sample display of **Enterprise Console**, showing selected application in **Treeview Region** (Path: **Job Costing** > **Setup** > **Set User Defaults**) and Forms application in **Dynamic Content Region***

The Treeview Region is used to launch the applications of Enterprise. The system is delivered with three different tree configurations to choose from, and it provides the functionality for creating custom, user specific Treeviews.

The Treeview is defined by nodes, which have a '+' or '-' symbol, followed by a folder icon. The '+' symbol means that the node is expandable, to reveal other nodes or an actual menu option for launching an application. If the node has a '-' symbol, it means it is collapsible, hiding any of its child nodes or menu options. The options given by the Treeview are dependent on a user's security rights, and it only shows applications for which the user has rights. For information regarding building Treeviews, please refer to the "Creating Tree Views" section of the System Data/Infrastructure Manual.

Main Application - Menu Bar



Sample screenshot of a main application in the Dynamic Content Region, launched by clicking the main application text in the Treeview; Note: not all folders launch main applications, only those with a mouse over Hand Icon do

Once a main application (i.e. modules of Enterprise) is displayed in the Dynamic Content Region, the main application's menu bar (framed by the red rectangle in the screenshot above) is used to navigate to its sub-applications. Sub-applications can be selected from drop-down menus using the mouse, directional keys or standard keystrokes (e.g. Alt 'S' for selecting Setup).

Each main application has its own menu bar options, however, they all contain the 5 following **Standard Menu** options:

NOTE: Menu options found in-between Setup and Logs and these standard menu options will vary by application.

Setup

Setup allows you to 'set up' the maintenance screens for the module being accessed. The drop-down menu for Setup always contains the **Default Company**, **Local Tables** and **Global Tables** drop-down menu options. The **Default Company** option is where you set your working company for the application. **Local Tables** contains the maintenance screens required for the current main application, and **Global Tables** contains the maintenance screens relevant to all of the applications within Enterprise.

Logs

Logs consists of multiple screens designed to show key data within the application at a glance. The Log options supports multiple record display, entry and/or modification of logged records (comments, notes). The layout can also be configured by the user.

Query

Query contains all the application specific screens designed expressly for viewing the application data from different perspectives.

Reports

Reports contains multiple reports written specifically for the current main application.

Utilities

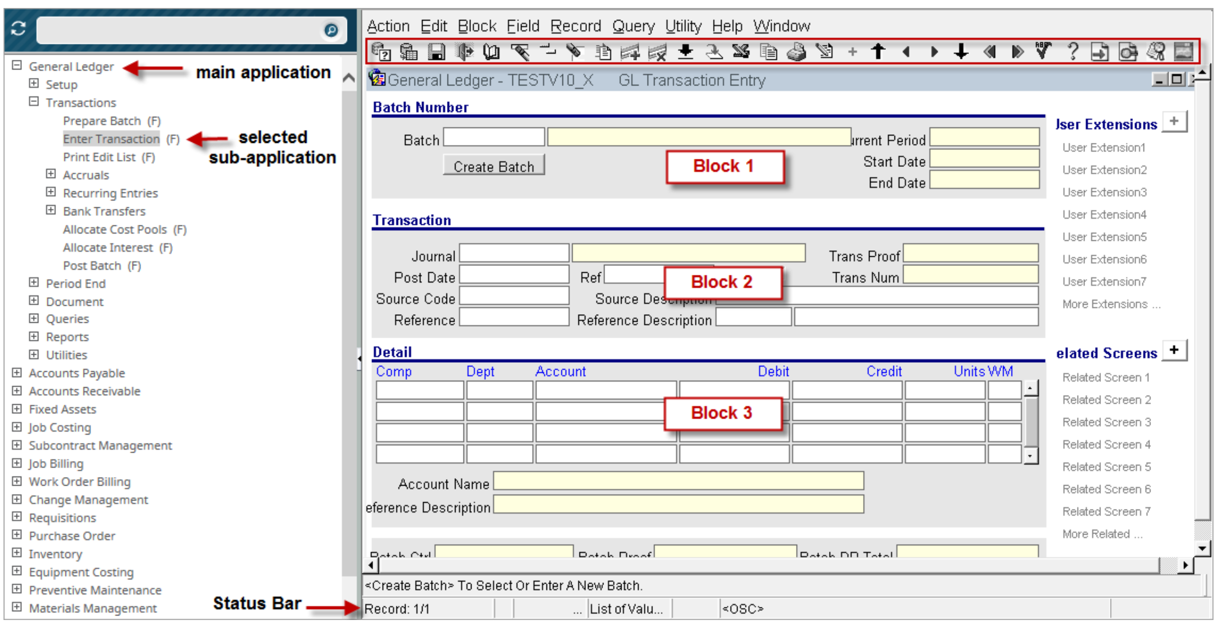
Utilities is where you will find screens that are not commonly accessed during routine operations. This option is reserved for use by your system administrator only.

Custom Programs

Custom Programs contains any screens that have been designed specifically for your company, and they are not part of the standard CMiC Enterprise product.

NOTE: As an individual user, you may or may not have access to all these menu options. Your access to the main applications of Enterprise (i.e. modules of Enterprise) depends on your job description and your User ID security rights. As you may notice, the Treeview Region only shows programs that you have access to, while the Standard Menus show all programs, with the options you do not have rights to being disabled.

Sub-Application - Toolbar, Blocks & Status Bar



Sample display of the toolbar for a sub-application, framed by red rectangle, and its blocks (main application is General Ledger and displayed sub-application is Enter Transaction)

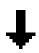
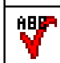
NOTE: In CMiC manuals, the terms screen and application (main application or sub-application) are used interchangeably, as are the terms block and section.

The sample of a sub-application (screen) in the screenshot above shows its toolbar, blocks (sections), and status bar. On the form (screen), blocks are labeled with dark blue text.

The status bar displays information about the current screen, such as what record is being displayed in the current set of records (e.g. Record: 1/9), and if a field has a pre-defined List of Values to choose from.

Each icon on the toolbar performs a specific task within the screen (sub-application). The function of each toolbar option is listed in the following table. Also, the icons are only in color when the cursor is over them.

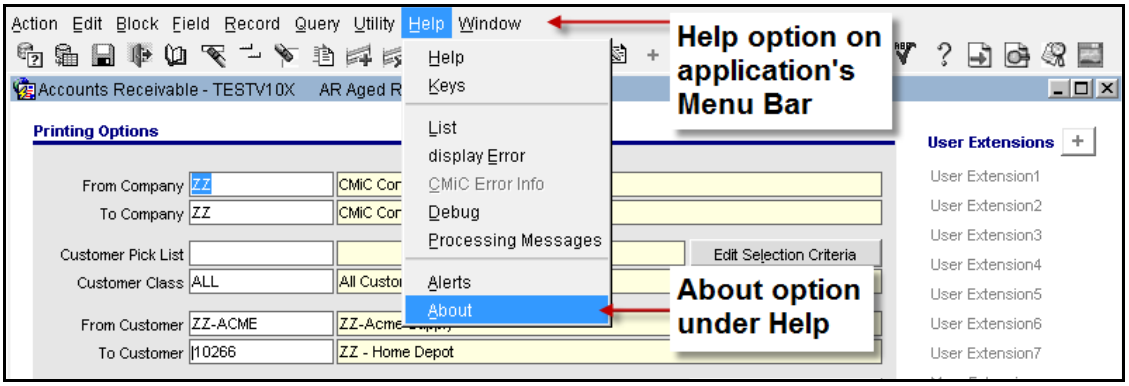
Icon	Name	Usage	Function Key
	Enter Query	Queries one or more existing records using the fields on the form. Use Execute Query toolbar option to execute the query.	**F11**
	Execute Query	Launches query to return the data that matches your requested query parameters.	**F12**
	Save	Saves the data that you have entered.	**F3**
	Exit	Exits the screen or exits the Query.	**F4**
	Count Hits	Indicates how many records will be returned based on the query parameters entered.	Shift F11
	Clear Field	Clears the data entered in a specific field. It is a quick way to do a backspace on a large field.	F6
	Duplicate Field	Copies the value from the same field in the previous record to the specified field in the current record.	Shift F7
	Clear Record	Clears all the data entered in the current record. Note: If the data has already been saved to the database this function only clears the screen, it does not remove the record from the database.	**F5**
	Duplicate Record	To duplicate a record, you must first use the Insert Record function. Then you can use this option to copy all of the fields from the previous record into the current record. This option is particularly useful when entering multiple records with similar data, such as invoices.	F7
	Insert Record	Creates a new blank record that you can then complete as required.	**Shift F6**
	Delete Record	Deletes the record from the database, as well as from the screen.	**Shift F5**
	List of Values	Displays a list of valid values for any field that has been pre-determined with a List of Values.	**F9**
	Print to File	This function is an extension of Send to Spreadsheet. If utilized, a window will display requesting parameters for file creation.	
	Print to Spreadsheet	Automatically creates a spreadsheet of the data displayed by a screen. See the "Toolbar Options" section of this guide for further details.	
	Mail Merge	Advanced option, requiring configuration; Send the queried records into a Mail Merge Document.	

Icon	Name	Usage	Function Key
	**Print Form Letter**	Advanced option, requiring configuration; Print a form letter for the current data on the screen. The form-letter must have been previously defined.	
	**Edit Field/Record**	Allows you to edit selected field/record.	
	**User Extension**	Displays user extensions, which are added custom fields for records. Refer to the “User Extension” section of the System Data manual for further details.	
	**First Record**	If you have queried data, this function will automatically take you to the top record.	
	**Previous Record**	Displays the previously queried record. Note: refer to the “Record” section of the status bar to see what record the current one is in the set	**Arrow UP**
	**Next Record**	Displays the next queried record. Note: refer to the “Record” section of the status bar to see what record the current one is in the set	**Arrow Down**
	**Last Record**	If you have queried data, this function will automatically take you to the last queried record.	
	**Previous Block**	Moves cursor from the current section of a screen to the previous section.	**Page Up**
	**Next Block**	Moves cursor from the current section of a screen to the next section on the screen.	**Page Down**
	**Check Spelling**	Invokes installed spell checking software.	
	**Help**	Invokes the application Help documentation. Refer to the Forms Help section of this guide for further details.	
	**Launch Workflow**	Not a standard option; Deals with the workflows defined for the current application, block and row. Please refer to the Workflow manual for further details.	
	**Show Images**	Not a standard option; Customizable, and user defined.	
	**Show Attachments**	Not a standard option; Customizable, and user defined.	
	**Image Upload**	Advanced Option; Attach an image associated with the current record. Refer to the Imaging manual for further details.	

Toolbars

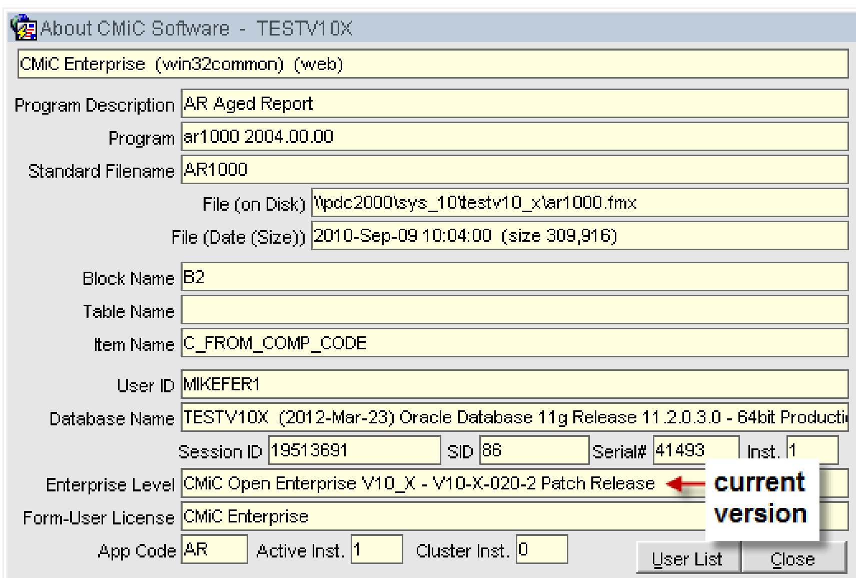
Menu Bar Options

About – Current Application and Database



About, under the **Help** option of the Menu Bar, will display information about the current screen, its database and the current version of CMiC Enterprise. It also has a button to list the current users on the database.

This function is particularly useful to retrieve information about the current application and version of Enterprise in the case you need to communicate with CMiC about the application.



Toolbar Options

Print to Spreadsheet 

The Print to Spreadsheet option of a screen's Toolbar is used to print data displayed by a screen to a spreadsheet. The spreadsheet's column headers will be the titles of the fields, and the data will be beneath the headers. The spreadsheet's file type is a CSV file, which can be opened by most spreadsheet applications.

To send the data displayed by a screen to a spreadsheet, click the Print to Spreadsheet option. Once the spreadsheet is created, a pop-up window will give you the option to open it for viewing, or to save it.

Depending on your web browser and its settings, if you choose to save it, the browser will either save it to its default downloads location, or it will display a pop-up window giving you the ability to rename the file and to choose where to save it.

Mail Merge

This feature is advanced and requires configuration. Mail Merge allows you to embed fields from any CMiC Software screen into a word document. Using your standard word processor, you create a letter/notice (document) as a Merge Document. Then you can query for example, all Vendors within a specific area code and merge the selected fields (e.g. Vendor Name, Address, Contact …) within your document.

Print Form Letter

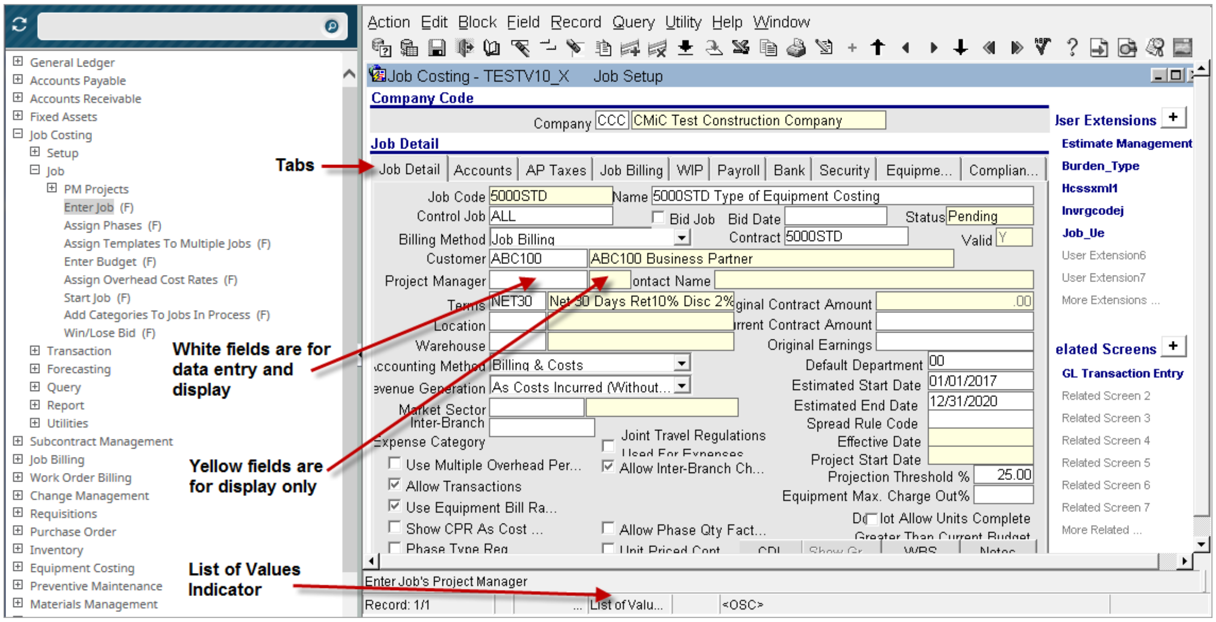
This Feature is advanced and requires configuration. It allows you to create form letters within Enterprise, based on virtually any screen. With this feature you can define documents with multiple sections and tables, where Mail Merge only allows one section. If you have a document defined for the data on the current screen, this icon will automatically create your form letter without you having to go to a Print Menu Option.

User Extensions

This is a non-standard option used for customer-specific customizations.

On certain screens, you will notice that the standard panel on the right of the screen that displays User Extensions and Related Screens is not available. The panel still exists, but due to the nature of data entry requirements, we needed to utilize this space for input fields. To access the side panel, activate this User Extension Icon.

Tabs and Data Fields



Tabs

For applications that deal with a large number of fields, related fields are grouped into tabs, as shown in the above screenshot.

Data Fields – Types

As shown in the screenshot above, data fields that are light yellow are for display only, and white data fields are for both display and data entry.

Drop-Down Lists and List of Values (LOV)

Data entry fields that are drop-down lists, as shown in the screenshot above, have a pre-defined list of values called **List of Values** (LOV). Drop-down data fields limit the data that can be entered for that field by forcing the user to choose one of the predefined values.

Navigation

Field Navigation

To move from one data entry field to the next, you can use the Tab or Enter keyboard keys, and to move to the previous data entry field, use the Shift and Tab keyboard keys together.

Block (Section) Navigation

To move from block to block, forward, you can use the Page Down function key or the Next Section icon on the toolbar. This function will move you from the current section to the first enterable field of the next section. To move backwards, use the ‘Page Up’ function key or the Previous Section icon on the toolbar. This will move you from the current section to the first field of the previous section.

Record Navigation

If there are multiple records, indicated by the "Record" section of the status bar, you can use the Next Record and Previous Record toolbar options to move from one record to another, or the Down Arrow and Up Arrow keyboard keys. If you are in the middle of a group of records and want to move to either the first or last record in the set, utilizing the First Record or Last Record icons on the toolbar (no corresponding function key, but you can utilize the Record menu, Alt-R keyboard keys together, which is along the top of the form).

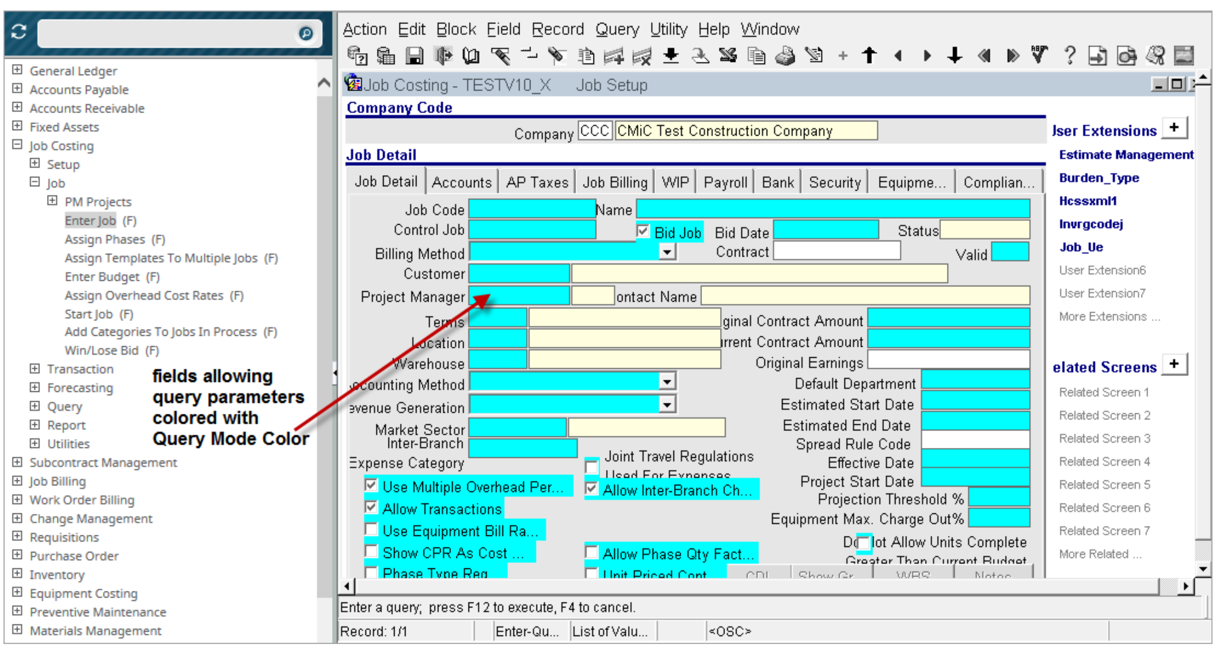
Screen Modes: Insert & Query (Data Query)

Screens have two operational modes, one is for entering data for a new record or to display and edit an existing record, and the other mode is for queries. The first mode is referred to as Insert Mode, and the second is referred to as Query Mode.

Insert Mode

For nearly all applications, the screen will be in Insert Mode, and depending on the screen's use, it will be ready for you to enter data for a new record, or it will display an existing record(s) for viewing or editing. Accordingly, the Insert Mode is further broken down into an Entry Mode and an Edit/Display Mode. For most screens, they start in the mode in which they are most commonly used. For instance, Transaction Entry screens start in Entry Mode, while most maintenance screens start in the Edit/Display Mode and display existing records. If the screen is in Edit/Display Mode, you need to use the **Insert Record** icon (Shift-F6) to change it to Entry Mode.

Query Mode (Data Query)

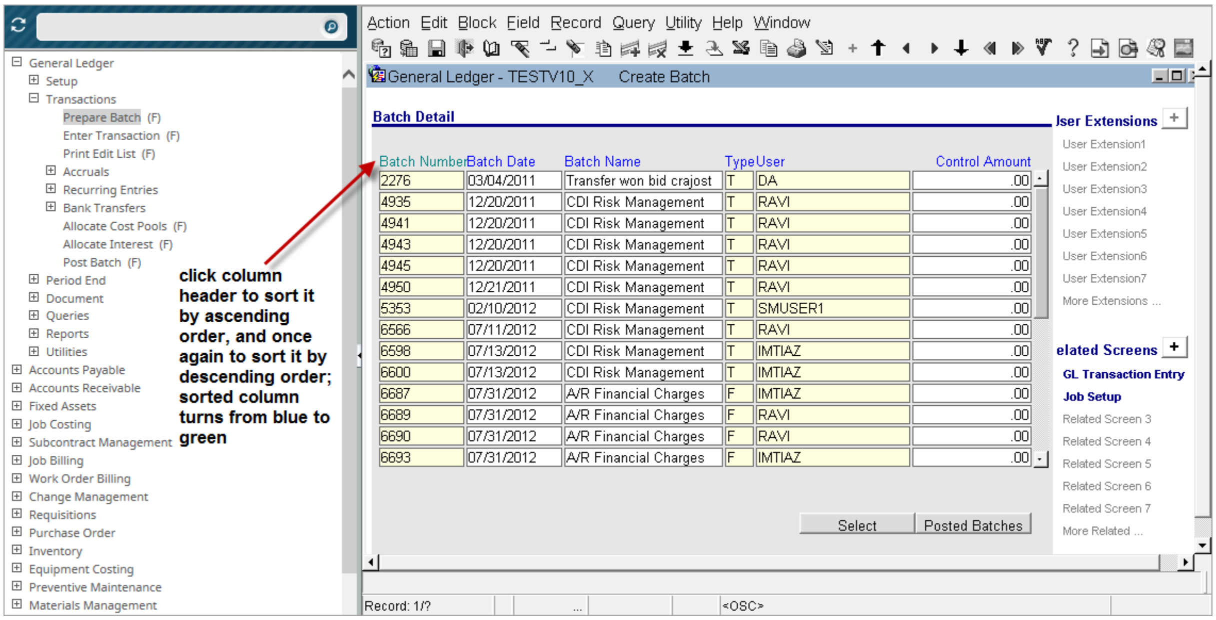


Sample of a screen in Query Mode; Query Mode Color is customizable and may be different for your system

When the screen is in Query Mode, the fields that can be queried will be colored in the Query Mode Color specified by your system's setup (Query Mode Color is customizable). Query Mode is for querying the system for a record or a group of records that match specified parameters, specified in one or more of the record's fields.

To perform a query, the screen must be in Query Mode. If the screen is in Insert Mode, and if allowed by the current screen, you can change the mode to Query Mode by using the **Enter Query** toolbar option or the F11 function key. To exit Query Mode, use the F4 function key. In Query Mode, enter the query parameter(s) into the relevant field(s), or if a field has an associated List of Values (indicated in status bar area), you can select a query parameter from the list brought up by using the F9 function key or the **List of Values** toolbar option. Then use the **Execute Query** toolbar option or the F12 function key to have the system return the matched results, and to have the screen return to being in Insert Mode. The number of records returned for the result will be displayed by the "Record" section of the status bar, along the bottom of the form. If more than one record is returned, you can use the **Next Record** and **Previous Record** toolbar options to move from one record to another.

Table Sorting



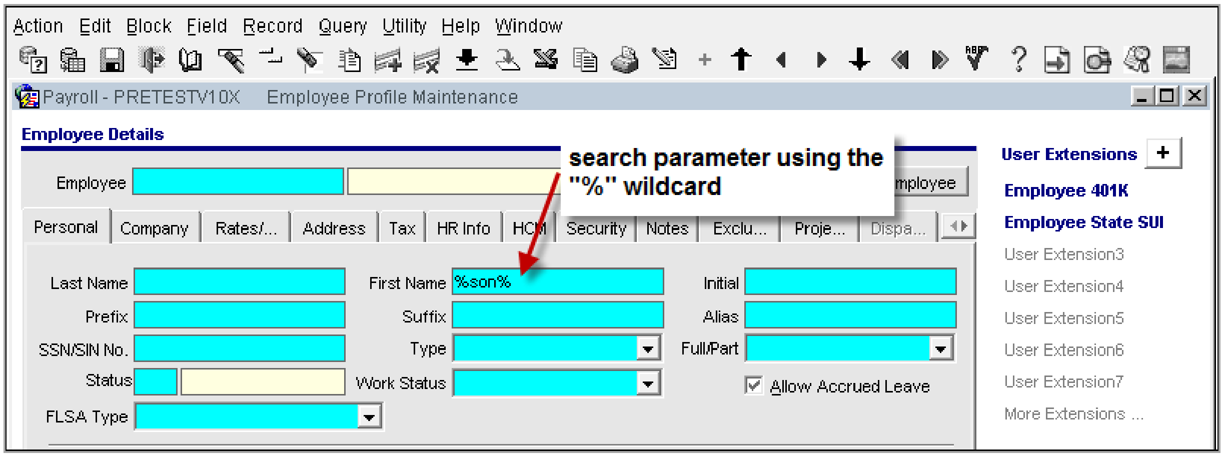
For a table of records, its records can be sorted by any column that has a blue header. To sort the records by a particular column, click a column header once to sort them in ascending order, and once again to sort them in descending order. Once sorted, the column header will turn green, as shown in the above screenshot.

Advanced Searches

This section details the use of more advanced searches, which use wildcards, relational (comparison) operators, and variables.

Wildcards – Pattern Matching

Wildcards can be used in the search parameters entered into the fields to search against.



Sample screen in Forms, in which the "%" wildcard is used in a query

When entering a search parameter in a search/query field, wildcards can be used to create a pattern to match against the pattern of the corresponding field of the records. They are used when exact matches are not sufficient. There are two wildcards: one represents any *single character*, and the other represents any *string of characters*. They are used with regular characters to create a pattern, as a search parameter, and the pattern is used to match fields that follow the specified pattern.

Wildcard Characters

Single Character: "_"

String of Characters: "%"

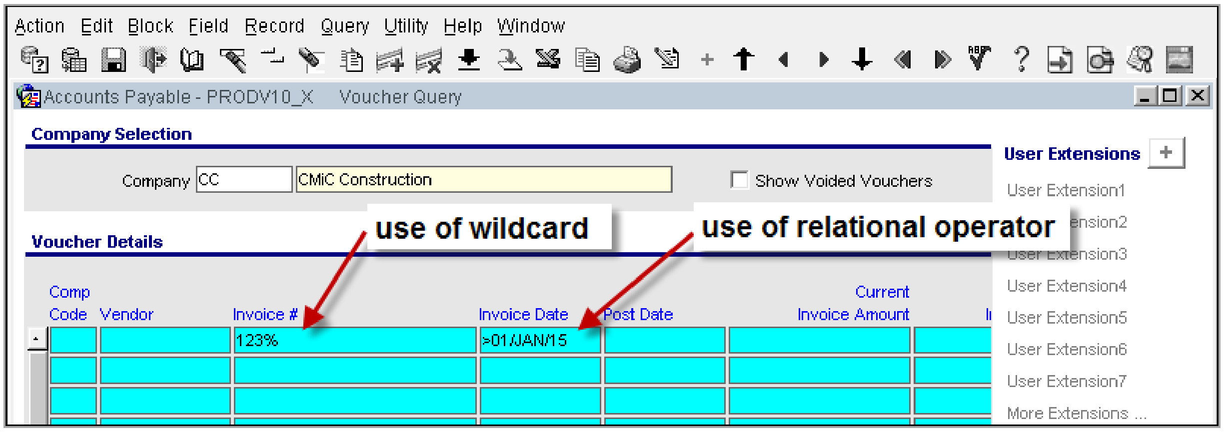
Example Patterns and Possible Matches

Example Patterns	Possible Matches
JON_S	JONES, JONAS, JONOS, JON-SRA
JON%S	JONSTONES, JONES, JONAS….
ENTER%	ENTER, ENTERS, ENTERTAIN…
S_AR_	SHARE, SMART, SHARP, SNARE
S%AR_	SAMARTRA, SHARE, SMART…

Query Mode

In Forms, when the screen is in Query Mode, advanced searches (queries) can be achieved through search parameters that contain relational operators. Also, the Multi-Variable Search method can be used to create a search statement that will be used to match records against.

Relational Operators



Forms: sample of a query, with the screen in Query Mode, using a wildcard and a relational operator

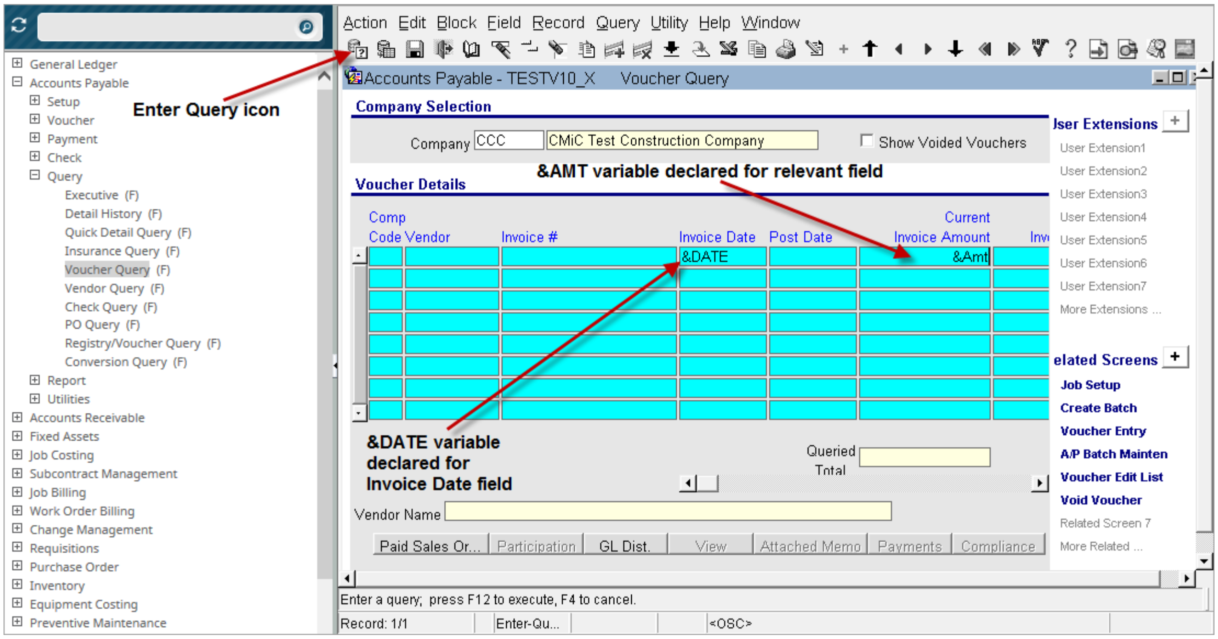
Relational operators, along with wildcards, can also be used when exact matches are not sufficient. To create search parameters using relational operators, use the following table of relational operators and its examples for assistance:

Operator	Meaning	Example Search Parameter	Translation
=	Equal to	*just enter value to match, example: 1000	Return invoices with a balance of $1000.00 even.
!=	Not equal to	!=1000	Return invoices with a balance that is NOT $1000.00 even.
>	Greater than	>1000	Return invoices with a balance larger than $1000.00
>=	Greater than or equal to	>=1000	Return invoices with a balance greater than or equal to $1000.00
<	Less than	<1000	Return invoices with a balance less than $1000.00
<=	Less than or equal to	<=1000	Return invoices with a balance less than or equal to $1000.00
Between	Between two values	between 1000 and 2000	Return invoices with a balance between $1000.00 and $2000.00 (inclusive)

Date Formats

For dates, use either the format DD-MON-YY (01-JAN-15) or DD/MON/YY (01/JAN/15).

Multi-Variable Searches (Query/Where)



Sample of a screen in Query Mode, with 2 declared variables for the Invoice Date and Current Invoice Amount Fields

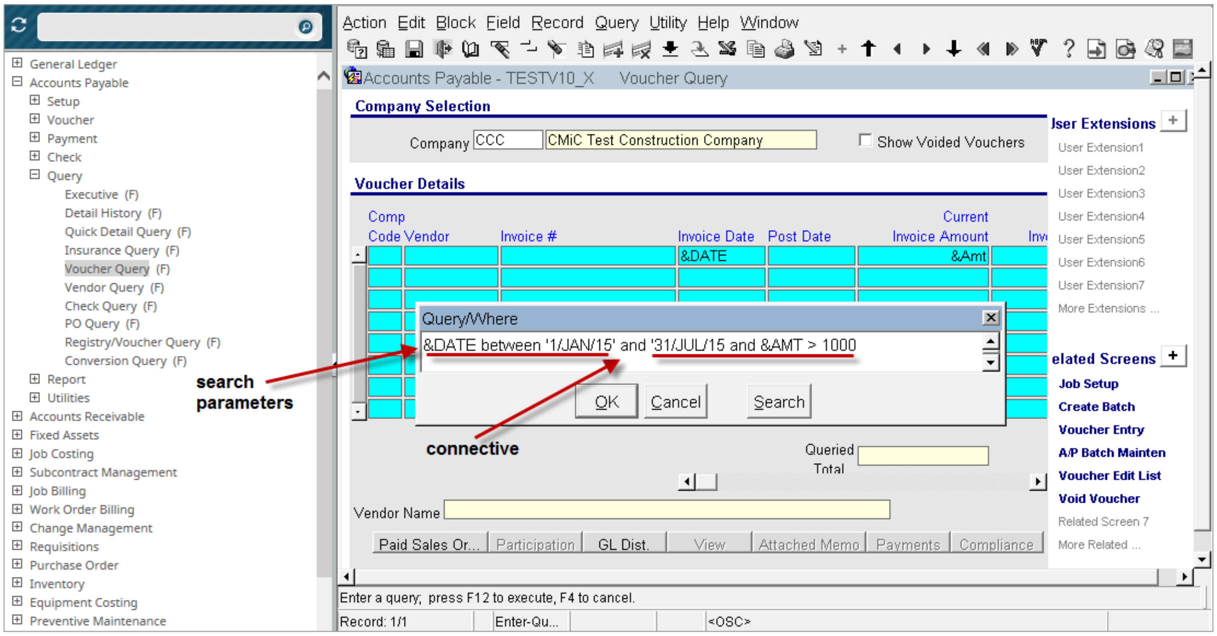
In Forms, complex searches can also be done through the Multi-Variable Search option, which uses variables to represent values of particular fields, and relational operators and connectives (and, or).

First, put the screen into Query Mode by using the Enter Query function key, F11, or its corresponding icon  from the toolbar (shown in screenshot above).

Next, declare the required variables in the relevant fields by entering the "&" symbol and a name for the variables, as shown in the above screenshot.

Then use the Execute Query function key, F12, or icon  (next to Enter Query icon) from the toolbar to bring up the **Query/Where** window, as shown in the screenshot below (application recognizes the use of variables and brings up the Query/Where window). Enter a query using the declared variables and relational operators, and using the "**and**" or "**or**" connectives to link each search parameter, as shown in the below screenshot.

NOTE: In the **Query/Where** pop-up window, dates must be between single quotes, like so: '1/JAN/15'



Sample of the ***Query/Where*** *pop-up window with a created search statement*

In the **Query/Where** pop-up window, shown in the screenshot above, is an example of a created search statement that contains 2 search parameters (each using a relational operator), and 1 connective:

Search Parameters

1. &DATE *between* ‘1/JAN/15’ *and* ‘31/JUL/15’
2. &AMT > 1000

Connective

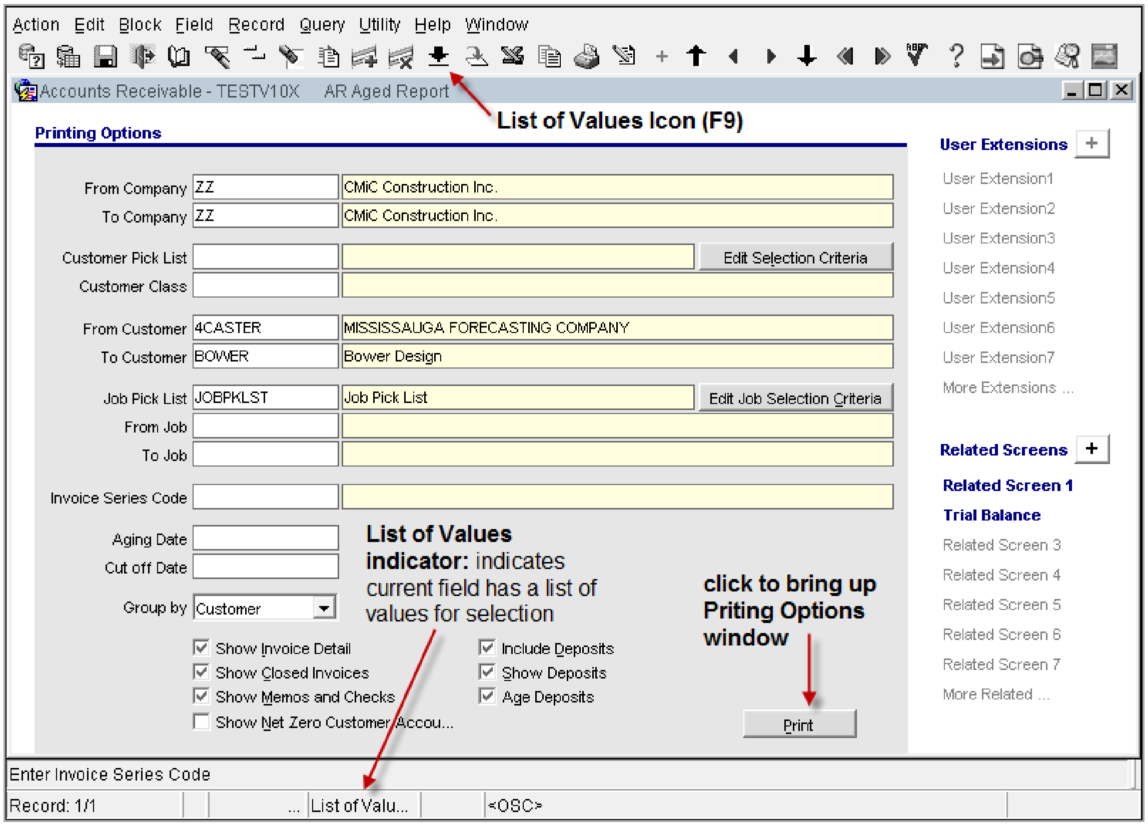
1. *and*

After creating the search statement, click [**OK**] once to test the search statement (an error message will be displayed if there is an error), and once again to execute it and have the results retuned. If an error message is displayed, the search statement will be saved, and it can be edited once the Query/Where pop-up window is re-launched by the Execute Query function key (F12) or icon.

Reports

All Enterprise modules that handle records have a **Reports** menu option that lists the module's reports. This section covers running reports for Forms screens.

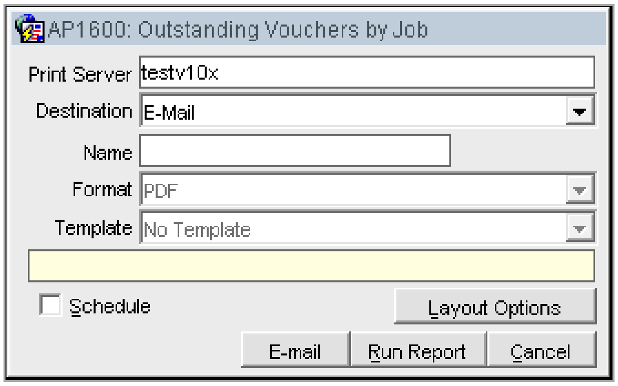
Printing Reports



Forms: Sample of a printing options screen

After choosing a report from a module's **Reports** menu, a printing options screen will be displayed to enter the parameters for the report. These parameters are used to restrict the records that get printed on the report. As shown in the above screenshot, if a field has a List of Values to choose from, a List of Values indicator will be displayed on the status bar at the bottom of the form. Use the List of Values Icon or the F9 function key to bring up the list. After entering the parameters, click the [**Print**] button to bring up a Reporting Options window to choose the report's destination (preview, printer, email, file, fax) and its file format.

Reporting

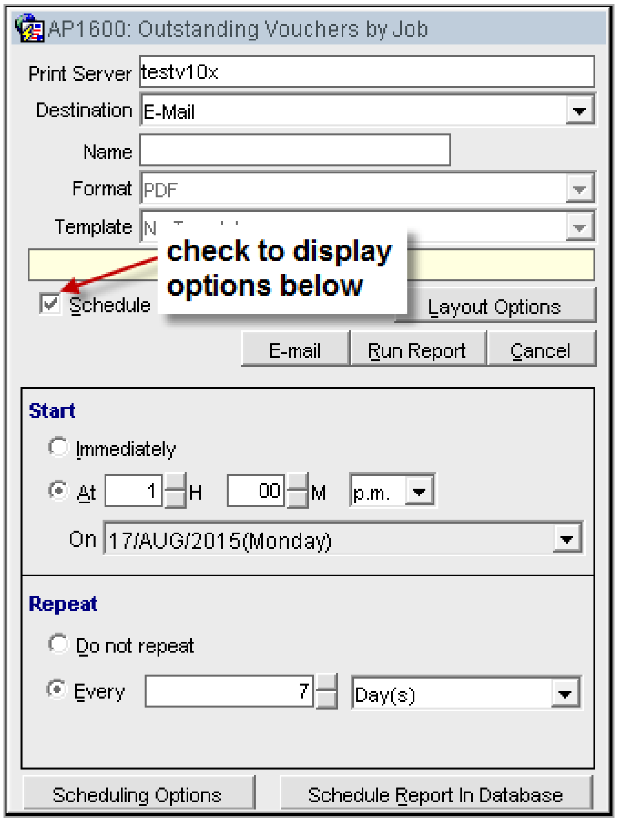


Sample of a Reporting Options window to select the report's destination and file format.

The Reporting Options window is used to select the report's file format, reporting option, and if desired, a future date for its automatic reporting. Before running the report, ensure its desired file format is selected in the **Format** field (format options vary for each reporting option). Then, use the **Destination** drop-down list to choose whether you wish to preview, print, email, create a file of, or fax the report. The fields of this window are explained in the table below, and each reporting option is detailed in the following "Reporting Options" section.

Field, Button, Flag	Description
Print Server	Name of the Print Server that you will be sending this report to. There is a list of values available.
Destination	Drop-down list to choose whether you wish to preview, print, email, create a file of, or fax the report. Each option is detailed below, under the "Reporting Options" section.
Name	Name of the printer that you will be sending the report to, if you chose **Printer** from the **Destination** drop-down list.
Format	Format to utilize when creating the report as a file. The options vary for different reports and options of the **Destination** drop-down list. The possible formats are: PDF, HTML, HTMLCSS, XLS (Tab-Delimited), CSV (Comma-Delimited), and RTF.
Template	Related to the use of MIP and allows the user to select the template to be used in producing the report.
Printer Set-up Button	Visible only when the **Printer** option is selected from **Destination** drop-down list; Launches window to select a printer for printing.
Layout Options	Brings up a window to select the background color for the row that displays the name for a type or category (e.g. types of fixed assets). Black or grey can be chosen to make the sections more distinguishable, or white can be chosen to save on printer toner.
Schedule	If checked, this window will display a section to schedule the reporting of the report at a later time. An option is also available to automatically create and report the report at regular intervals. This option is detailed in the following section.
Wait For Completion	If checked, you accept to wait, until the report is generated and sent to the printer.

Schedule Reporting for Later Time or Regular Intervals



Sample: report scheduled for automatic creation and emailing at 1 PM, starting Aug. 17, 2015, and every 7 days afterwards

If you wish to schedule the reporting of a report, as specified by the parameters in the printing options screen, for a later time or regular intervals, check the **Schedule** check-box to display the **Start** and **Repeat** sections for its scheduling. The **Start** section is used to schedule the time and date the report is to be reported, as specified by the **Destination** field. If **Do not repeat** is selected in the **Repeat** section, it will only be reported once.

If you want the system to automatically create and report the report at regular intervals, select the **At** option in the **Start** section, and specify the time and date for when the automatic reporting is to begin. In the **Repeat** section, select **Every** and specify the number of minutes, hours, days or months for the interval. This schedules the report for automatic creation and reporting at regular intervals, as specified, beginning from the time and date specified in the **Start** section.

To complete the scheduling, use the [**Run Report**] button, and the report will be automatically created and reported as specified.

Reporting Options

Printer: Print Report to Paper

Select **Printer** from the **Destination** field of the Reporting Options window, and use the **[Run Report**] option to print the report using the printer specified by the **Name** field.

Preview: Preview Report

Select the **Preview** option from the **Destination** field of the Reporting Options window, and use the **[Run Report**] option. The report will be displayed in a new browser window.

Preview with Cold Storage: Preview Report Using Cold Storage Software

This option is only available if the third-party software, Cold Storage Software, has been purchased and integrated with Enterprise.

Select **Preview with Cold Storage** from the **Destination** drop-down list of the Reporting Options window. In the window that pops up, select the document type, and edit the description fields as preferred. Use the [**Close**] button to close the window, and then use the **[Run Report**] button to preview the report through Cold Storage.

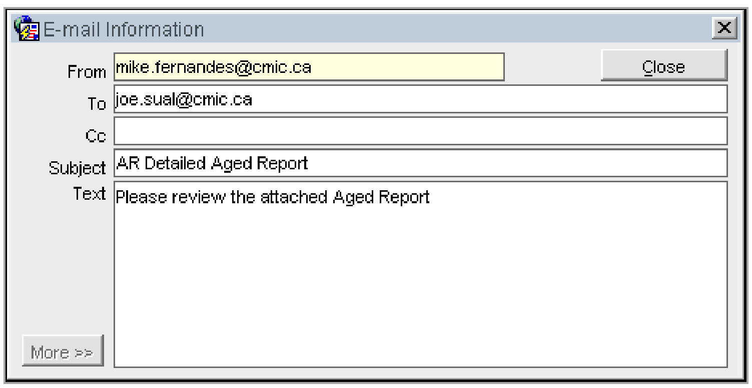
Local File: Create File of Report on Computer

This option is used to create a PDF file of the report on your local computer, or any computer in your network. After selecting **Local File** from the **Destination** drop-down list, use the [**Browse**] button. In the pop-up, enter a name for the report file (file type will be PDF), navigate to a location to save it, and click [**Save**].

File: Create File in Print Servers Working Directory

Instead of printing the report to paper, this option allows you to create a file in the print servers working directory, using the file format specified by the **Format** field.

E-Mail: E-Mail Report



Select **E-Mail** from the **Destination** drop-down list of the Reporting Options window, and the above window will pop up for you to enter in the e-mail information. The **From** field will automatically be set to the user’s e-mail address. To enter more than one address, use a comma or colon as a separator.

Use the [**Close**] button to close the window, and in the Reporting Option window, use the **[Run Report**] button to create and send the report via e-mail. Use the [**E-mail**] button to return to the E-mail Information screen for editing.

In Project Management, there is also a flag to include the attached Documents for the item in use (e.g. Issue, Communication). Check the flag to include the particular documents to be included in the Email as attachments.

Fax: Fax Report

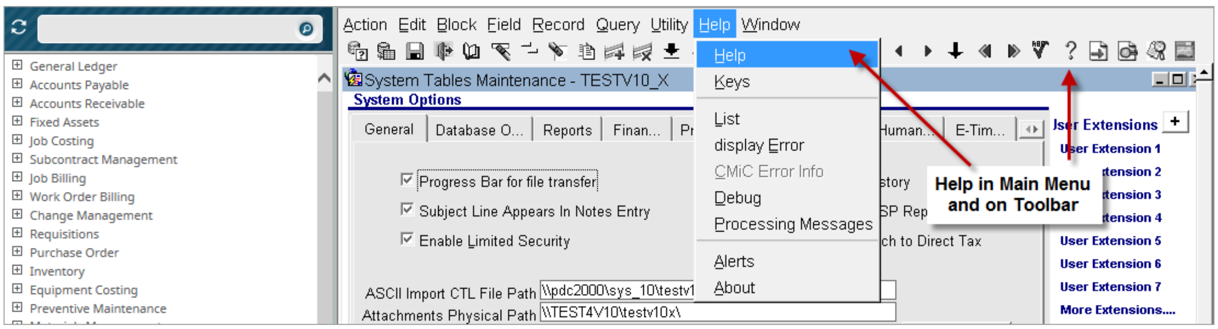
Select **Fax** from the **Destination** drop-down list to bring up the Faxing Information screen. If a cover page is necessary for the fax, enter its text into the **Cover Page Text** area. Enter the fax number(s) or use the **F9** function key to bring up a list of contact fax numbers for selection. Use the **Tab** key to move between the fields, as this triggers automatic formatting. Optionally, enter the recipients’ names and company. Finally, choose your system's faxing software and use the [**Close**] button. Back in the Reporting Options window, use the **[Run Report**] button to create and fax the report.

Cold Storage: Send Report to Cold Storage

This option is only available if the third-party software, Cold Storage Software, has been purchased and integrated with Enterprise.

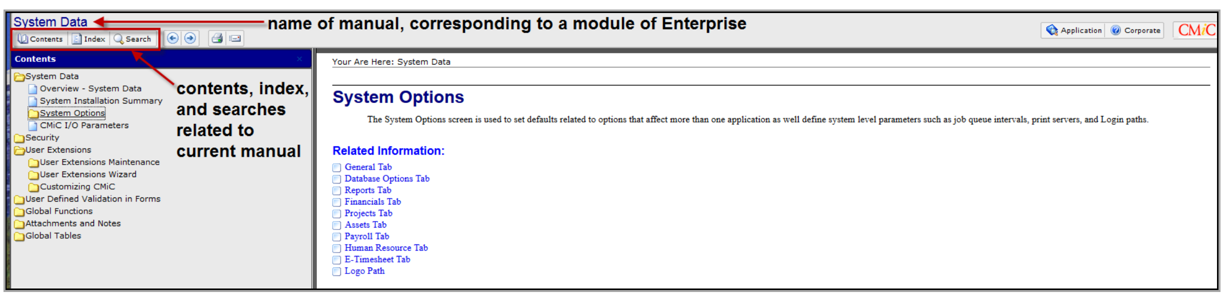
Select **Cold Storage** from the **Destination** drop-down list of the Reporting Options window. In the window that pops up, select the document type, and edit the description fields as preferred. Use the [**Close**] button to close the window, and use the **[Run Report**] button to create and send the report to the configured Cold Storage destination.

Help



Forms: Help in Main Menu and on toolbar

In Forms, Help can be accessed from the screen's Main Menu, as well as the Help Icon located on the Toolbar. When the Help option is clicked, a new browser window will be launched for the Help application.



Sample of the Help screen

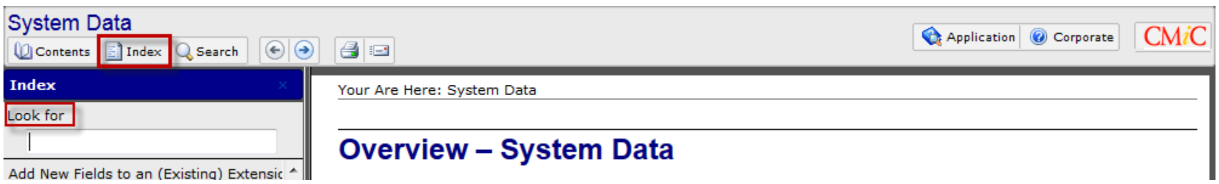
This will open a version of the 'User's Reference Manual' for the current application and allow you to navigate within the loaded manual. Above is a sample of a standard help screen for Enterprise's System Data module.

The side panel displays the contents of Help for this particular module. A folder can be opened by clicking it, and a folder's contents can be displayed by clicking on a page icon. The manual's text and links to its sub-sections will display in the larger panel. The Previous and Next icons along the top-left of the screen, next to the red rectangle in the screenshot above, can be used to move through the sections of the manual.

Contents

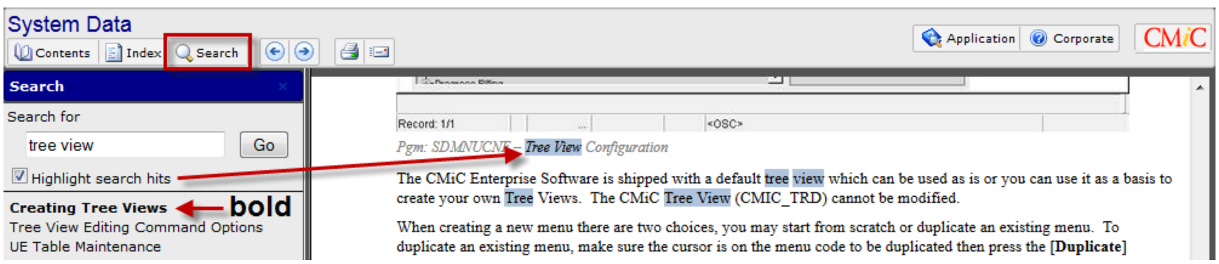
Clicking the Contents page will redisplay the Table of Contents for the current manual. This might be necessary after having used the Index or Search options and needing to view the manual's Contents again.

Index



This option will display the manual's Index. Note that a **Look For** option appears to filter the Index as needed.

Search



The Search option is for searching the current manual for particular words.

As shown in the screenshot above, the words entered for the search can be highlighted in the display region by clicking the **Highlight search hits** check box. By default, the flag is checked, however users may uncheck the flag that will highlight on the page the actual words matching the search term.

Additionally, the page selected from the Search results, as shown above, will be shown in bold.

Next Page/Previous Page

These options allow the user to navigate through the Help on a page by page basis. Next will display the next page, with respect to the page currently displayed, and Previous will display the previous page.

Print Page

The Print option allows the user to print the currently displayed page.

Email Link

The Email Link option will create a new email with the current page's title as the subject line, and a link to the current page in the body of the email.

Application and Company Specific Page – Customizable HTML Pages

This option is customizable (likely with the help of someone in the IT department), and it can be used to display an internal, company generated help document, or any other type of document that is of an HTML format. Also, the displayed page could be customized to contain links to various company generated documents that relate to the current manual displayed by Help.

As an example, when displaying the help for the Accounts Payable module, the **Application** option (framed by the red rectangle) could be customized to display a company specific Corporate Policy page for Accounts Payable operations.

For each manual displayed by Help, the corresponding, customizable file that is displayed by clicking the **Application** option is found at the root of the HTMLHelp directory. The name of each of these customizable files is formatted as follows: {*application code*}MODULE.HTM. For instance, since the *application code* for Accounts Payable is *AP*, its customizable help file is *AP*MODULE.HTM, and since the *application code* for the System Data manual is *SD*, its customizable help file is *SD*MODULE.HTM.

NOTE: If there are no customizations made, the default page titled, Module Specific User Defined Help, will be displayed.

Company Specific Page – Customizable HTML Page

The **Corporate** option, framed by the red rectangle above, displays one particular HTML file, regardless of what manual is being displayed by Help. Thus, this page should not be specific to a particular application. The name of this customizable HTML file is CORPORATE.HTM, and it is located in the same location as the other customizable files displayed by the **Application** option, which is at the root of the HTML Help directory.

The page displayed by this option could be customized to display a company specific document, or to display links to various documents.

CMiC Link

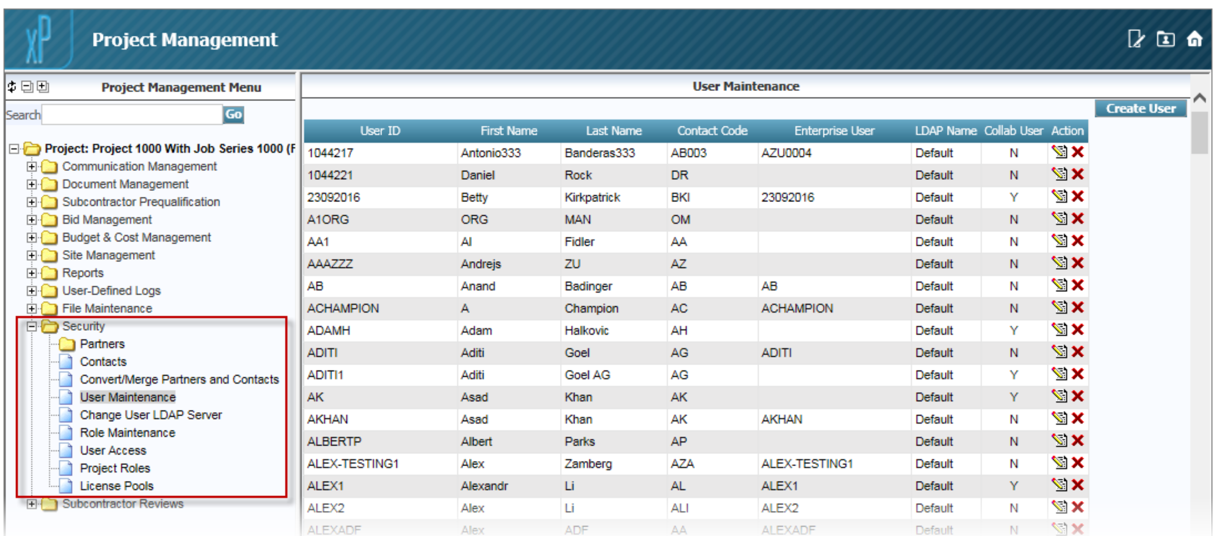
Clicking on the CMiC Logo will open a new browser, and display the www.cmicglobal.ca home page.

JSP Screens

Overview – JSP

JSP screens (JavaServer Pages) are screens created using Oracle's JSP framework.

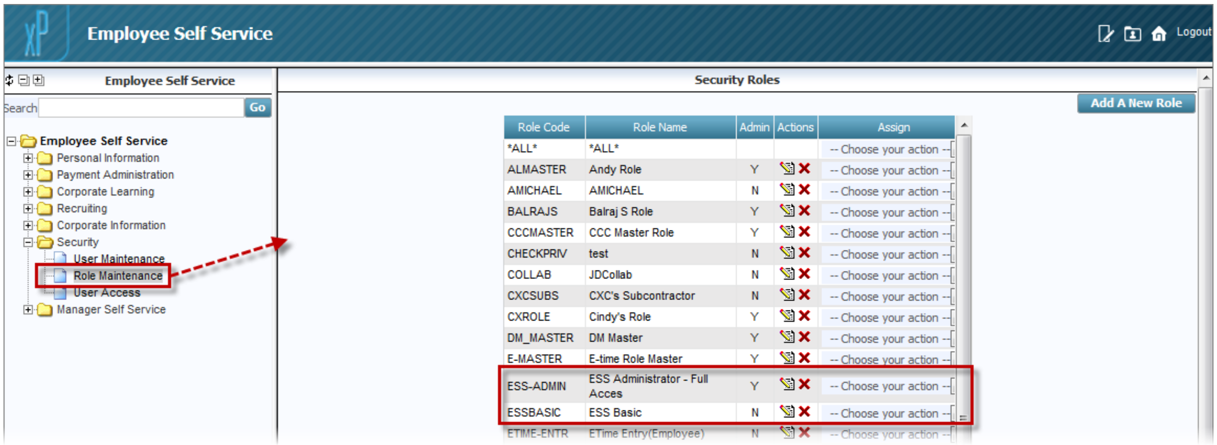
JSP Security



Sample of JSP module and its Security menu.

All JSP modules and their screens use JSP Security Roles, which can only be set up in JSP modules, whereas, all ADF and Forms screens use ADF/Forms Security Roles. JSP security is completely separate from ADF and Forms security, and is managed via the **Security** Treeview menu in the relevant JSP Module, as shown above. Note, JSP security cannot be set up using the **Security** Treeview menu for ADF and Forms screens.

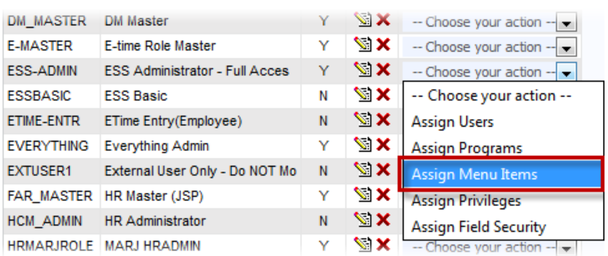
All JSP modules (e.g. xProjects, ESS, HCM, Scheduling 2.0 and E-Time) and their screens have their own JSP security setups, which are unique to them, as per the following example:



Sample of JSP Role Maintenance screen in ESS module, which is the only JSP Role Maintenance screen in any JSP module with settings relevant to the ESS module (i.e., JSP Role Maintenance screens in other JSP modules <u>*cannot*</u> *be used).*

JSP Security Roles are used to grant privileges for JSP based screens. For the ESS module, which is JSP based, JSP Security Roles are used to set which screens are available to users.

In the JSP Security Roles screen of the <u>ESS module</u>, the **Assign Menu Items** action, framed below, is used to set which screens are available to ESS users:

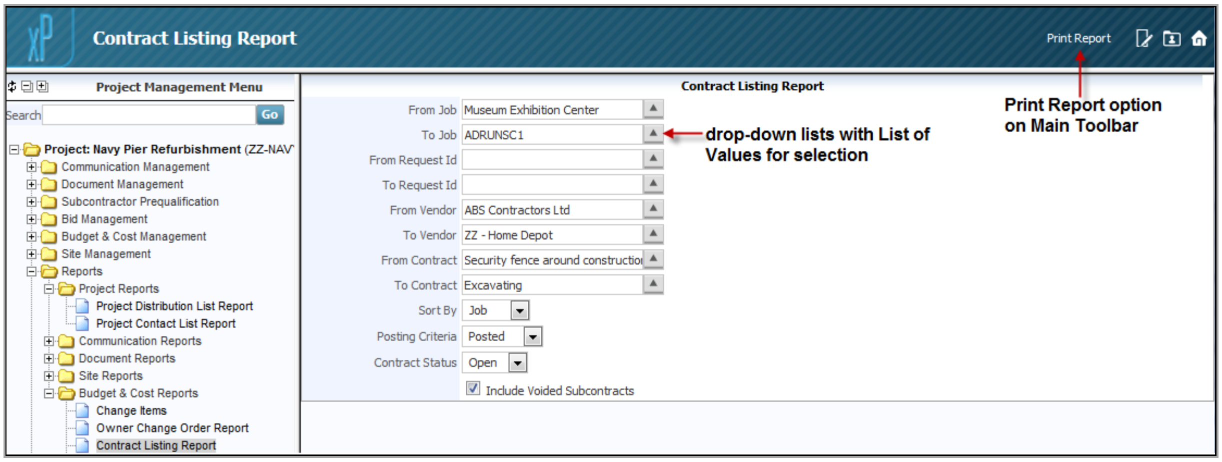


To set up JSP Security Roles for the ESS module, the JSP Security Roles maintenance screen in the ESS module must be used, as <u>only</u> it has settings for the ESS module.

Reports

All Enterprise modules that handle records have a **Reports** menu option that lists the module's reports. This section covers the running of reports for JSP based screens.

Printing Reports



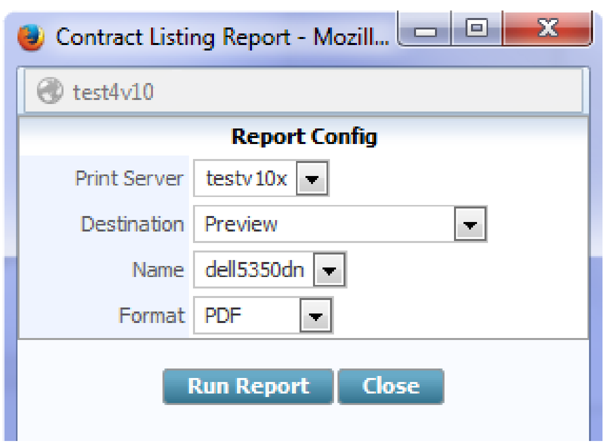
Enterprise Console: Sample of a JSP based printing options screen

Above is a screenshot of a particular JSP based printing options screen, after choosing a report from a module's **Reports** menu. Printing options screens contain drop-down lists with preloaded values (List of Values) and other entry fields to set the parameters for restricting the records that get printed on the report.

After selecting the parameters, click the **Print Report** option on the Main Toolbar, as shown in the above screenshot.

NOTE: Ensure your web browser is set to allow pop-ups for the server running CMiC Enterprise, as reports are displayed on new browser tabs.

Reporting



Sample of a Reporting Configuration window to select the report's destination and file format.

The Reporting Configuration window is used to select the report's file format and reporting option. Select the file format using the **Format** field, and use the **Destination** drop-down list to choose the reporting option, such as: preview, print, email, send to Cold Storage, or fax. The fields of the Report Configuration window are explained in the table below, and each reporting option is detailed in the following "Reporting Options" section.

Field/Button/Flag	Description
Print Server	Name of the Print Server that you will be sending this report to. There is a list of values available.
Destination	Drop-down list to choose whether you wish to preview, print, email, create a file of, or fax the report. Each option is detailed below, under the "Reporting Options" section.
Name	Name of the printer that you will be sending the report to, if you chose **Printer** from the **Destination** drop-down list.
Format	Format to utilize when creating the report as a file. The options vary for different reports and options of the **Destination** drop-down list. The possible formats are: PDF, HTML, HTMLCSS, XLS (Tab-Delimited), CSV (Comma-Delimited), and RTF.

Reporting Options

Preview: Preview, Print or Save Report

Select **Preview** from the **Destination** field, and use the **[Run Report**] button. The report will be displayed on a new browser window. The browser window displaying the report can also be used to print or save (download) the report to a desired location.

Preview with Cold Storage: Preview Report Using Cold Storage Software

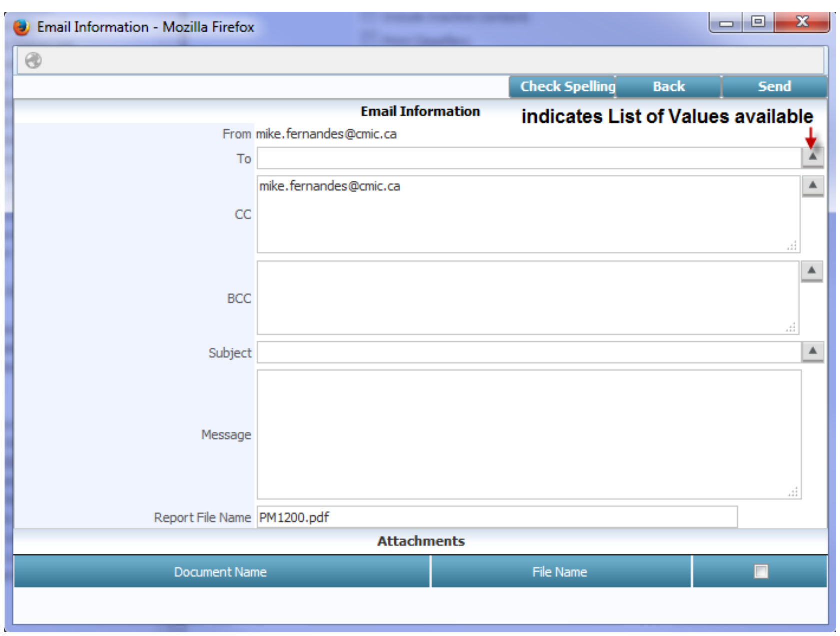
This option is only available if the third-party software, Cold Storage Software, has been purchased and integrated with Enterprise.

Select **Preview with Cold Storage** from the **Destination** drop-down list. In the window that pops up, select the document type, and edit the description fields as preferred. Use the [**Send**] button to create and preview the report through Cold Storage.

Printer: Print Report

Select **Printer** from the **Destination** field, and use the **[Run Report**] option to print the report using the printer specified by the **Name** field in the Report Configuration window.

E-Mail: Email Report



Select **E-Mail** from the **Destination** drop-down list of the Reporting Options window, and the above window will pop up for you to enter in the e-mail information, and edit the report's file name, if desired. The **From** field will automatically be set to the user's e-mail address. To enter more than one address, use a comma or colon as a separator. Finally, click [**Send**] to send the report via e-mail.

Fax: Fax Report

Select **Fax** from the **Destination** drop-down list to bring up the Faxing Information screen. If necessary, enter a subject and message for the fax's cover page. Under the **Action** column of the **Recipients** section, click the following icon: , to create a row to enter a recipient's name, company and fax number. Finally, choose your system's faxing software using the **Fax Software** drop-down list and use the [**Send**] button along the top-right of the window to send it.

Cold Storage: Send Report to Cold Storage

This option is only available if the third-party software, Cold Storage Software, has been purchased and integrated with Enterprise.

Select **Cold Storage** from the **Destination** drop-down list. In the window that pops up, select the document type, and edit the description fields as preferred. Use the [**Close**] button to close the window, and use the **[Send**] button to create and send the report to the configured Cold Storage destination.

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