Reference Guide

Workflow v10x (ADF)

By CMiC

CMiC
Computer Methods
international Corp.

Proprietary Notice

Computer Methods International Corp.
4850 Keele Street
Toronto, Ontario M3J 3K1
Canada

Risk of Use Notice

User Reference Guide – Version: **CMiC Open Enterprise v10x** Printed: **September 25, 2019**

Contents

Workflow – ADF

Workflow Overview

CMiC Workflow is designed to enhance an organization's effectiveness by improving operational efficiencies and providing greater control of business processes. Workflow enables more precise management of people, resources, activities and systems without being invasive or time-consuming.

Premise – Workflow

CMiC Workflow has been designed to be used by an administrator. These menu options are not intended to be used by all users. This is a technical type of CMiC product and should only be used by those users who are familiar with using Oracle Workflow Builder. This guide does not explain how to use Oracle Workflow.

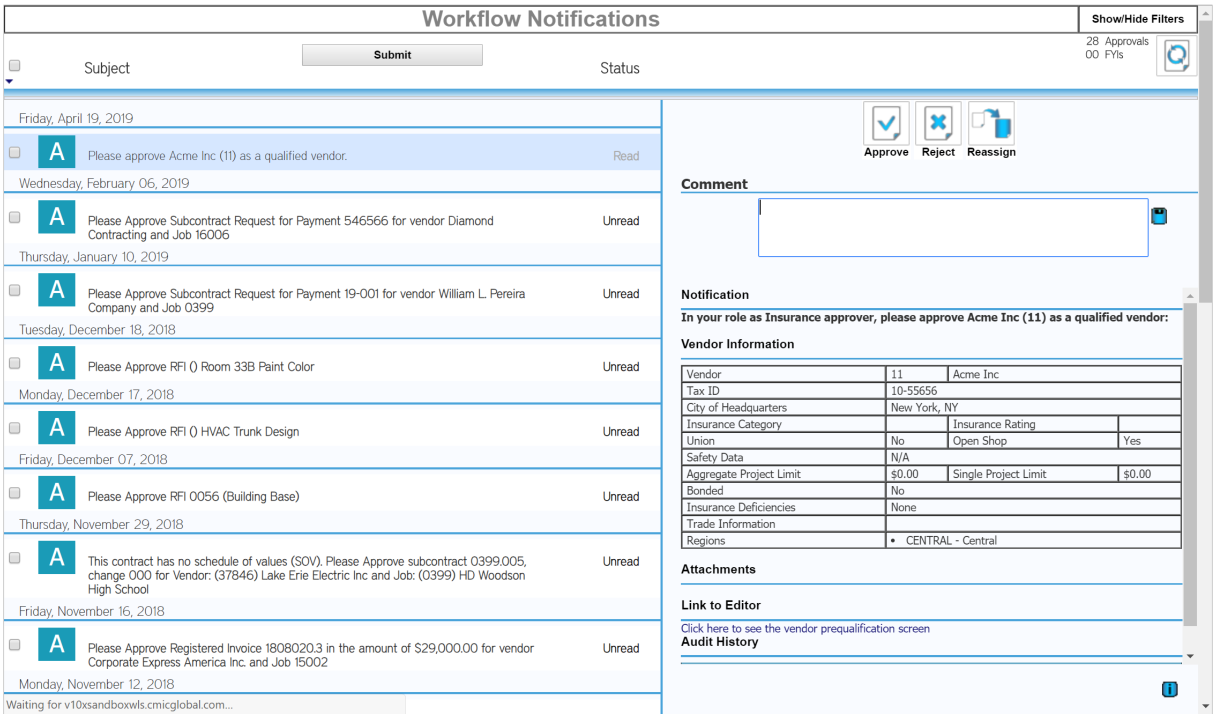
Module Interaction

The Workflow module interacts with the following modules:

- **Imaging**: The Workflow module allows users to define their own corporate workflow procedures for each type of document type processed in the Imaging module.
- **CMiC Field**: The [**Workflow**] button on the JSP screens is used to establish integration between CMiC Field and Workflow, if the appropriate workflows are configured for specific screens (e.g. Request For Information (RFIs), managing subcontract and change order approvals, handling invoice approvals for Request for Payments (RFPs), etc.).
- **Opportunity Management (OM)**: Workflows can be established for reviewing and approving opportunities.
- **Employee Self-Service (ESS):** Workflows can be enabled so that any changes made to an employee's personal information in the ESS module will require approval before the employee's profile is updated.
- **System Data (SD)**: The System Options screen in the System Data module is used to set defaults for Workflow notification preferences, and the User Maintenance screen is used to set a user's system privileges for Workflow. This System Data module is also used for setting up WFN alerts and ETA alerts for workflow notifications and timesheet approvals, respectively.

Workflow Management

Notification List



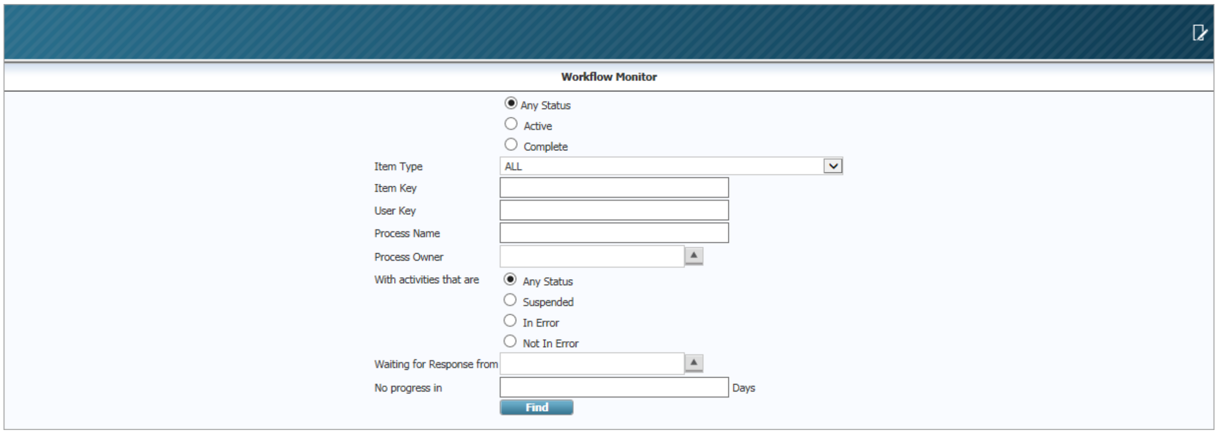
The Workflow Notification screen is designed to house all open workflow notifications to a user. The workflow will send two types of notifications:

- **Approvals**: Approvals are designated with an “A” in the list. Approvals require the user to Approve or Reject the notification (or use the Reassign option to designate another person to become that approver) and become a part of the ongoing tracking of the history of that workflow approval.
- **FYIs**: FYIs are designated with an “F” in the list. An FYI is usually some kind of information that the user may or may not need to act on but does not require approval and usually does not get added to the history of the workflow.

Workflow Status List

This screen has been deprecated.

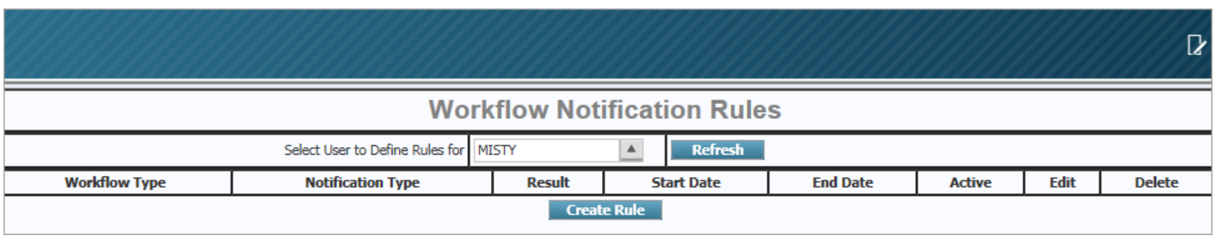
Workflow Monitor



Workflow Monitor is a tool used by administrators to manage workflows. The screen can be used to pull up any workflow that has ever been started in the system, and can be used to stop, start, bypass approvals, restart and change attributes of a particular workflow.

CMiC and administrators uses this screen to investigate workflows and customers can gain some knowledge on the back-end process running for a workflow.

Workflow Notification Rules



This is the out of office setup for workflows received by a user. This screen allows a user to specify a date range and time they will not be available for the approval process and set rules as to what to do with all or individual workflow notices they receive in that time. The user can designate another person to receive all or some of their workflow notices as the person to now be their proxy. They can set rules to also automatically approve items received for all or individual notifications to allow the process to continue in their absence.

Setup

Lookup Rule Maintenance

Lookup rules are used within Oracle Workflow. CMiC has pre-defined functions that can be used within Workflow that use these lookup rules to retrieve data to be used within Workflow. Lookup rules can be used to retrieve users associated with specific functions, for example to retrieve the name of the project manager of a specific project using a specific key player role or to set an approval limit for vouchers…

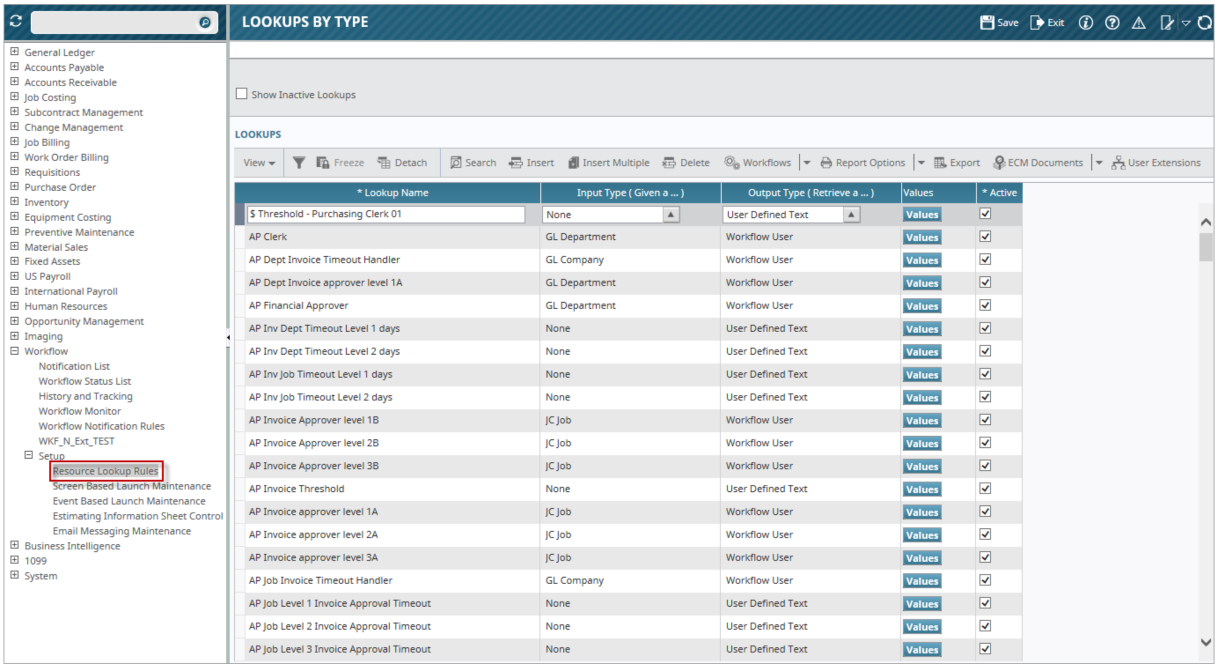
General Steps in Using a Lookup Rule

1) In CMiC Enterprise, create the lookup rule – e.g. 'Std Voucher Amt Threshold'.
2) In Workflow Builder, either copy an existing generic 'Get Value From…' function from CMiC Standard into the required process or create a new process using one of the existing CMiC functions documented.
3) Open the Properties of the function in the process and on the Note Attributes tab, connect the function to existing item attributes in the current workflow.

Where it says <**Enter WKF Resource Lookup Name Here**> replace with the Lookup name 'Std Voucher Amt Threshold' as defined in step 1.

Lookup rules are created on the Lookups By Type screen (standard Treeview path: *Workflow* > *Setup* > *Resource Lookup Rules*). This screen displays all active lookup rules.

Lookups By Type



Pgm: WKFLOOK – Lookups By Type; standard Treeview path: Workflow > Setup > Resource Lookup Rules

Show Inactive Lookups – Checkbox

Check this box to display inactive lookups.

Lookup Name

This is a user-defined name. This is the name that will be used within Workflow to link to a function to the data related to this lookup. The lookup name should describe what is to be retrieved given the input type.

Input Type (Given a …)

Enter/select the lookup input type. The input type selected here is used to determine the base data needed to be able to use the lookup.

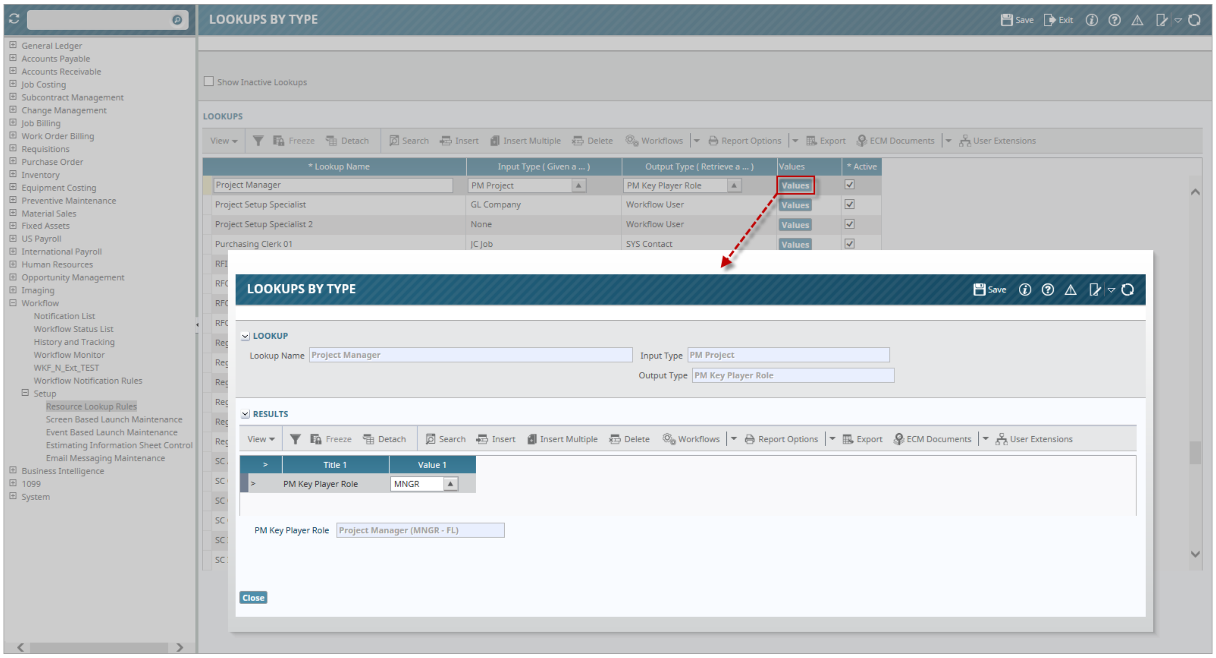
The input type “None” is the equivalent of a system wide lookup, where there is a predefined value required for a function.

Output Type (Retrieve a …)

Enter/select the lookup output type. The output type selected here determines the output of the lookup. For example, there are predefined outputs such as System Contacts, PM Roles, User-Defined Text, etc.

[**Values**] – Button

This button opens a pop-up window where the actual values are now entered. For example, if the input type selected is “PM Project” and Output Type selected is “PM Key Player Role”, the [**Values**] button opens a pop-up window where the input data is Company and Project and the Output data is Key Player Role.

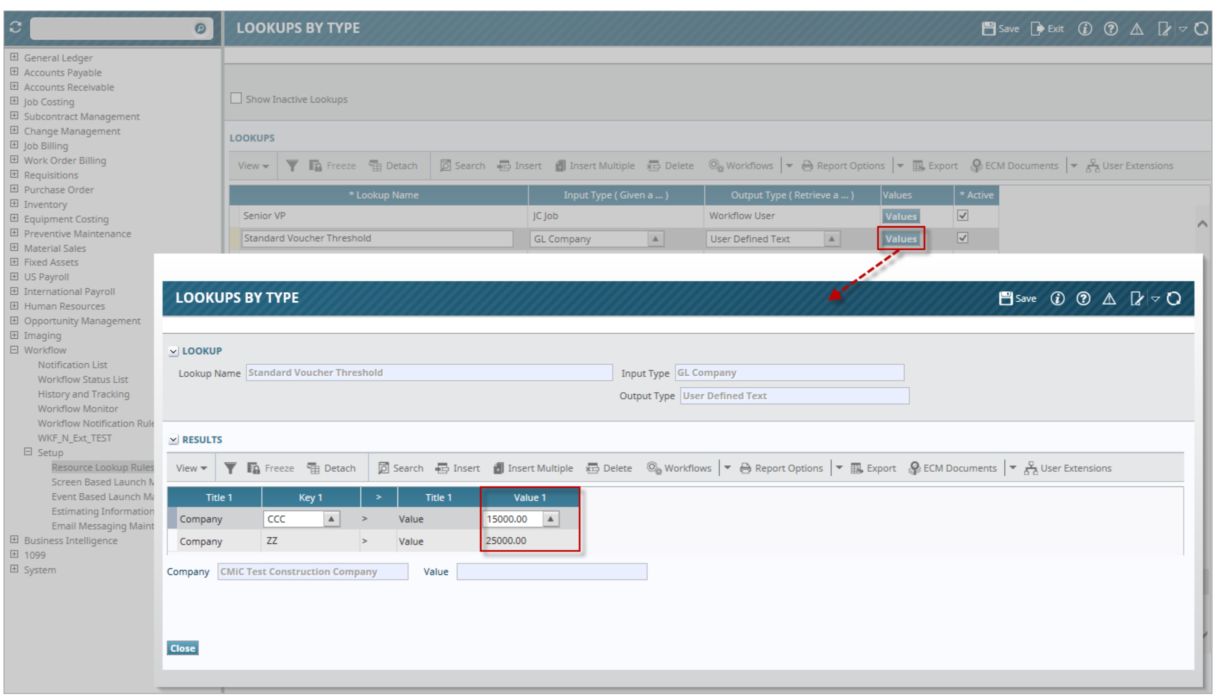


Pop-up window launched from [Values] button on Lookups by Type screen

Users can customize the lookup according to Company Code and Project. An asterisk (*) in a field is a wildcard. This is the same as using a "%" within SQL.

Perhaps in all companies starting with a "0", the key player role to be used is "MNGR", while in company ZZ, the key player role for Project Managers is "PM".

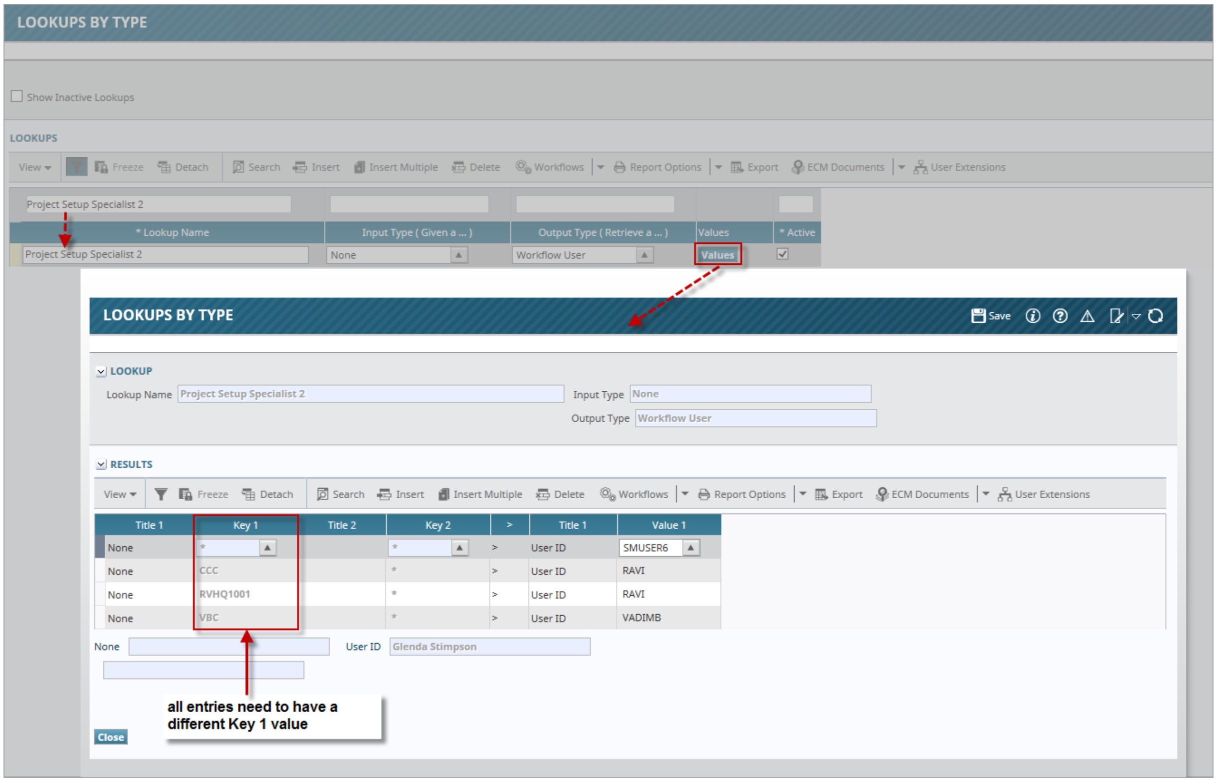
If the Output Type is "User-Defined Text", then the user can enter any value required, as shown in the screenshot below.



Lookup Values – Text Type

NOTE: If “User-Defined Text” is selected as the Output Type in the Lookups By Type screen, then when the user launches the pop-up window from the [**Values**] button, the LOV for the Value field in the pop-up window would not be used since the user would be entering a user-defined value in the field.

Assigning Users to Lookup



Example of assigning users to a lookup

To assign users to a lookup, select the lookup, ensure the Output Type is set to “Workflow User”, and click on the [**Values**] button.

All entries in the [**Values**] pop-up window need to have a unique Key 1 value. For example, there should not be two entries where Key 1 column value is “*”. There should only be one entry where Key 1 column is “*”.

The Key 1 value is a user-defined value if the Input Type is “None”.

This screen is also used to reassign approvers, if required (e.g. if an employee who is an approver goes on leave or has left the company).

NOTE: It is recommended to only have one entry for the lookup because the workflow will randomly pick one of the entries if there are multiple.

Output Type Values

Output Type	Values Available	Values Available	Values Available
GL Department	Company Code	Department Code	
JC Job	Company Code	Job Code	
PM Key Player Role	PM Key Player Role		
PM Project	Company Code	Project Code	
PM Role	PM Role		
PY Employee	Employee Code		
User Defined Text	Value		

Launch Maintenance

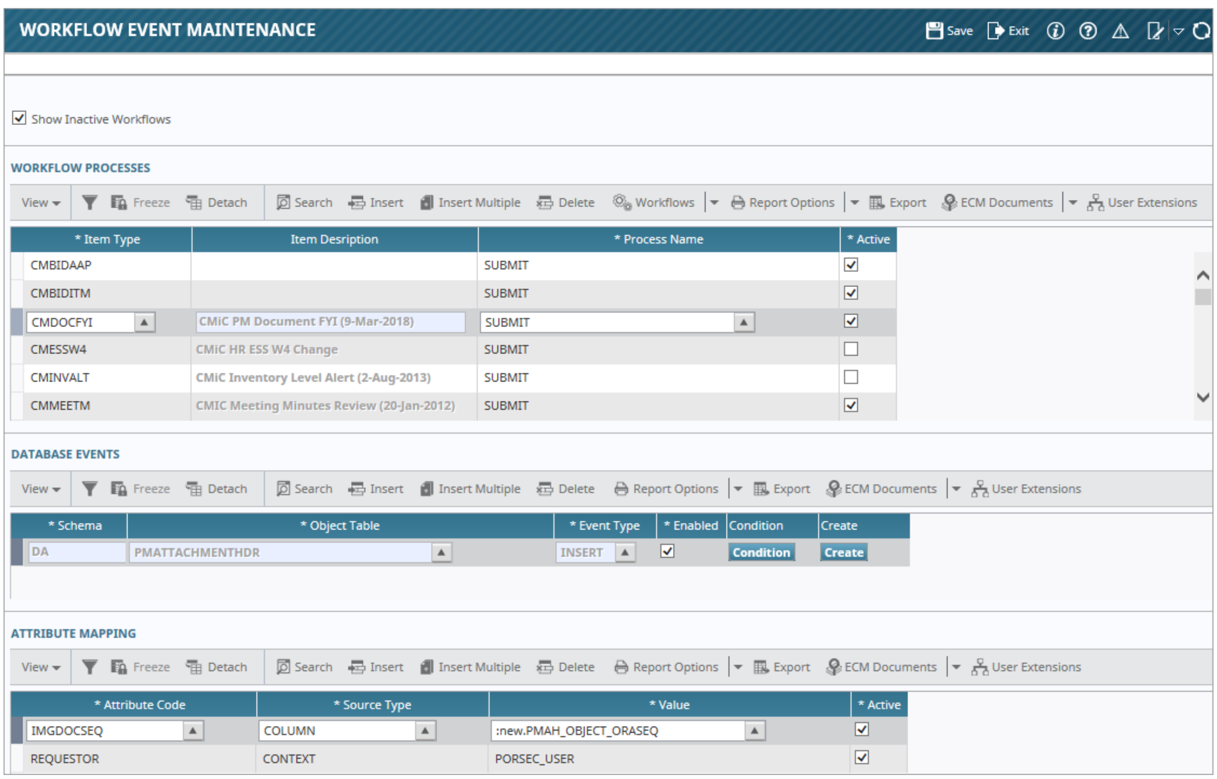
Overview

Workflows are launched in a variety of ways:

1. **Imaging module**: When the [**Submit**] button is clicked on the Image Manager screen. Refer to the Imaging guide for more information.
2. **Database trigger**: This is automatic, based on inserts and/or updates to specific tables.
3. **JSP launch button**: This is manual via the [**Workflow**] button on specific JSPs but leverages the setup for the database trigger (see item 2).
4. **ADF**: Using the [**Workflows**] button in an ADF screen's Block Toolbar.

NOTE: In Forms, Workflow is launched using the Workflow icon in the screen's toolbar and from the screen's Utility menu.

Event Based Launch Maintenance



Pgm: WKFEVMNT – Workflow Event Maintenance; standard Treeview path: Workflow > Setup > Event Based Launch Maintenance

This screen is used to define automatic workflow events. These events are defined to automatically run whenever a specific definition (defined via this screen) associated with the function of inserting, updating or deleting a record from a specific table occurs.

Steps to Create a Workflow Event

A new workflow event is created using the following steps:

- Define workflow in the Workflow Processes section of the screen.
- Enter related database event in the Database Events section of the screen and ensure that the 'Enabled' checkbox is unchecked to mark its status as inactive.
- Create required condition using the [**Condition**] button.
- Create the event using the [**Create**] button and check for errors.
- Enter the attributes that should be mapped to the workflow process in the Attribute Mapping section of the screen.
- Change the status of the database event to active by checking the 'Enabled' checkbox in the Database Events section of the screen.
- [**Create**] the database event.

Show Inactive Workflows – Checkbox

When the screen is opened, the 'Show Inactive Workflows' checkbox is checked so that all Workflow Processes defined are displayed. To limit the list to only active processes, uncheck 'Show Inactive Workflows' checkbox.

Workflow Processes – Section

This section of the screen is used to indicate which existing workflow item types and processes are to be linked to a CMiC table.

Item Type, Item Description

Enter/select a workflow item type from the list of item types currently registered in the database. The item type's unique identifier will be displayed, along with the its description.

Process Name

Enter/select a specific process defined within the selected item type.

Active – Checkbox

Indicates whether the process is active or not. Unchecked prevents this process from being launched.

Database Events – Section

This section is for defining what table and when the process is to be initiated. This area creates database triggers on the selected table. Multiple triggers can be created on the same table.

Schema

This Schema field defaults to "DA", but the user can type in any known schema applicable.

NOTE: DA must have rights to create objects in this schema; otherwise, the [**Create**] function will fail.

Object Table

Enter/select the object table within the selected schema. This table, depending on the setup in the next couple of fields, will start the workflow process.

Event Type

Enter/select the event type. There are three predefined event types:

- **Insert**: When a new record is created.
- **Update**: When an existing record changes.
- **Delete**: When an existing record is removed from the table.

The event type determines when the workflow process will be initiated.

NOTE: If there are multiple triggers on a table, there is no way of knowing in which order triggers will fire, so do not base workflow triggers on data which is updated by other triggers.

Enabled – Checkbox

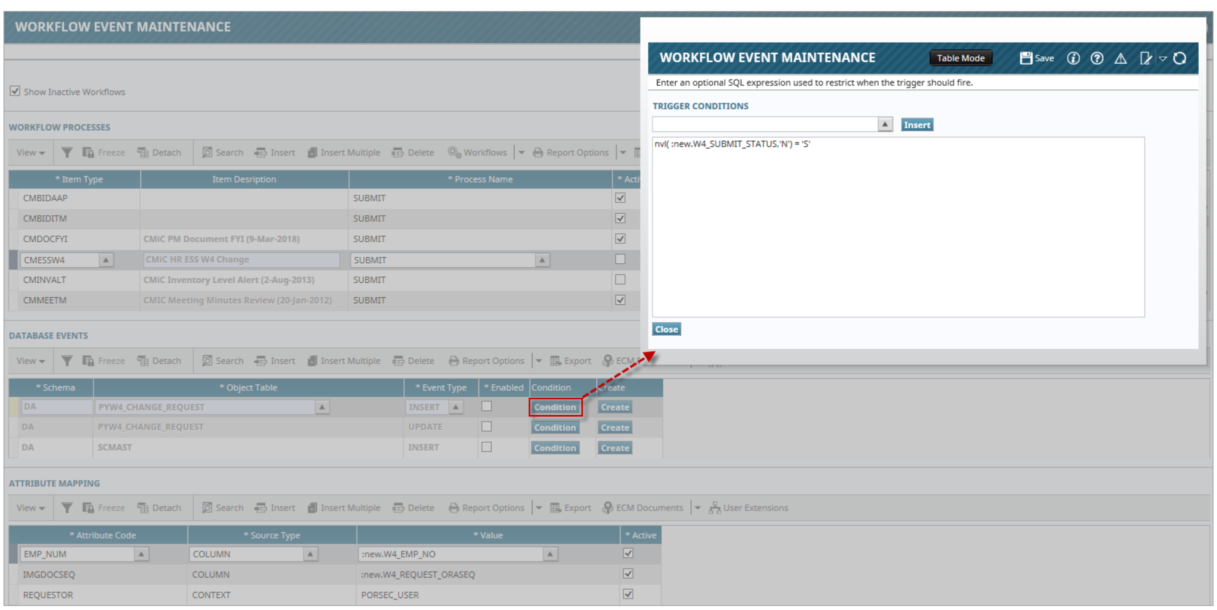
This checkbox determines if this program should create the trigger as "Enabled" or "Disabled". When first creating workflow events, this checkbox should be unchecked. It should be changed to be checked when the workflow is complete, and the trigger can be created without errors.

[**Condition**] – Button

Conditions are not necessarily required for insertions or deletions but are recommended for updates. Conditions limit when the workflow process will be initiated. For example, a trigger can be created on the update of the Employee Table each time a new employee is terminated that sends an email to the IT department. If a condition was not entered, then every time an employee record was updated, IT would get an email.

NOTE: A special condition is used when launching a workflow from the [**Workflow**] button on a JSP screen. Refer to the *Launching Workflows from JSP Screens (CMiC Field, OM, ESS)* section in this guide for more details.

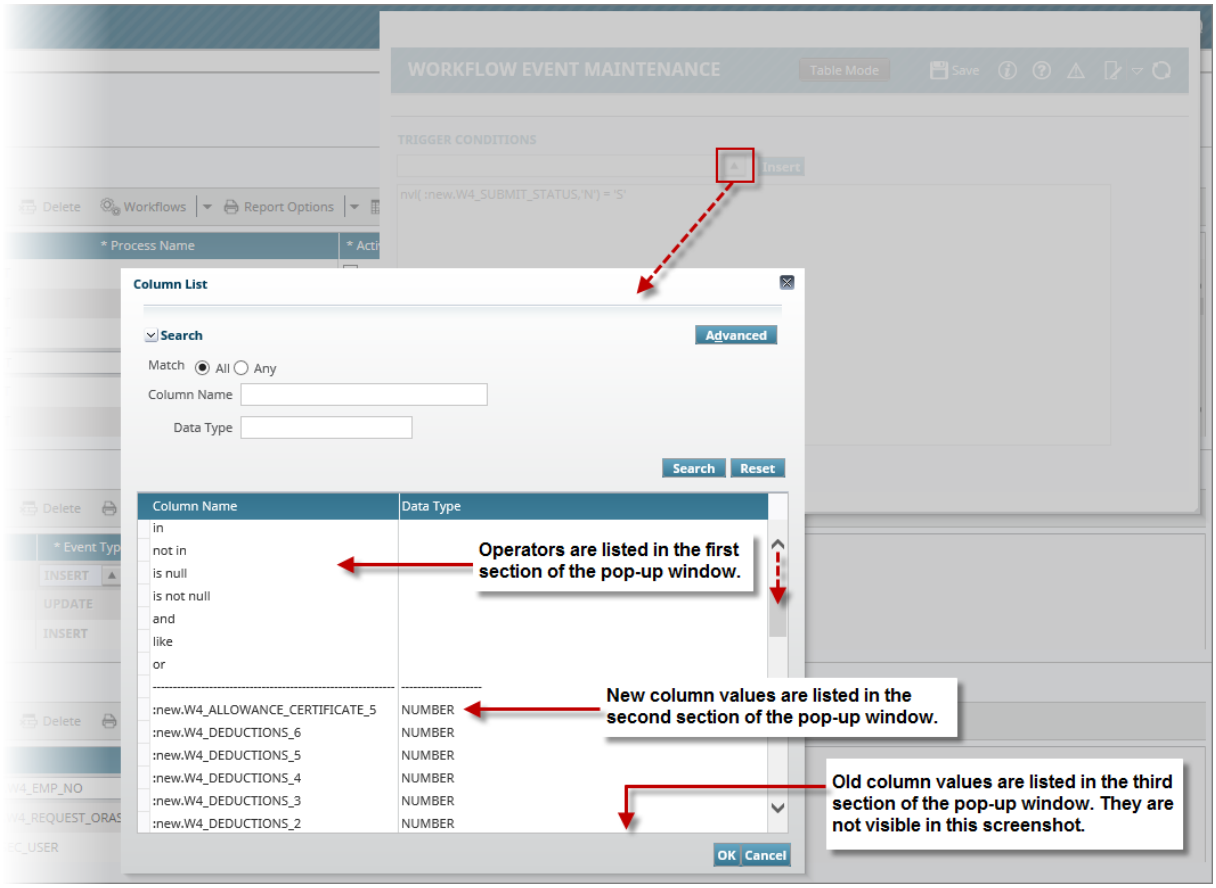
A condition can be created using the [**Condition**] button. Clicking on this button opens a pop-up window where the condition can be entered.



Pop-up window launched from [Condition] button on the Workflow Event Maintenance screen

When creating a condition, it is not necessary to include a "Where" or "If" at the beginning of the expression since the system will automatically add it. If the user does enter one, the system will remove it.

Conditions can be built manually by using the prefixes: new.column_name and :old.column_name, as required, or if the user clicks on the LOV, the Column List pop-up window appears.

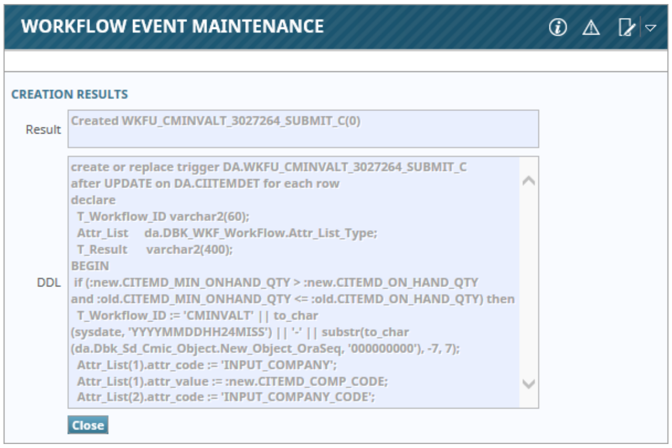


Pop-up window launched from Trigger Conditions field LOV

The Column List pop-up window is divided into three sections: Operators, New Column Values, and Old Column Values. The Operator section contains a list of all available operators such as like, equals, not in, etc. The New Column Values and Old (Original) Column Values sections display a list of all the column names in the related table.

After the columns and operators are selected, the system will build the required statement.

To verify the syntax in the condition, build the trigger using the [**Create**] button on the Workflow Event Maintenance screen. This will display a screen similar to the one shown in the screenshot below.



Pop-up window launched from the [Create] button on the Workflow Event Maintenance screen

If there was any problem with the condition and creating the trigger, the Result section of the window will display an error.

NOTE: To trace the error, the user may find it helpful to cut/paste the DDL statement directly into SQL Plus, try to run it then use 'Show Errors'.

Attribute Mapping – Section

Attribute mapping is a way to pass CMiC data values directly to the workflow process attributes. For example, the email indicating that an employee is terminated is not much good without the employee number and name. Attribute mapping allows this type of information to be passed to the workflow process.

The attributes must have already been defined in the workflow item type.

Attribute Code

Enter/select the required attribute code. The attribute codes are defined on the workflow selected in the first section of this screen.

Not all attribute codes must be mapped.

Source Type, Value

These two fields together define what data from CMiC is being passed to the specific workflow attribute. The system has four predefined choices.

- **Column –** This means that the attribute maps to a column that exists in the associated table. The source's Value field will have an LOV showing all columns within the table associated with this workflow event. If the event type is defined as "Update" in the Event Type field in the Database Events section, then this list will include both new.column_names and old.column_names. If the event is defined as "Insert", the list will only contain new.column_names, and if defined as "Delete" it will only contain old.column_names.
- **Constant** – This means that the attribute is mapped to a predefined typed-in value. The Value field's LOV will be empty. This is a free-form field to type in a constant value – do not include quotes.
- **System Variable** – This means that the attribute is mapped to one of the Oracle predefined variables. The Value field's LOV contains two choices: SYSDATE and USER.

- **Context Variable** – This means that the attribute is mapped to the current user's CMiC Session Context Variable that is active when the trigger fires. The LOV for the Value field shows all available contexts with a short description.

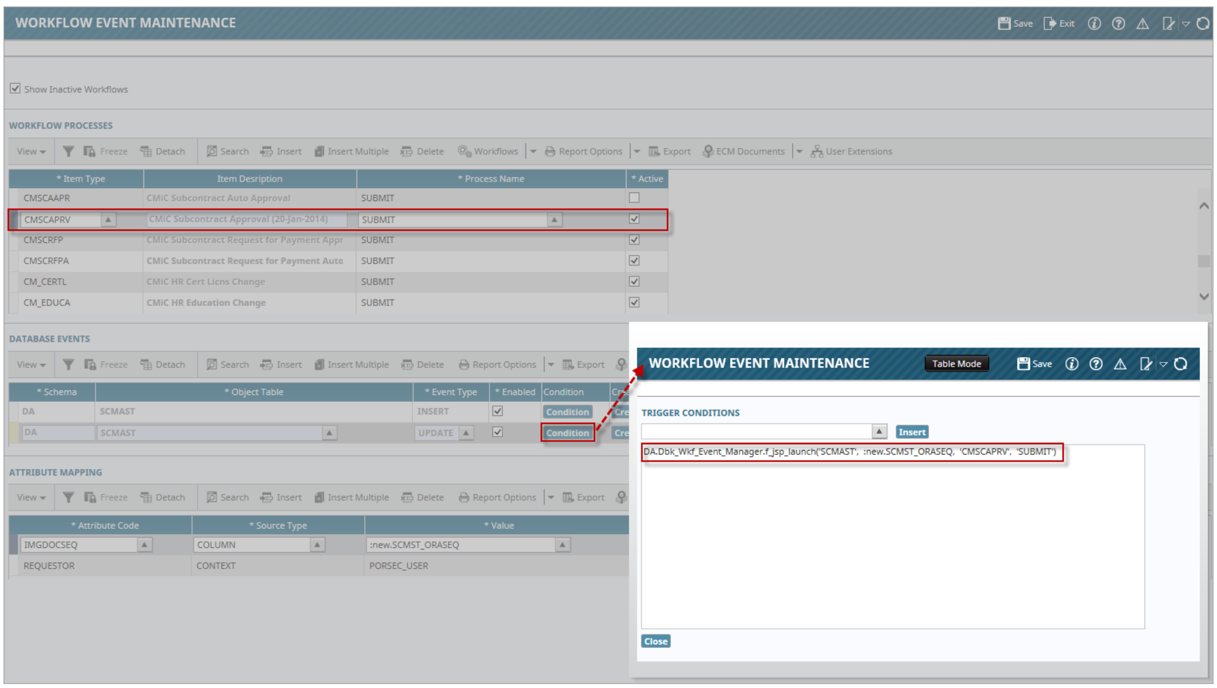
Active – Checkbox

A mapping may be defined but not active. If this is the case, then when the [**Create**] button is activated, the trigger created will not include the inactive attribute assignment.

Launching Workflows from JSP Screens (CMiC Field, OM, ESS)

Workflows can also be manually launched using the [**Workflow**] button on specific JSP screens. This type of workflow leverages the setup for the database trigger, as defined in the Workflow Event Maintenance screen.

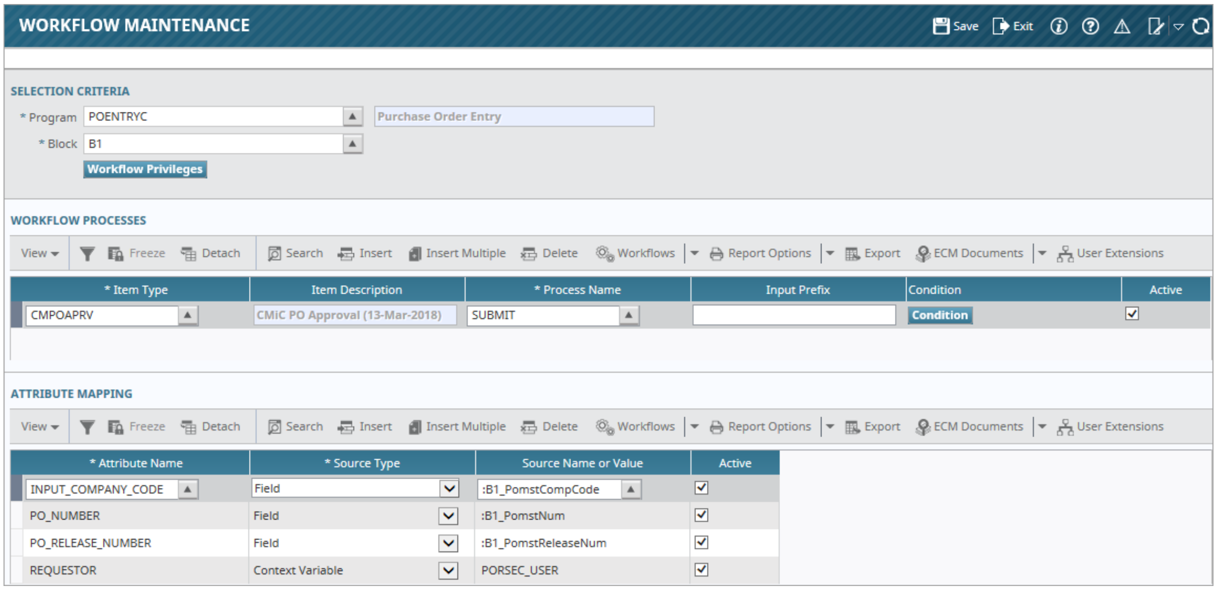
A special condition is used when launching a workflow from the [**Workflow**] button on a JSP screen, as shown in the screenshot below.



Pgm: WKFEVMNT – Workflow Event Maintenance; standard Treeview path: Workflow > Setup > Event Based Launch Maintenance

To see an example of launching a workflow from a JSP screen, refer to the [*CMiC Field Subcontract Workflow*] section in this guide.

Screen Based Launch Maintenance (User Initiated Workflow Setup)



Pgm: WKFUSRMT - Workflow Maintenance; standard Treeview path: Workflow > Setup >Screen Based Launch Maintenance

Workflow Launch Maintenance is used to define workflows that can be manually triggered by the user when the user is in a specific CMiC screen.

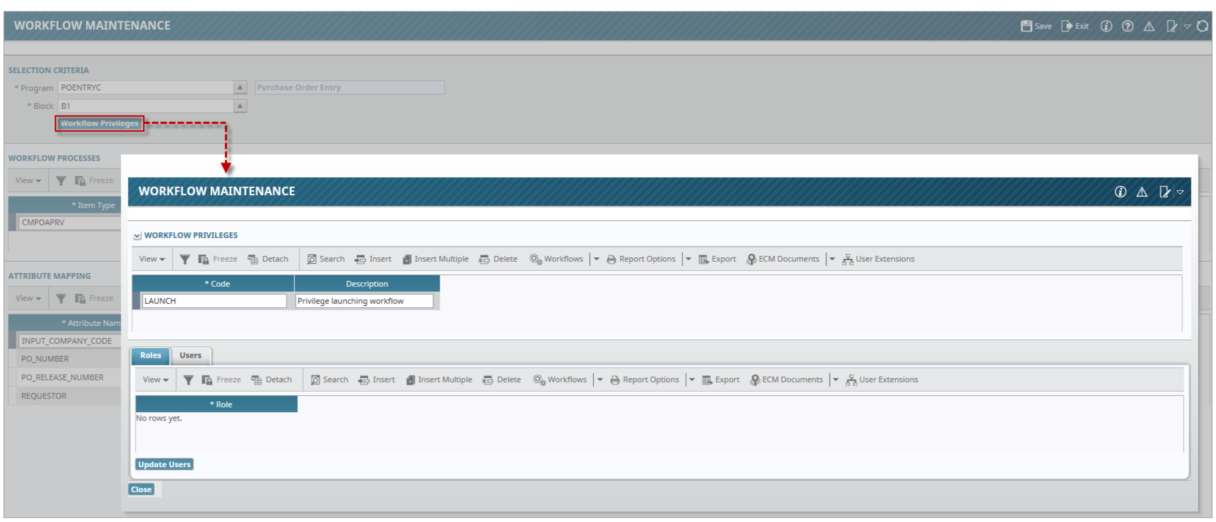
These events are only run when the user invokes them.

Selection Criteria – Section

Program, Block

Enter/select the program and block to define where the workflow being defined will be launched.

[**Workflow Privileges**] – Button



Pop-up window launched from [Workflow Privileges] button on the Workflow Maintenance screen

Use the [**Workflow Privileges**] button to open a pop-up window where workflow privileges, such as the privilege to launch a workflow, can be assigned to users or specific user roles. In this case, only users with the launch privilege could launch the workflow being defined.

Workflow Processes – Section

This section of the screen is used to assign a workflow process to the program and block defined above.

Item Type, Item Description

Enter/select a workflow item type from the list of item types currently registered in the database. The item type's unique identifier will be displayed, along with the its description.

Process Name

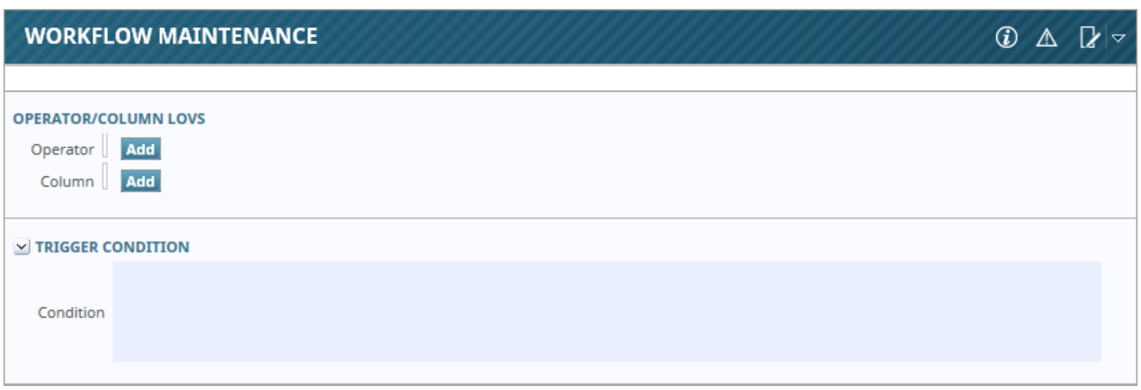
Enter/select a specific process defined within the selected item type.

Input Prefix

This field is used to pre-fill the Attribute Name column in the Attribute Mapping section of the screen. If the user's workflows use a specific prefix to designate a value as an input value from CMiC to the workflow, then put the prefix in this field. If left blank, the prefix defaults to the CMiC standard input prefix of "IN#". If nothing matches the prefix entered, the user will have to select the attribute names from the LOV.

[**Condition**]

Conditions are not necessarily required but can be used to prevent the launch of the requested workflow unless specific defined conditions are met. This can be accomplished using the [**Condition**] button. The [**Condition**] button opens a text area where the condition can be entered.



Pop-up window launched from the [Condition] button on the Workflow Maintenance screen

Once in this window, use the [**Add**] button to create trigger conditions using the columns and operators.

Select the column, on which a restriction is required from the list, then select the operator, then type in the restriction.

NOTE: The algorithm used to parse these conditions requires that each column reference be delimited by a blank character. If you get an error pop-up saying "FRM-41045: Cannot find item: Invalid ID" then the probable cause is a column reference not followed by a blank.

Active – Checkbox

If this checkbox is unchecked, then the workflow will not be available for users to launch.

Attribute Mapping – Section

Attribute mapping is a way to pass CMiC data values directly to the workflow process attributes. The attributes must have already been defined in the workflow item type. If a valid prefix was previously entered in the Input Prefix field in the Workflow Processes section of the screen, then the Attribute Mapping section will default the Attribute Name column.

Attribute Name

Enter/select the required attribute name. The attribute names are defined on the workflow selected in the first section of this screen.

Not all attribute names have to be mapped.

Source Type, Source Name or Value

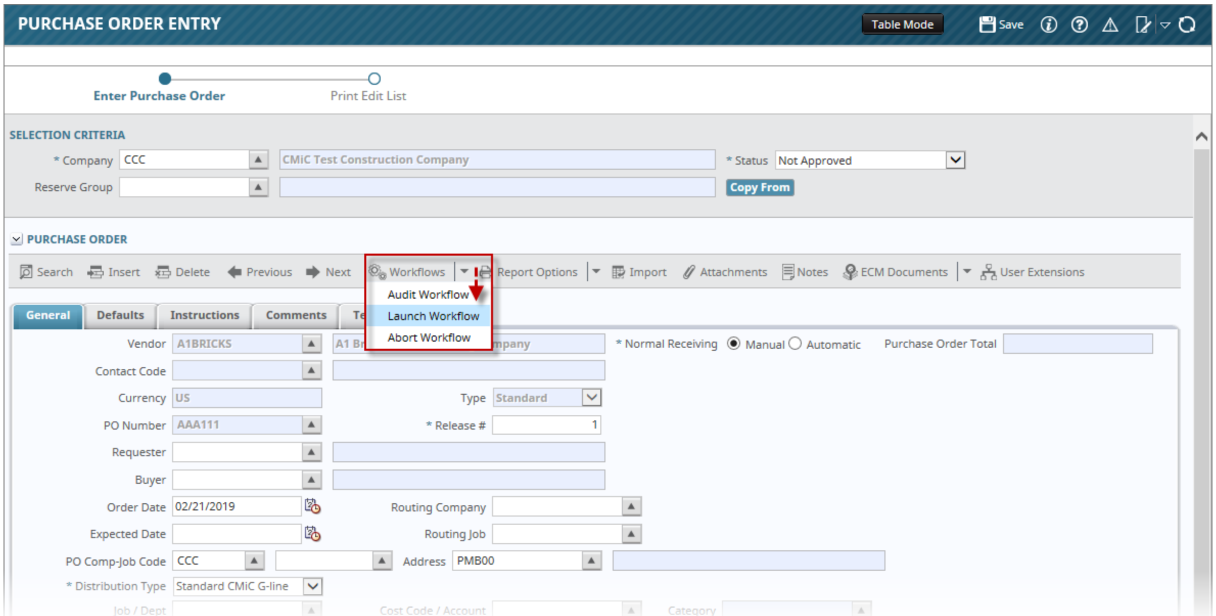
These two fields together define what data from CMiC is being passed to the specific workflow attribute. The system has four predefined choices.

- **Column** – This means that the attribute maps to a column that exists in the associated table. The Source Name field will have an LOV showing all columns within the table associated with this workflow event.
- **Constant** – This means that the attribute is mapped to a predefined typed-in value. The LOV will be empty. This is a free-form field to type in a constant value – do not include quotes.
- **System Variable** – This means that the attribute is mapped to one of the Oracle predefined variables. The LOV contains two choices: SYSDATE and USER.
- **Context Variable** – This means that the attribute is mapped to the current user's CMiC Session Context Variable that is active when the trigger fires. The LOV for this field shows all available contexts with a short description.

Active – Checkbox

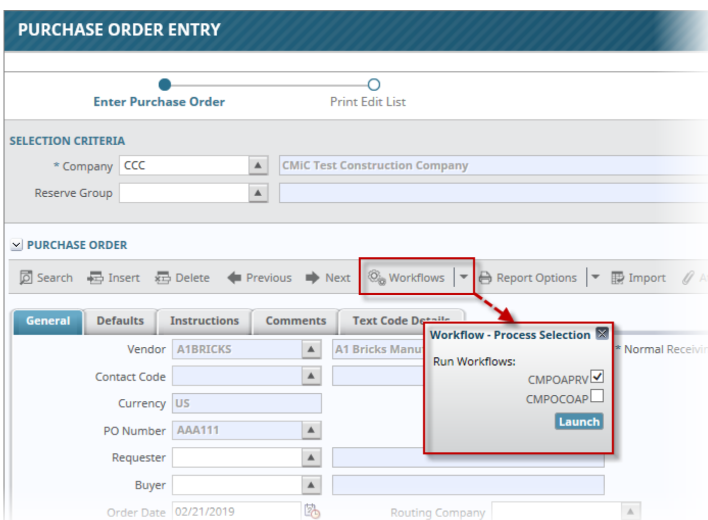
A mapping may be defined but not active. If this is the case, the workflow will not be passed the value.

Using User Initiated Screen Based Workflows



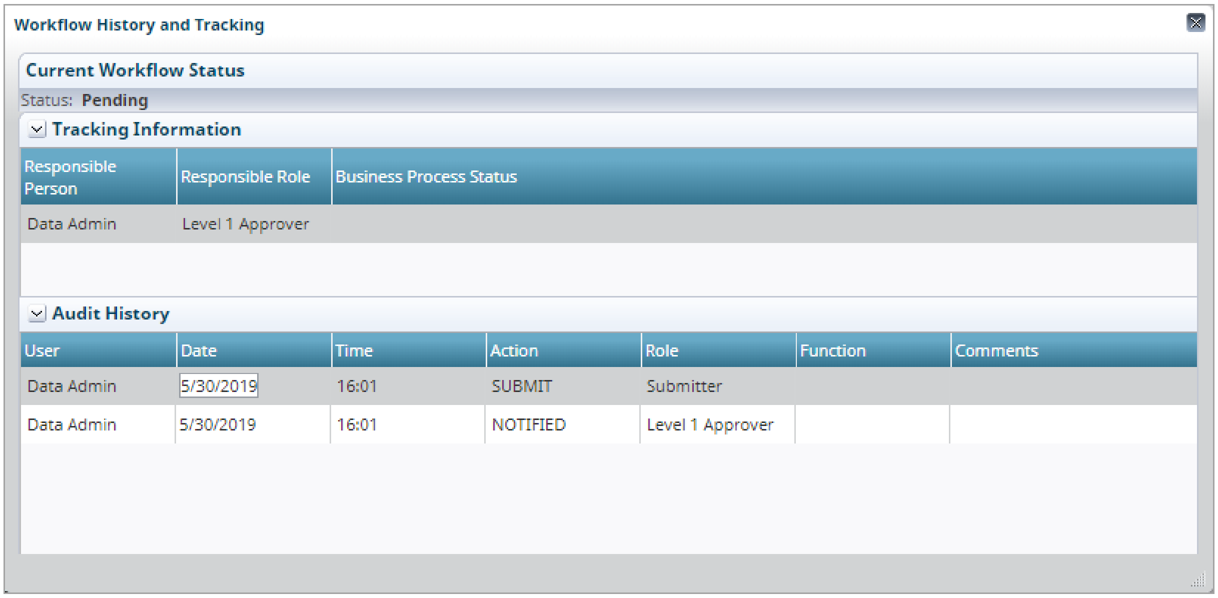
To manually launch a screen's workflow, click on the [**Workflows**] button in the screen's Block Toolbar and select "Launch Workflow" in the drop-down menu.

If there is only one workflow active, then it will automatically be launched. If there is more than one workflow defined, then a pop-up window displays all available workflows, as shown in the screenshot below.



The user may then select one or more workflows to launch. Once the selection is made and the [**Launch**] button pressed, the user will get a confirmation as each workflow is started.

To stop a workflow from running, select "Abort Workflow" from the [**Workflows**] button drop-down menu. To audit a workflow, select "Audit Workflow" in the drop-down menu. The Workflow History and Tracking pop-up window will launch and display tracking information and audit history.

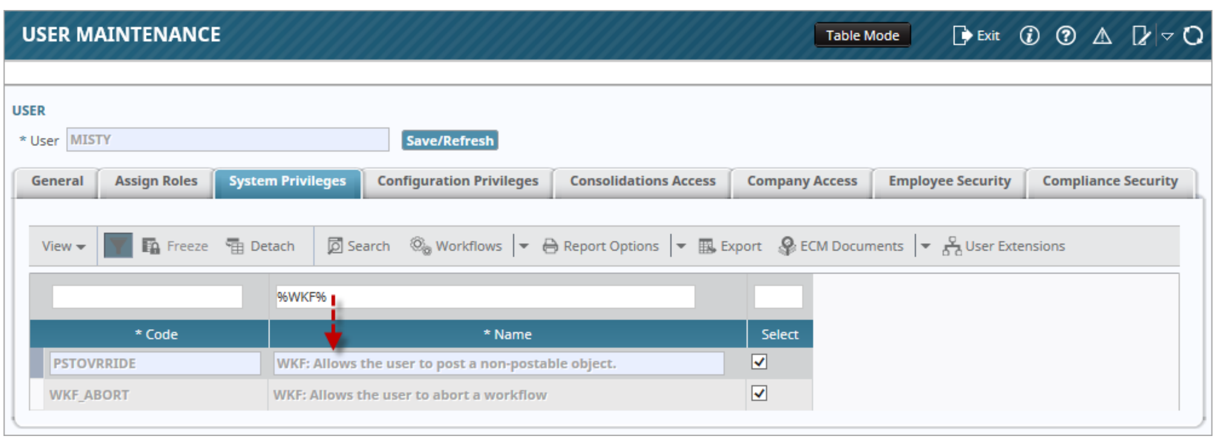


Pop-up window launched from the "Audit Workflow" option in the [Workflows] button

For workflows linked to ADF screens, this screen shows the responsible approvers and the history of the approvers' actions.

Workflow Security

System Data Privileges

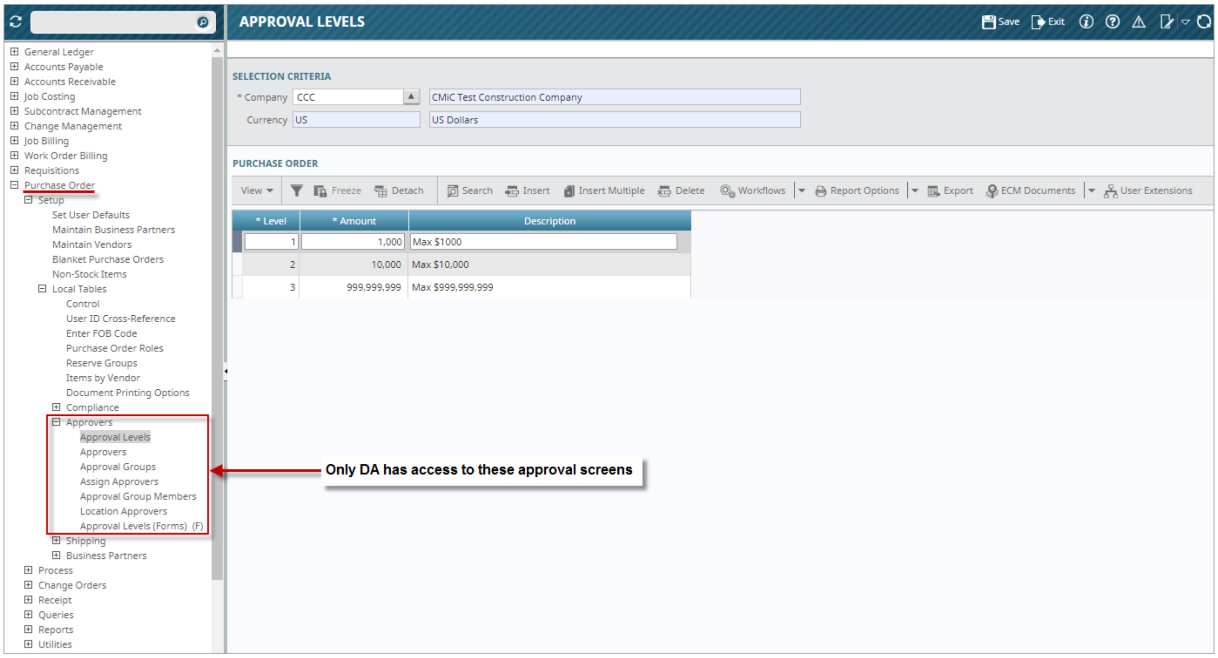


Pgm: SDUSRMNT – User Maintenance; standard Treeview path: System Data > Security > Users > User Maintenance – System Privileges

Workflow privileges are assigned to a user on the User Maintenance screen in the System Data module.

Purchase Order Workflow Security

Assumptions



Pgm: POAPPLV – Approval Levels; standard Treeview path: Purchase Order > Setup > Local Tables > Approvers

This guide assumes the following:

- No one except DA has access to the ‘Approvers’ menu options within the Local Table settings for the Purchase Order module (standard Treeview path: *Purchase Order > Setup > Local Tables > Approvers*).
- No approvers or approval groups are set up.

In addition to restricting access to the Approvers menu options in Treeview to DA, the following security needs to be applied to the end-user security group:

- The [**Approvers**] button on the Purchase Order Entry screen and the Change Order Entry screen needs to be hidden using Lite Editor.
- Access to the Approve/Unapprove screens for Purchase Orders and Change Orders needs to be restricted.

The following sections provide more detailed information for carrying out these security measures.

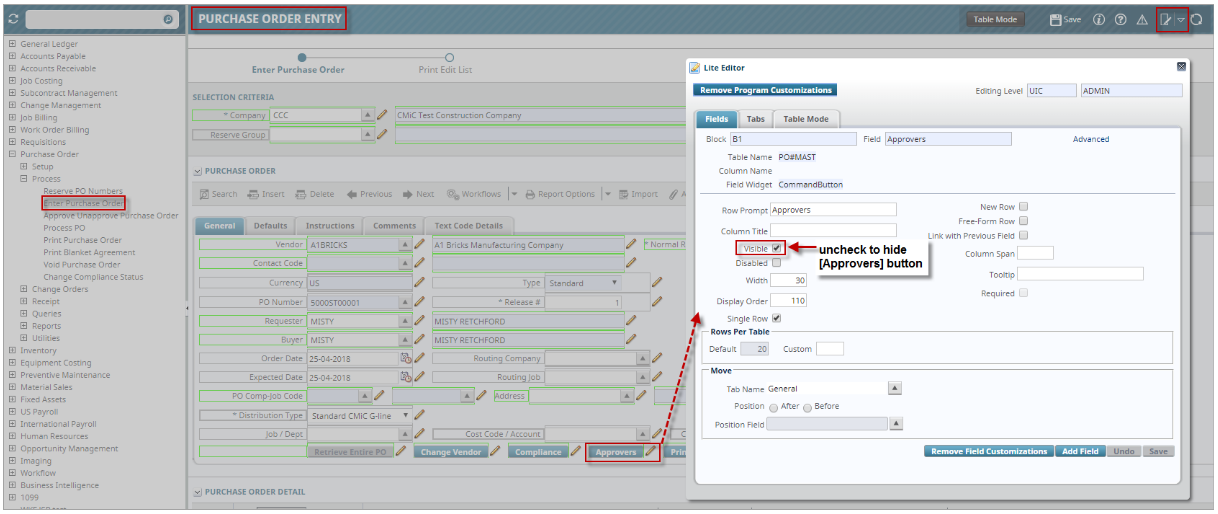
Hide [Approvers] Button

Use Lite Editor to hide the [**Approvers**] button on the Purchase Order Entry screen and the Change Order Entry screen in the Purchase Order module.

NOTE: CMiC’s Lite Editor is used to create customized versions of screens for particular users and UIC Groups. Using the editor, various properties of a screen’s fields and tabs can be modified. When a customized version of a screen is saved in the Lite Editor, it is saved for the customization level and level object for which the Lite Editor was launched. For instance, if the Lite Editor was launched at the Group

Level (customization level) for a UIC Group (level object), customizations will be saved at the Group Level for the UIC Group. For more information, please refer to the Lite Editor guide.

Purchase Order Entry Screen

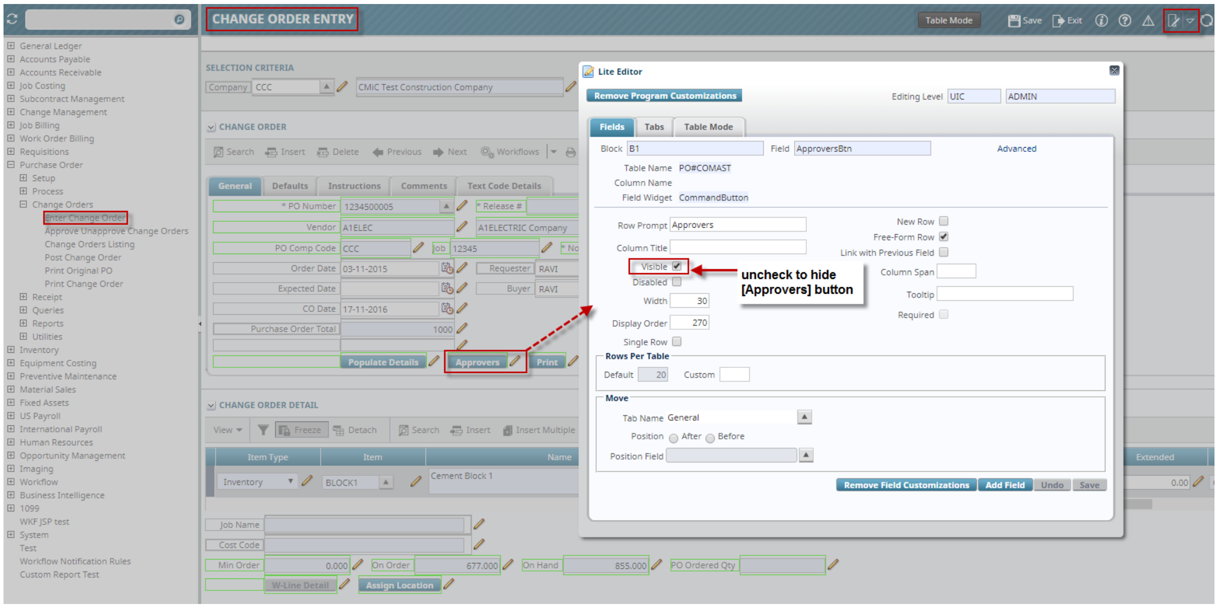


Hiding the [Approvers] button on the Purchase Order Entry screen (Pgm: POENTRYC – Purchase Order Entry; standard Treeview path: Purchase Order > Change Order > Enter Purchase Order)

Use Lite Editor to hide the [**Approvers**] button on the Purchase Order Entry screen, as shown in the screenshot above.

Lite Editor is launched by clicking on the Lite Editor icon in the upper right-hand corner of the screen. While the screen is in Edit mode, click on the pencil icon next to the [**Approvers**] button to open the Lite Editor pop-up window. In the pop-up window, uncheck the 'Visible' checkbox and click on [**Save**]. Click on the Lite Editor icon again to toggle out of Edit mode.

Change Order Entry Screen



Hiding the [Approvers] button on the Change Order Entry screen (Pgm: POCOENT – Change Order Entry; standard Treeview path: Purchase Order > Change Order > Enter Change Order)

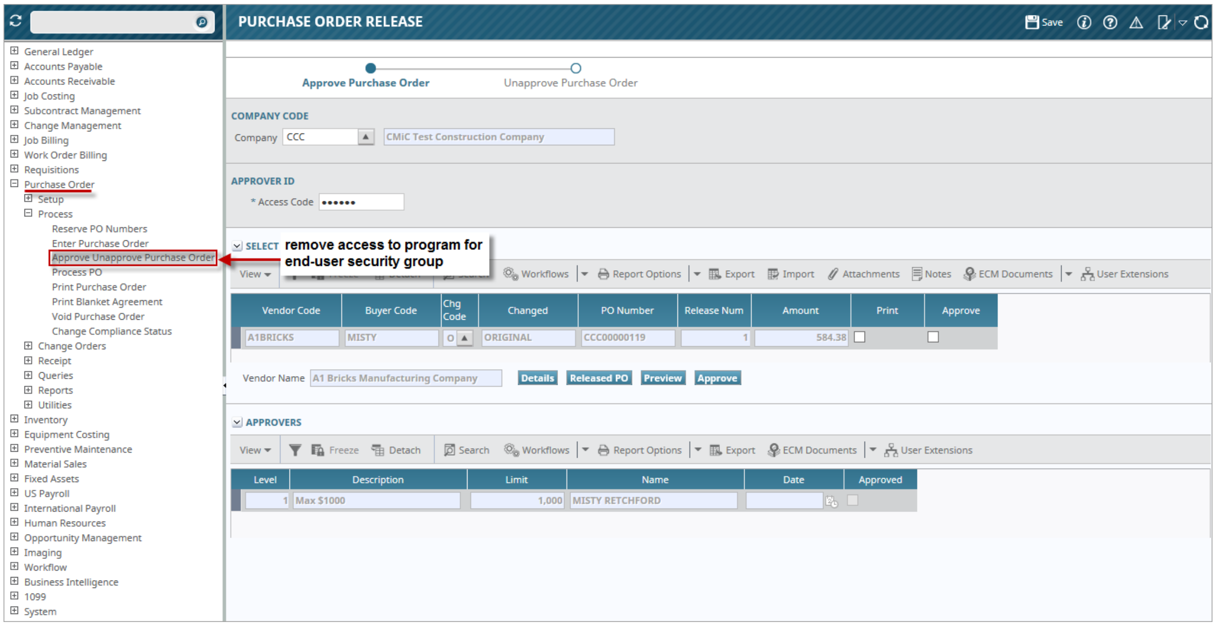
Use Lite Editor to hide the [**Approvers**] button on the PO Change Order Entry screen, as shown in the screenshot above. The process used here is the same one used for hiding the [**Approvers**] button on the Purchase Order Entry screen in the previous section.

Lite Editor is launched by clicking on the Lite Editor icon in the upper right-hand corner of the screen. While the screen is in Edit mode, click on the pencil icon next to the [**Approvers**] button to open the Lite Editor pop-up window. In the pop-up window, uncheck the 'Visible' checkbox and click on [**Save**]. Click on the Lite Editor icon again to toggle out of Edit mode.

Approve/Unapprove Screen

Use the Assign Roles to Programs screen (standard Treeview path: *System* > *Security* > *Roles* > *Assign Roles to Programs*) to restrict access to the Approve/Unapprove screens for Purchase Orders and for Change Orders for the end-user security group.

Purchase Order (Approve/Unapprove Screen)

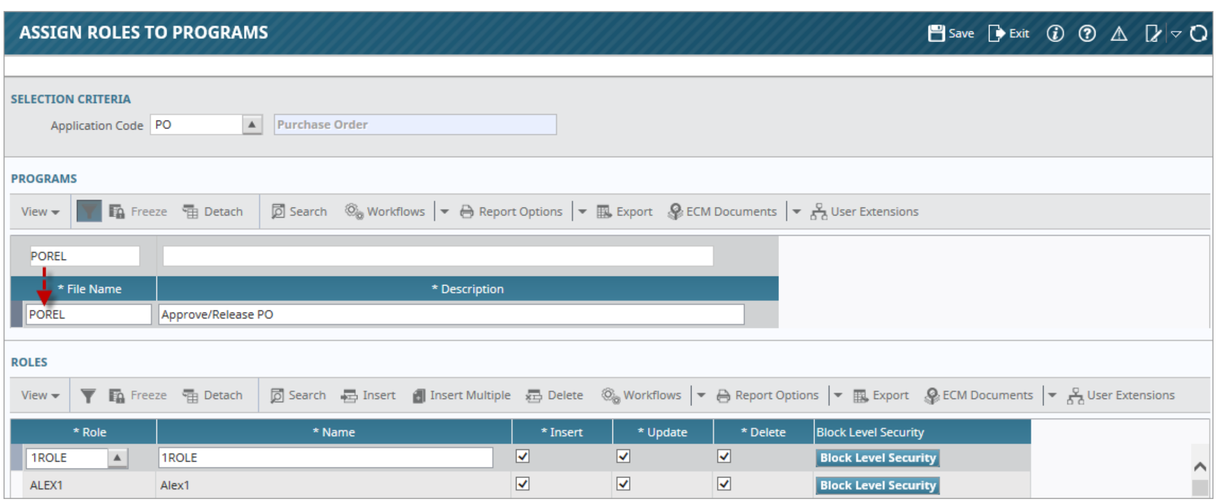


Pgm: POREL - Purchase Order Release; standard Treeview path: Purchase Order > Process > Approve Unapprove Purchase Order

To restrict access to the Approve/Unapprove Purchase Order screen, the following two programs need to be removed from the end-user security group:

- POREL - Approve/Release PO
- POUNREL - Unapprove Purchase Orders

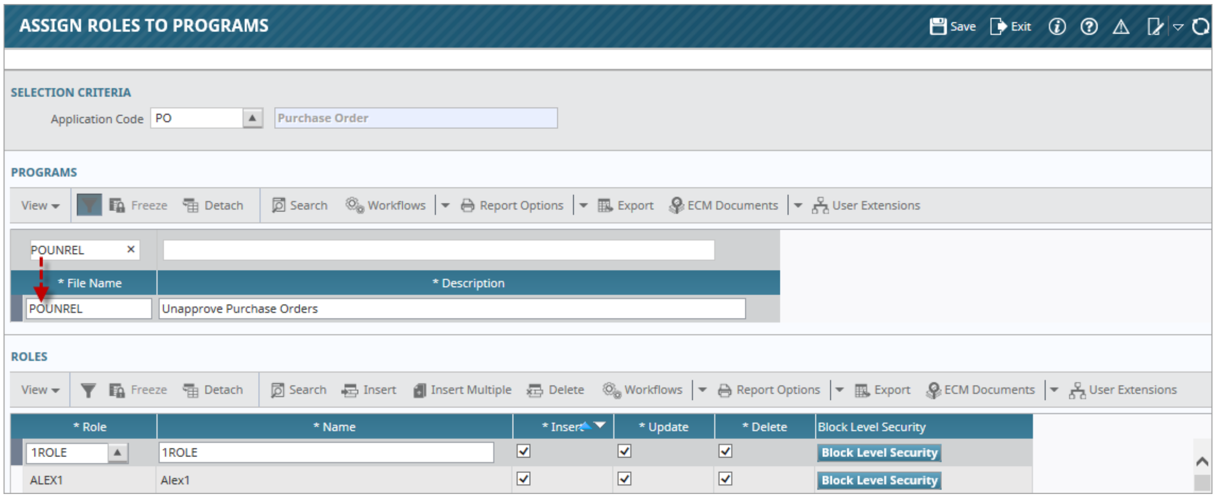
Access to these programs is restricted using the system's Assign Roles to Programs screen. This screen allows the user to remove a program from a role. Select the application to be modified and then select the program to be changed. The system will display the roles that have access to the program as well as the default access rights. These can be changed on a program-by-program basis. For more detailed information on the Assign Roles to Programs screen, please refer to the System Data guide.



Pgm: FORMROLE – Assign Roles to Programs; standard Treeview path: System > Security > Roles > Assign Roles to Programs

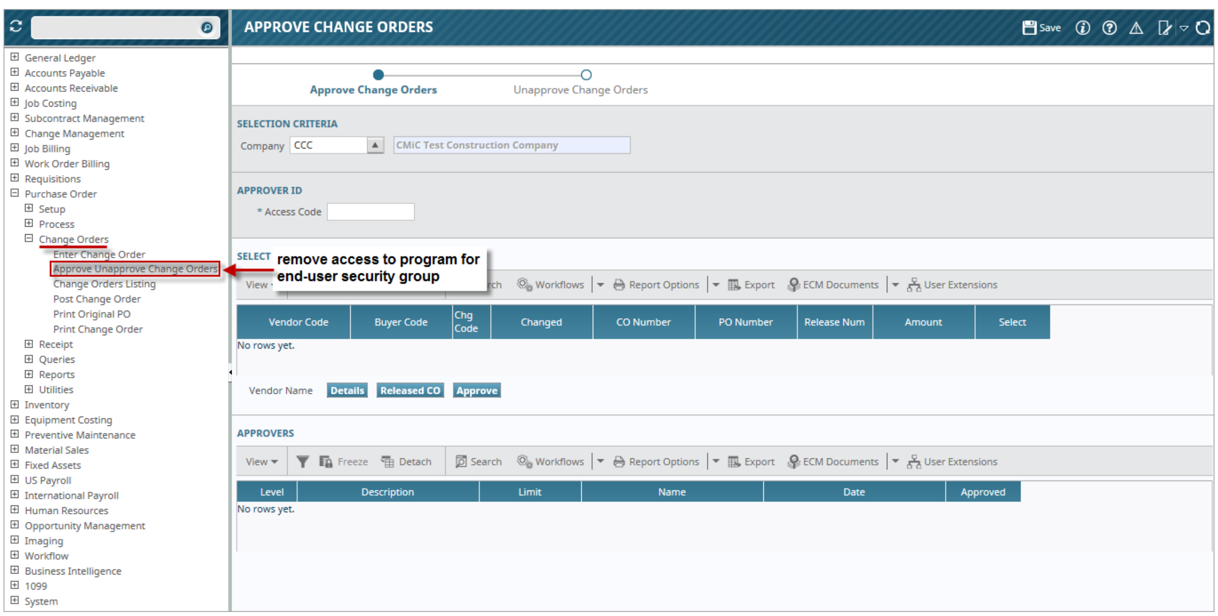
First, restrict access to the **POREL - Approve/Release PO** program, as shown in the screenshot above.

Next, restrict access to the **POUNREL - Unapprove Purchase Orders** program, as shown in the screenshot below.



Pgm: FORMROLE – Assign Roles to Programs; standard Treeview path: System > Security > Roles > Assign Roles to Programs

Change Order (Approve/Unapprove Screen)



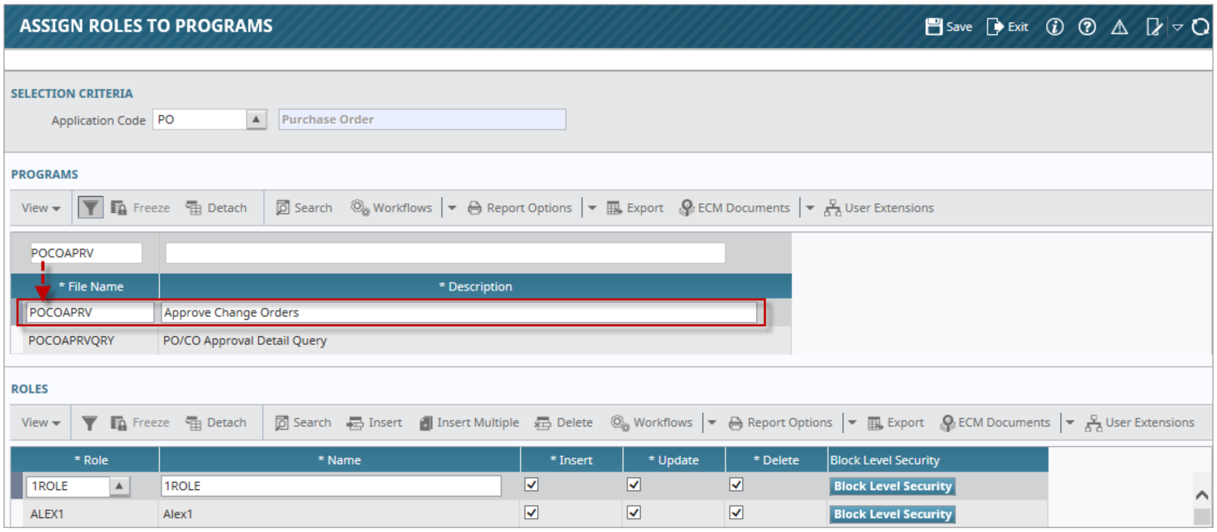
Pgm: POCOAPRV – Approve Change Orders; standard Treeview path: Purchase Order > Change Orders > Approve Unapprove Change Order

To restrict access to the Approve/Unapprove Change Orders screen, the following two programs need to be removed from the end-user security group:

- POCOAPRV - Approve Change Orders
- POCOUNAP - Unapprove Change Orders

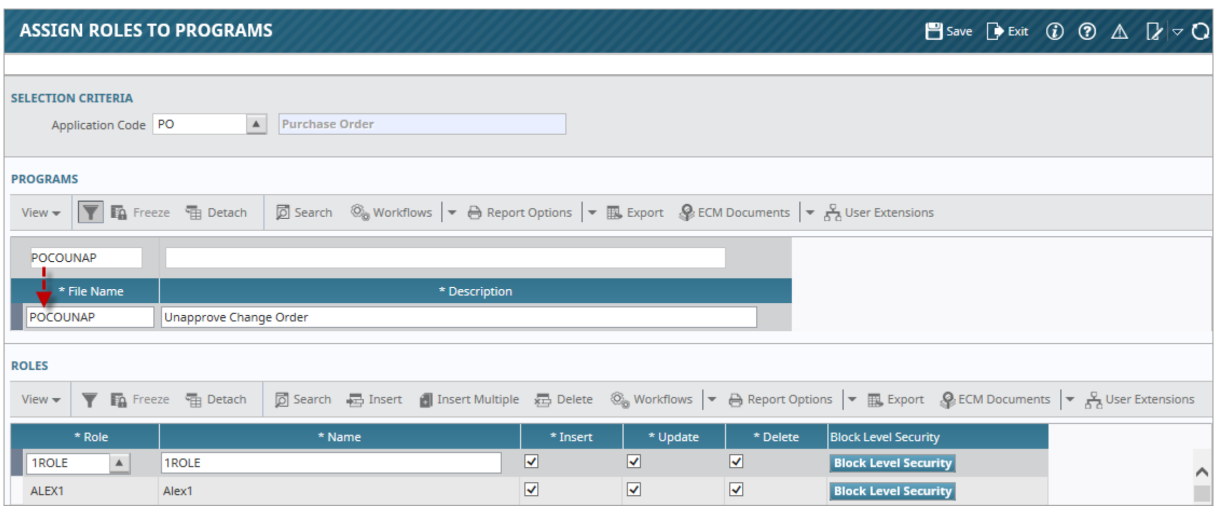
Access to these programs is restricted using the system's Assign Roles to Programs screen. The process for restricting access to these programs is similar to the process followed in the previous section for restricting access to programs for Purchase Orders.

First, restrict access to the **POCOAPRV – Approve Change Orders** program, as shown in the screenshot below.



Pgm: FORMROLE – Assign Roles to Programs; standard Treeview path: System > Security > Roles > Assign Roles to Programs

Next, restrict access to the **POCOUNAP - Unapprove Change Order** program, as shown in the screenshot below.



Pgm: FORMROLE – Assign Roles to Programs; standard Treeview path: System > Security > Roles > Assign Roles to Programs

CMiC Field Subcontract Workflow Security

NOTE: CMiC Field is formerly xProjects/Project Management.

Workflow Security Rules

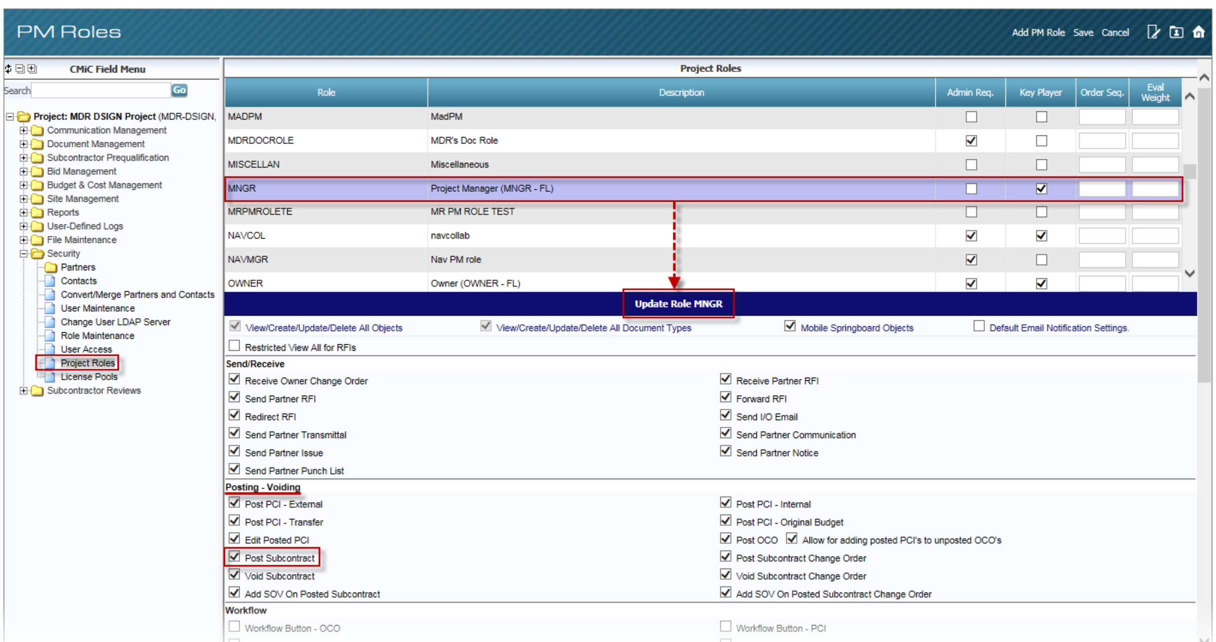
When Workflow is enabled, the [**Post**] and [**Workflow**] buttons in CMiC Field function as follows:

- CMiC Field's subcontract cannot be posted unless the workflow is initiated and completes in an 'Approved' status.
- The [**Workflow**] button only displays if assigned to a PM security role.
- The [**Workflow**] button is active/enabled when the PM object has not been submitted for approval or has been rejected from a previous approval process.
- The [**Post**] button only displays if assigned to a PM security role.
- The [**Post**] button is active/available only when the PM object has been approved by Workflow.

Assumptions

An administrator has linked the workflow to the PM object.

Role Access for [Workflow] and [Post] Buttons

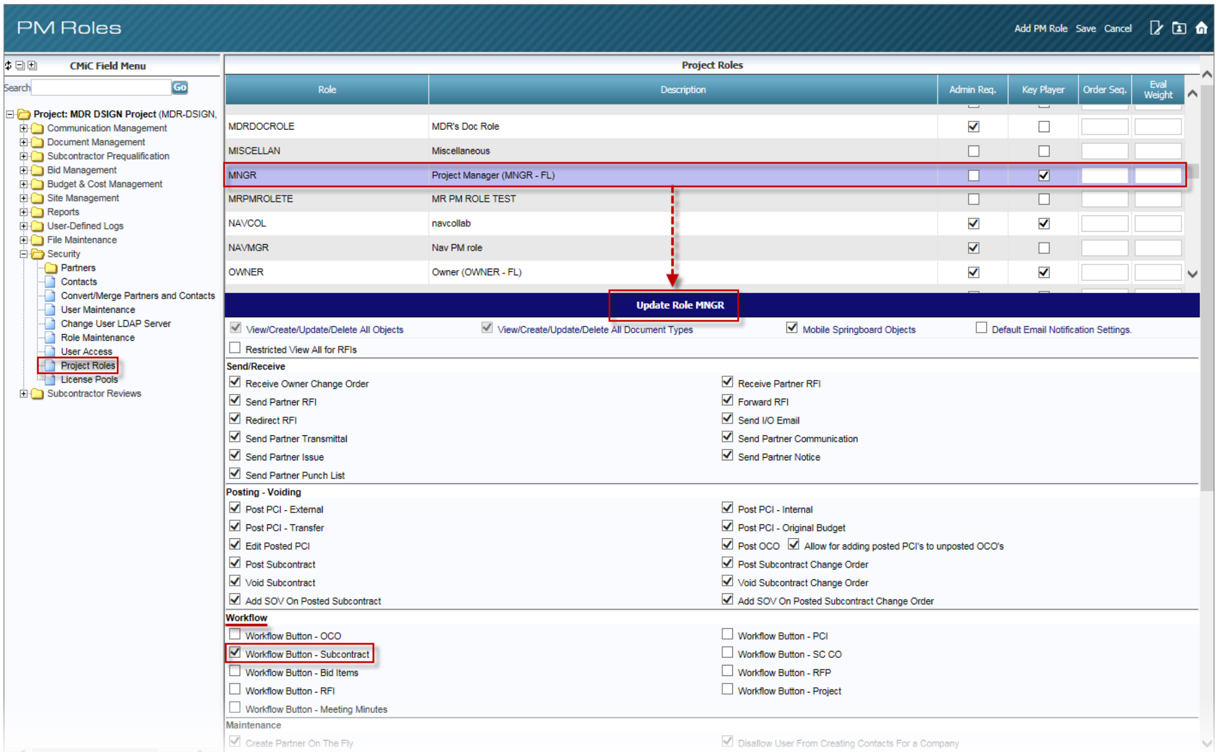


PM Roles; standard Treeview path: CMiC Field > Security > Project Roles

In CMiC Field, navigate to the PM Roles screen and select the project role.

To add the [**Post**] button to the Main Toolbar for the PM object in CMiC Field, click on the role in the Project Role section of the screen, then check the 'Post Subcontract' checkbox in the Posting – Voiding section of the screen, as shown in the screenshot above.

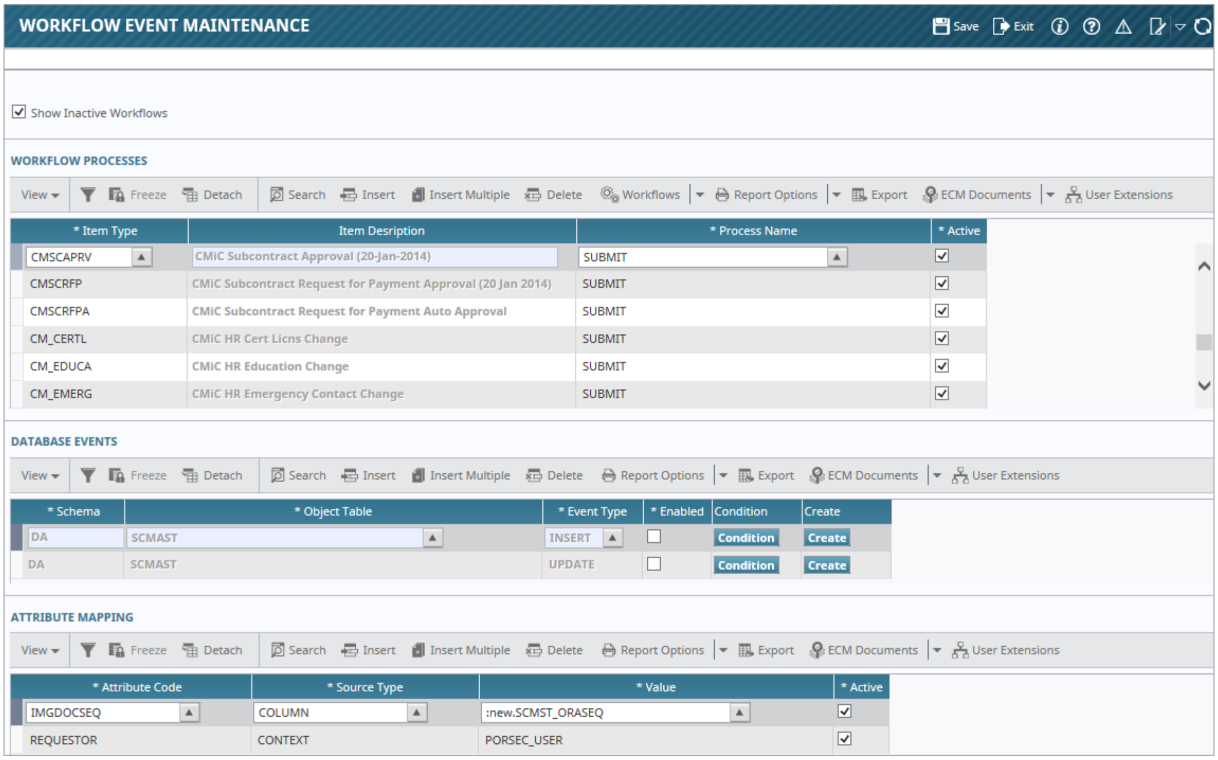
To add the [**Workflow**] button to Main Toolbar for the PM object, click on the role in the Project Role section of the screen, then check the 'Workflow Button – Subcontract' checkbox in the Workflow section of the screen.



PM Roles; standard Treeview path: CMiC Field > Security > Project Roles

CMiC Field Subcontract Workflow

Configuring CMiC Field Subcontract Workflow

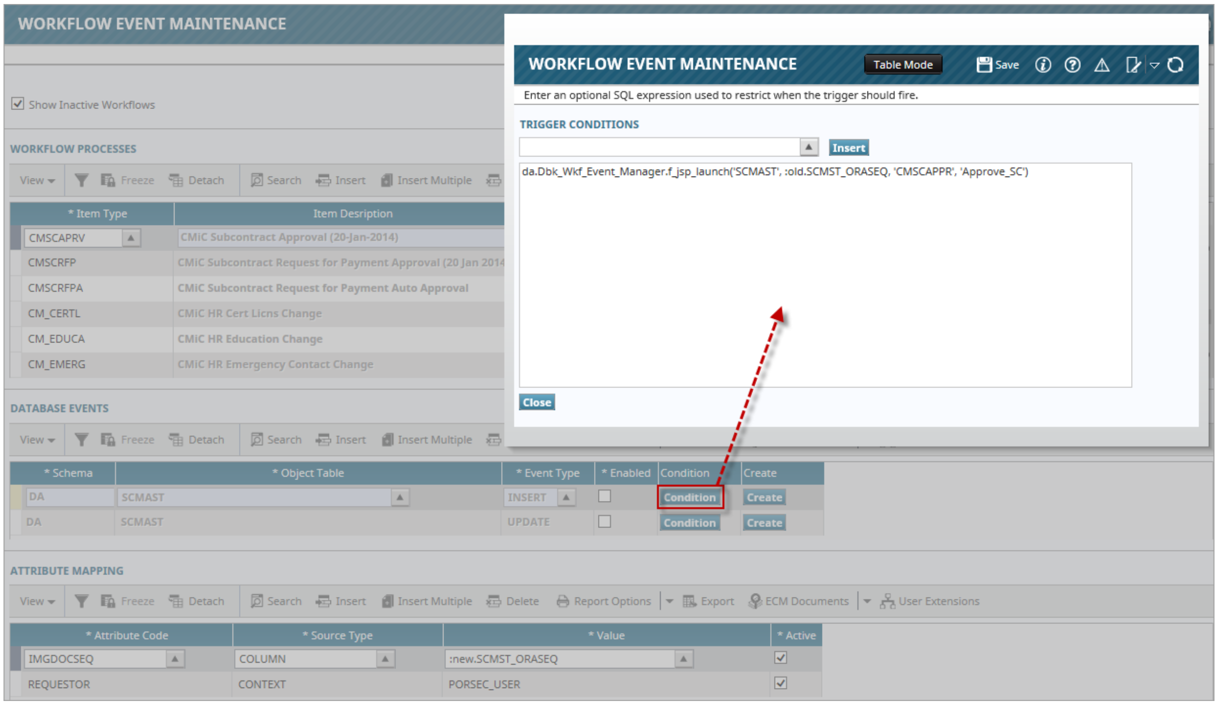


Pgm: WKFEVMNT – Workflow Event Maintenance; standard Treeview path: Workflow > Setup > Event Based Launch Maintenance

To attach the workflow to the PM Subcontract object, follow these steps:

- In the Workflow Processes section of the Workflow Event Maintenance screen, specify/select a workflow item type and select the process to launch when the user presses the [**Workflow**] button on the CMiC Field Toolbar.
- In the Database Events section of the screen, specify the schema, select an object table, select an event type, and then apply the launch condition using the [**Condition**] button.
- In the Attribute Mapping section of the screen, complete the attribute mapping.
- Press the [**Create**] button in the Database Events section of the screen to create the trigger and bring the Workflow online.

Create the Condition



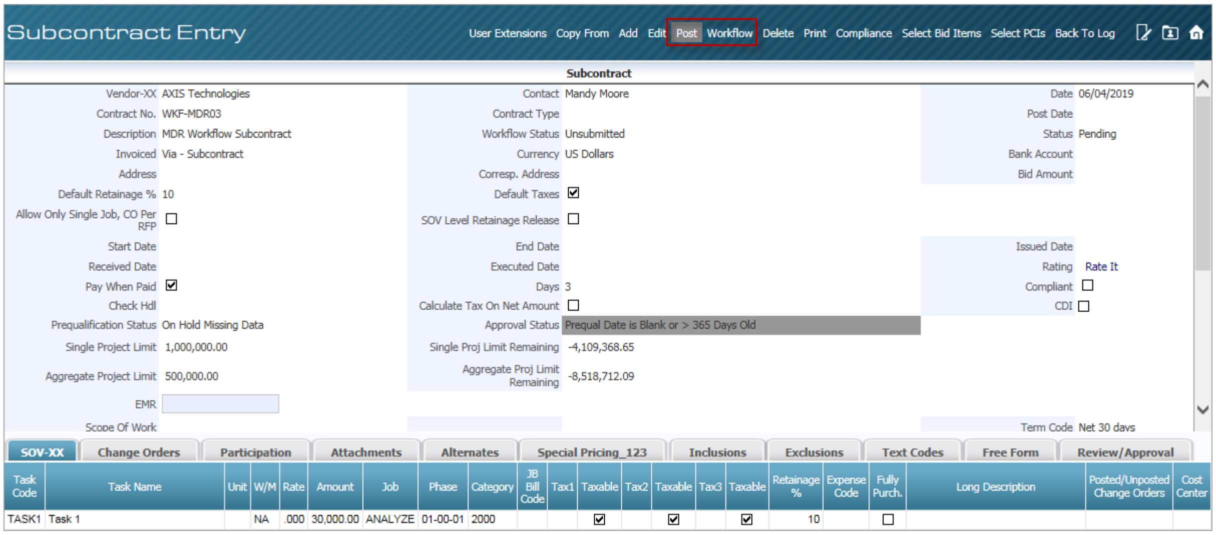
Pop-up window launched from the [Condition] button on the Workflow Event Maintenance screen (standard Treeview path: Workflow > Setup > Event Based Launch Maintenance)

Press the [**Condition**] button to launch the Trigger Conditions pop-up window. Enter a launch condition in the pop-up window by typing it in or inserting it using the Trigger Conditions LOV and clicking on the [**Insert**] button. Here's an example of a launch condition for subcontracts:

```
da.Dbk_Wkf_Event_Manager.f_jsp_launch('SCMAST', :old.SCMST_ORASEQ,
'CMSCAPPR', 'Approve_SC')
```

Click the [**Close**] button to save and close the pop-up window, then press the [**Create**] button in the Database Events section of the Workflow Event Maintenance screen to generate the trigger and bring the workflow/item type online.

Create the PM Subcontract



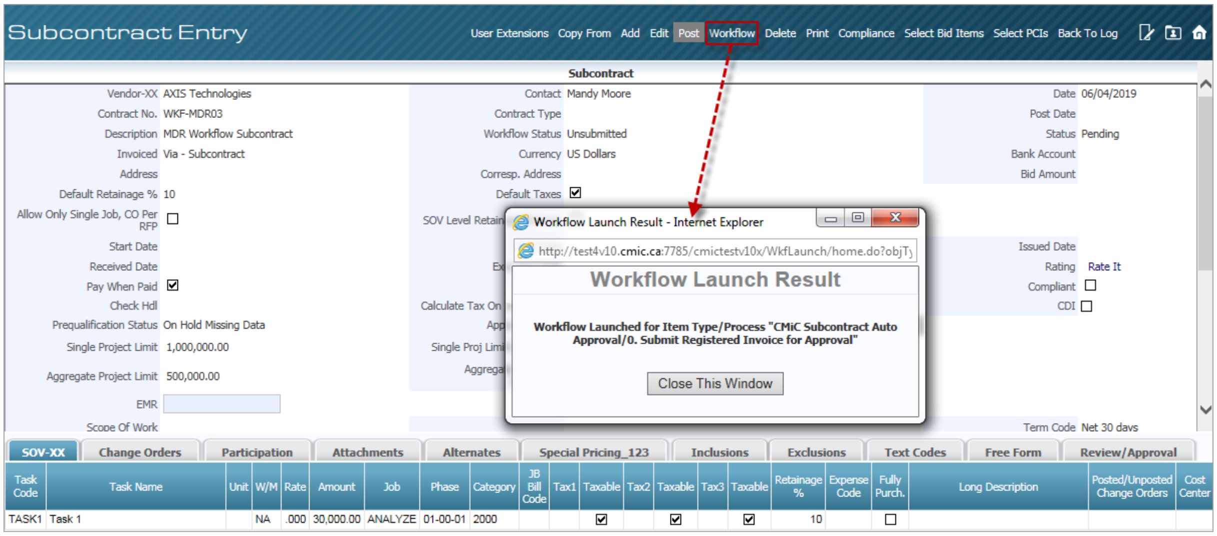
Workflow Option from CMiC Field JSP Subcontract

Create and [**Save**] the fully completed Subcontract as required.

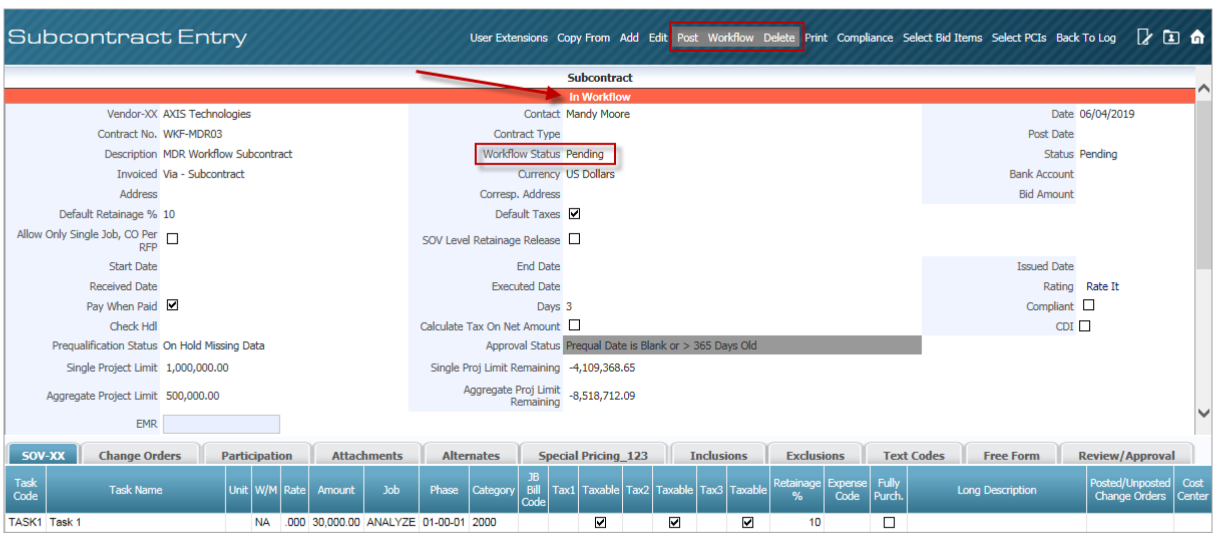
NOTE: The [**Post**] button is disabled and the [**Workflow**] button is enabled.

Launch the Workflow

Click the [**Workflow**] button to submit the CMiC Field Subcontract to the approval workflow and close the pop-up window.



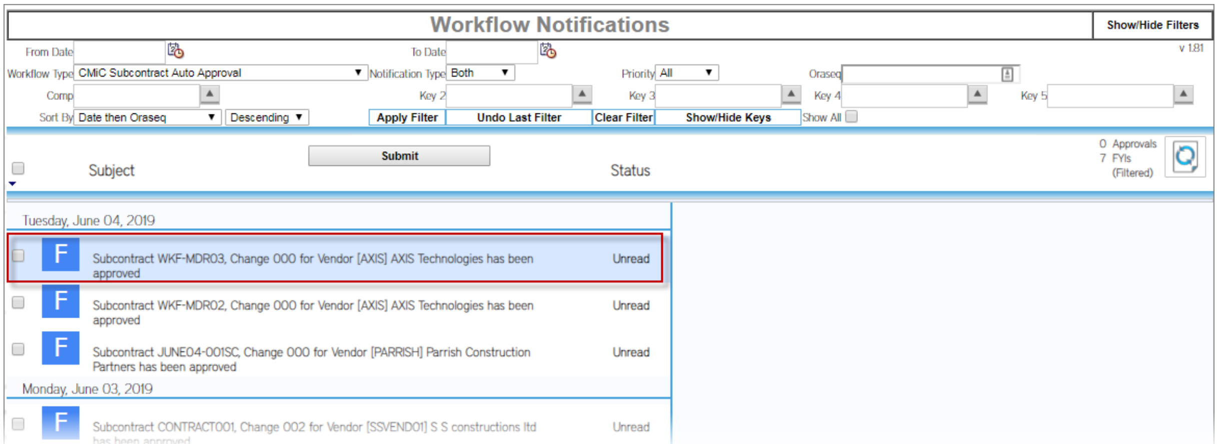
The banner will display “In Workflow” and the Workflow Status field will display “Pending”.



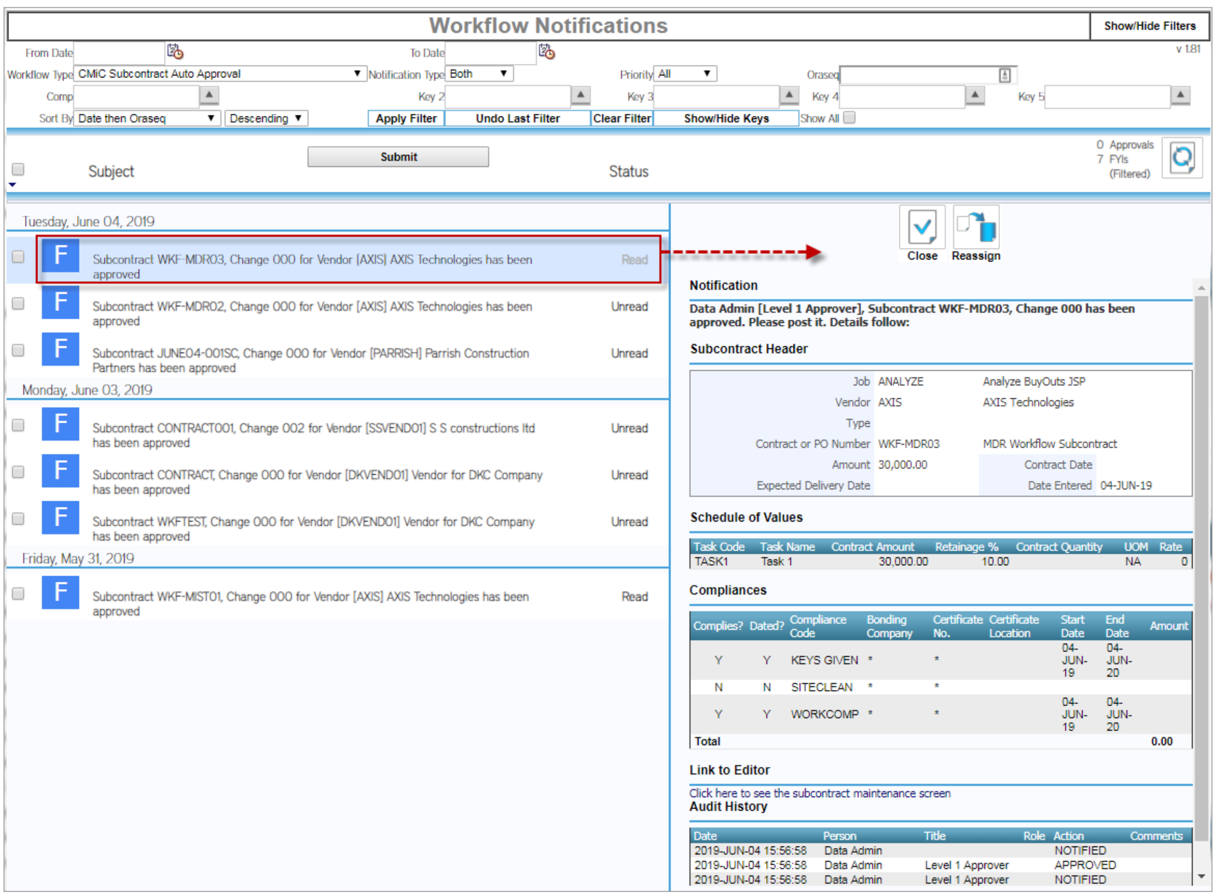
NOTE: The [**Post**], [**Workflow**] and [**Delete**] buttons are greyed out when the CMiC Field Subcontract is in a “Pending” status.

Subcontract Workflow Approval

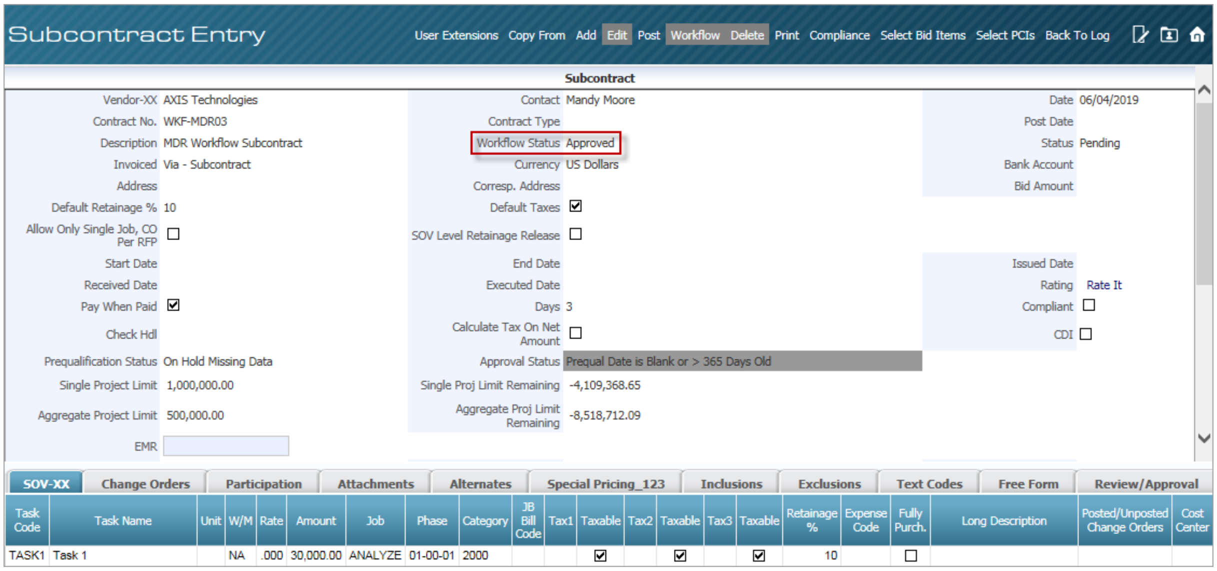
A Workflow approval request is sent to the approver for review. This process repeats for all of the approval levels defined in the Workflow definition.



Click on the subject to see the details of the Notification.



The Subcontract is now approved.

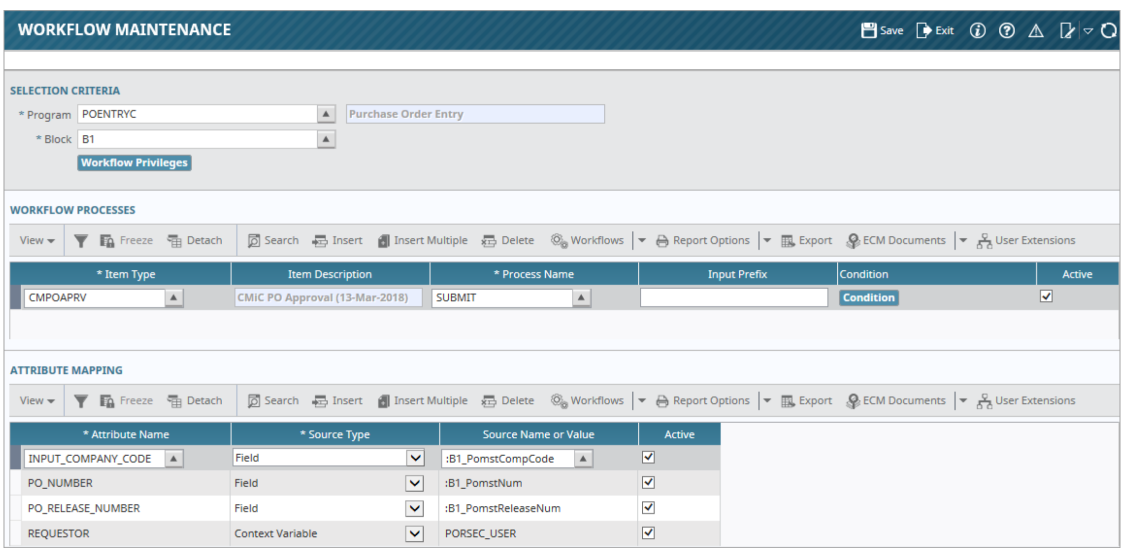


Purchase Order Workflow

Setup of Purchase Order Workflow

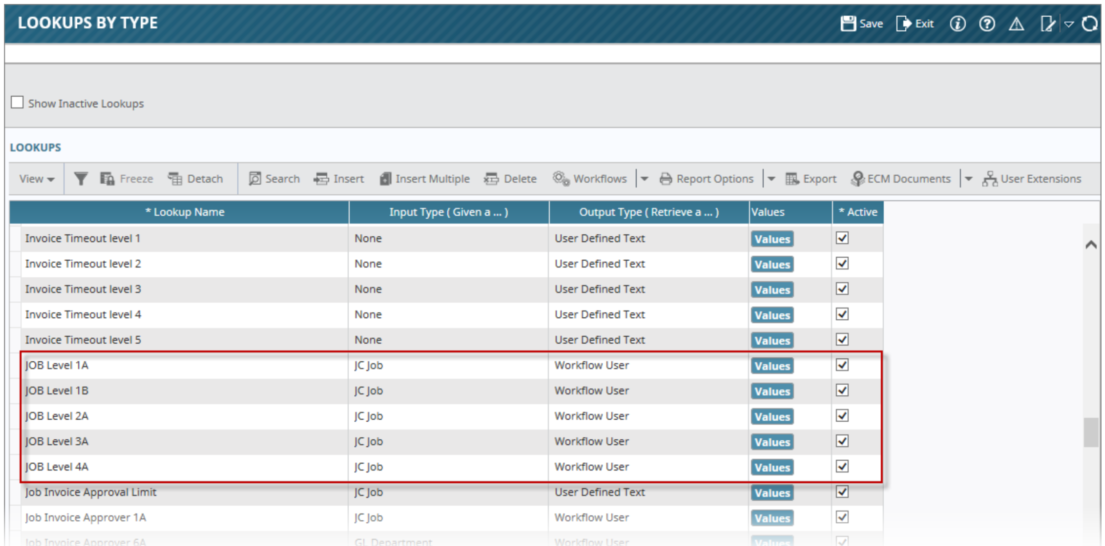
Complete the following steps to set up the PO approval workflow.

1. Open the Workflow Maintenance screen and select the program and block as shown in the screenshot below. Next, select the workflow's item type and process in the Workflow Processes section and then complete the attribute mapping in the bottom section of the screen.



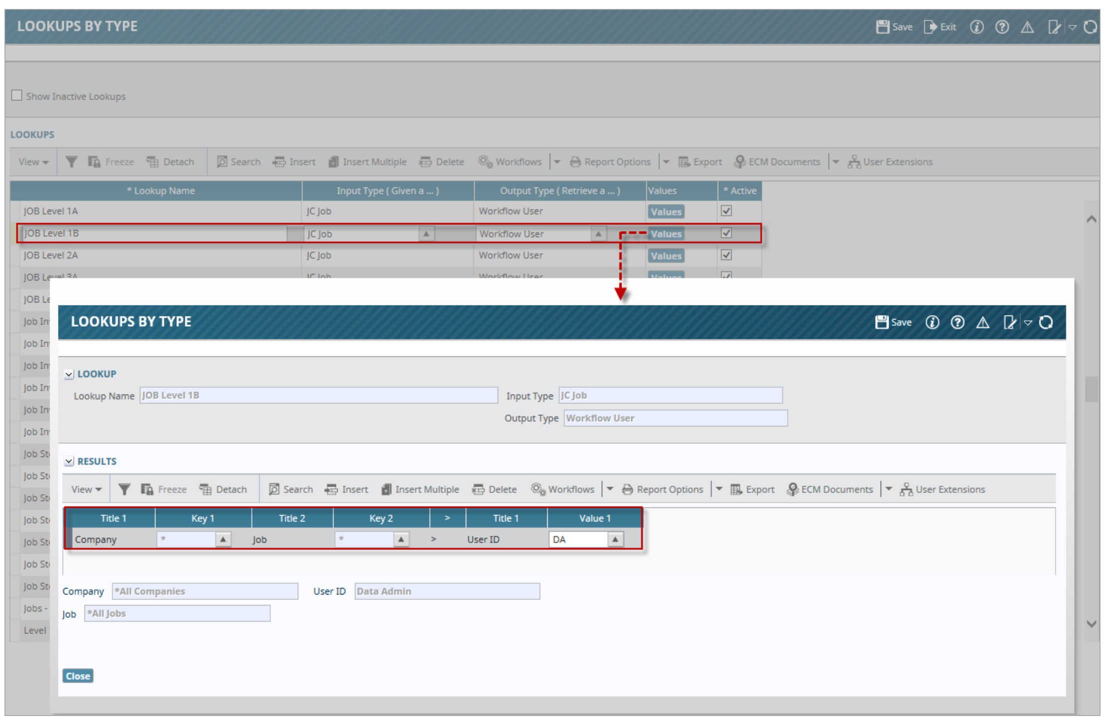
Pgm: WKFUSRMT – Workflow Maintenance; standard Treeview path: Workflow > Setup > Screen Based Launch Maintenance

2. Open the Lookups By Type screen and set up the applicable roles.

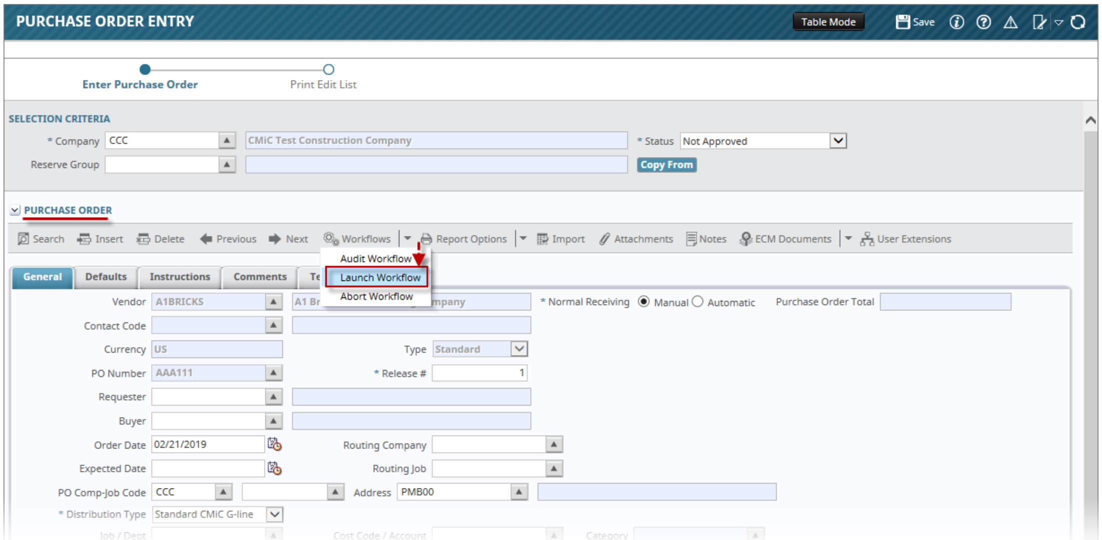


Pgm: WKFLOOK – Lookups By Type; standard Treeview path: Workflow > Setup > Resource Lookup Rules

3. Add the approvers to the role by pressing the [**Values**] button, and then specify the approvers for each company/dept/job.



4. Launch the workflow on the Purchase Order Entry screen by clicking the [**Workflows**] button on the Block Toolbar of the Purchase Order section of the screen and selecting “Launch Workflow” from the drop-down menu.



Pgm: POENTRYC – Purchase Order Entry; standard Treeview path: Purchase Order > Process > Enter Purchase Order

---

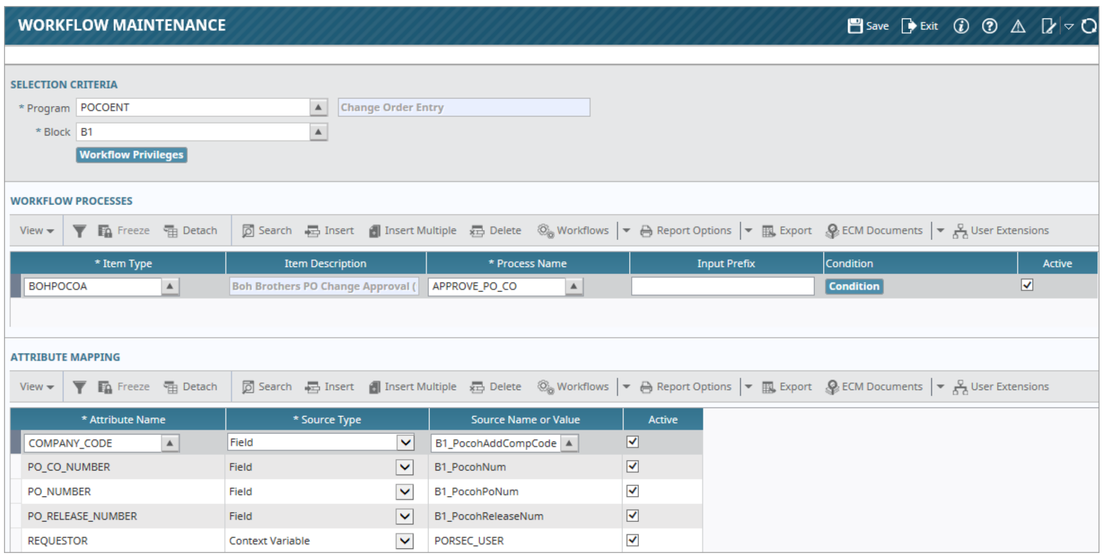
NOTE: If more than one workflow has been defined, when "Launch Workflow" is selected from the [Workflows] button's drop-down menu, a pop-up may open listing the available workflows. Select the required workflow from the pop-up window and click [**Launch**] to launch the selected workflow.

Purchase Order Change Order Workflow

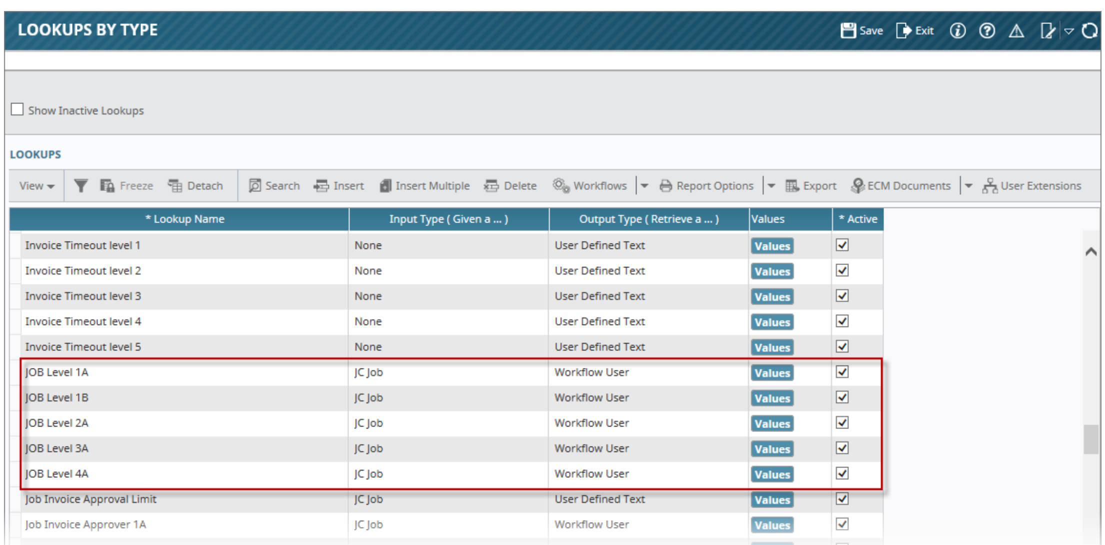
Setup of Purchase Order Change Order Approval Workflow

Complete the following steps to set up the PO change order workflow.

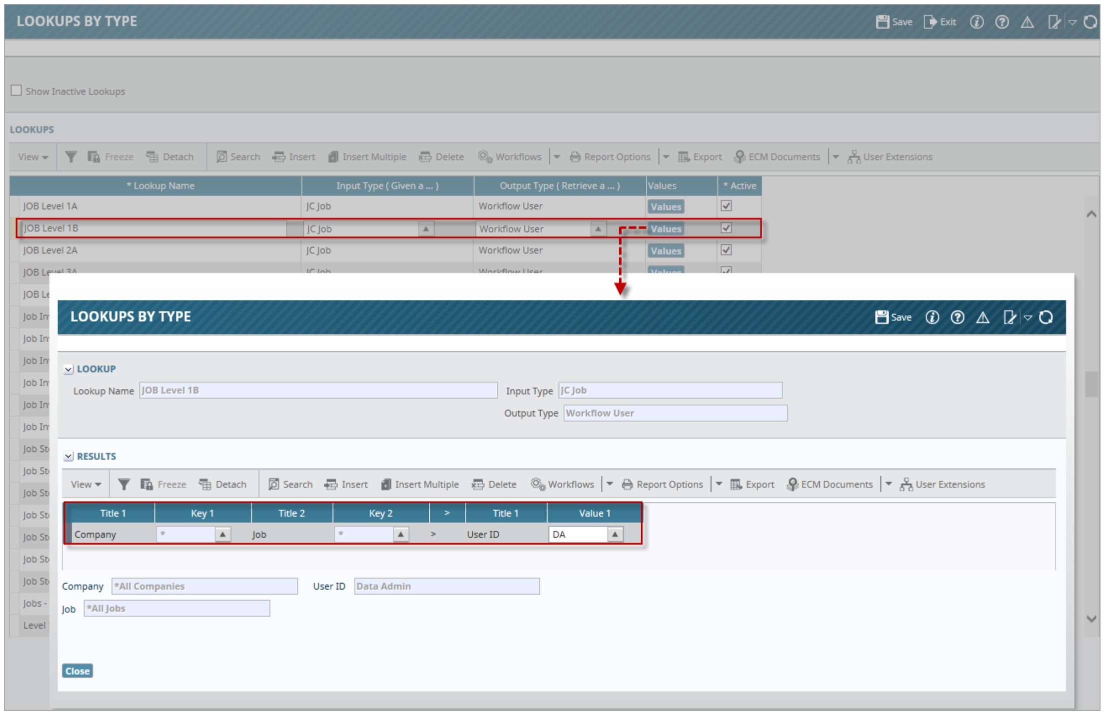
1. Open the Workflow Maintenance screen and select the program and block as shown in the screenshot below. Next, select the workflow's item type and process in the Workflow Processes section and then complete the attribute mapping in the bottom section of the screen.



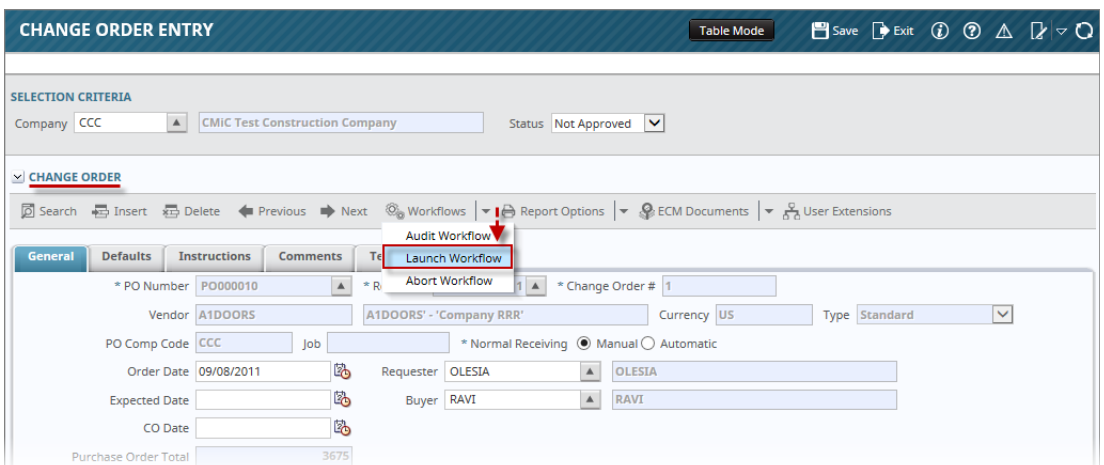
2. Open the Lookups By Type screen and set up the applicable roles.



3. Add the approvers to the role by pressing the [**Values**] button, and then specify the approvers for each company/dept/job.

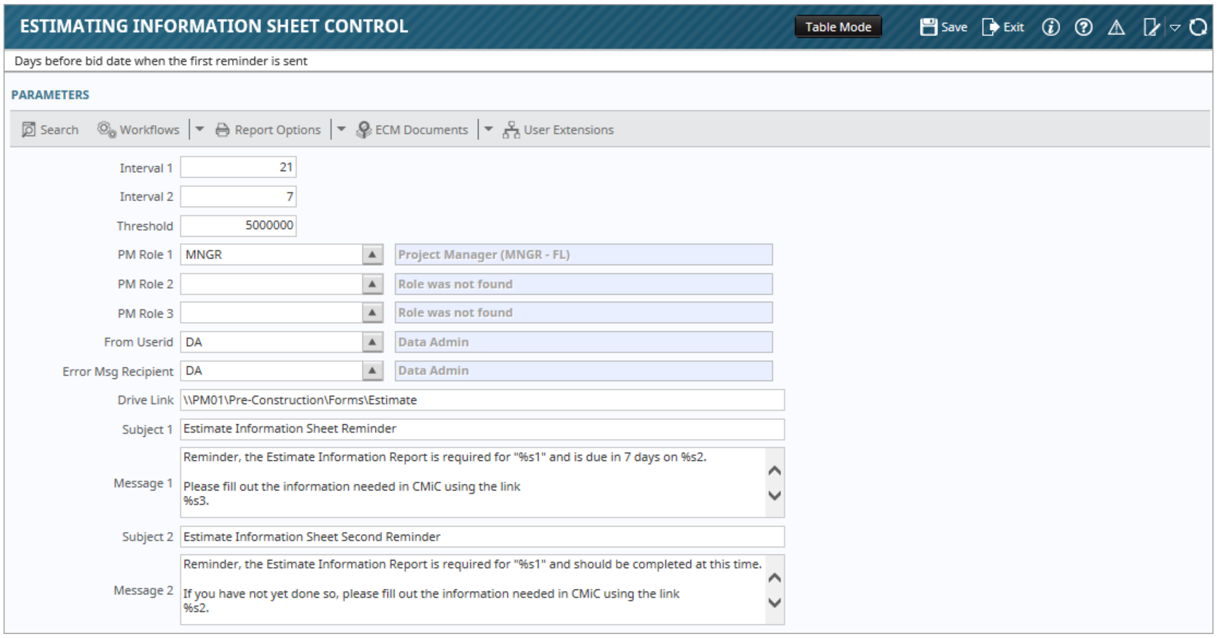


4. Launch the workflow on the PO's Change Order Entry screen by clicking the [**Workflows**] button on the Block Toolbar of the Change Order section of the screen and selecting "Launch Workflow" from the drop-down menu.



Pgm: POCOENT – Change Order Entry; standard Treeview path: Purchase Order > Change Orders > Enter Change Order

Estimating Information Sheet



Pgm: PMEISCTL – Estimating Information Sheet Control; standard Treeview Path: Workflow > Setup > Estimating Information Sheet Control

The Estimating Information Sheet Control screen is used to specify the parameters for the issuance of a notification message to certain Key Player Roles (Senior Estimator, Estimator, Business Unit Admin), when the particular conditions that are defined, are met.

Interval 1

This is the days (calendar days) before the Bid Date when the first reminder is sent.

Interval 2

This is the days (calendar days) before the Bid Date when the second reminder is sent.

Threshold

This is the minimum value (potential revenue) of the opportunity (project) for which reminders are to be sent.

PM Role 1

This is the PM Role of the first key player to receive the reminder. This must be a valid user assigned to the project associated with the opportunity.

PM Role 2

This is the PM Role of the second key player to receive the reminder. This must be a valid user assigned to the project associated with the opportunity.

PM Role 3

This is the PM Role of the third key player to receive the reminder. This must be a valid user assigned to the project associated with the opportunity.

From UserID

User ID to use as the sender of the reminder email.

Error Message Recipient

User ID of the person who will receive error messages from the process.

Drive Link

This is the link path to a network directory containing documents required by the estimator.

Subject 1

Subject text of the first reminder email.

Message 1

Body text of the first reminder email.

Subject 2

Subject text of the second reminder email.

Message 2

Body text of the second reminder email.

Processing

When projects that meet the following criteria:

a) Revenue potential greater than the value entered in the Threshold field

b) Current date = bid date minus value in Interval 1 (calendar days) field

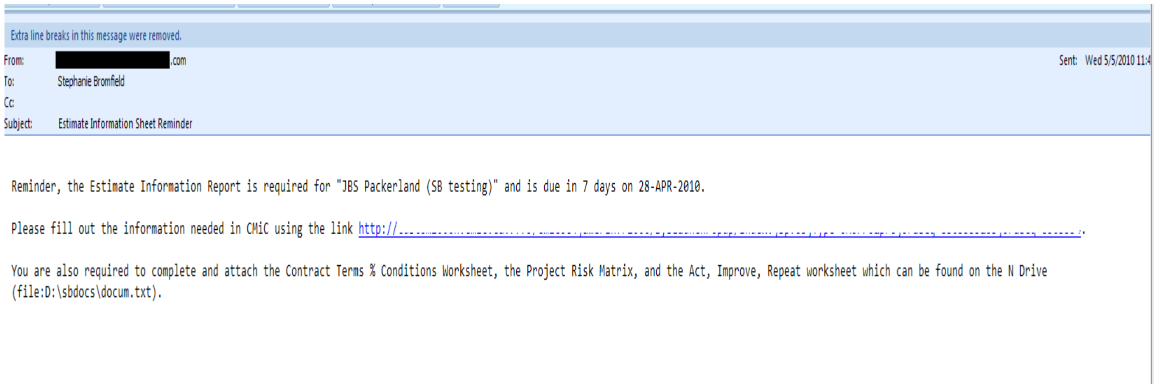
NOTE: An email notification (Subject1/Message1 fields) is sent to the key players defined in PM Role 1, PM Role 2, and PM Role 3 fields.

c) When Current date = bid date minus value in Interval 2 (calendar days) field, the second notification (Subject2/Message2 fields) is sent to the key players specified.

NOTE: If the bid date is changed after a notice is sent, the new date is picked up but that does not mean that the notice will be resent. To avoid sending duplicate notices, status flags are set. Since these flags are already set, no new notice will be sent. There is currently no GUI for resetting these flags.

When the wkf_launch_eis.sql is run, it immediately sends the emails to the relevant persons if the conditions are met.

The body of the email notification appears as shown in the example below.



Extra line breaks in this message were removed.

From: [redacted].com   Sent: Wed 5/5/2010 11:4

To: Stephanie Bromfield

Cc:

Subject: Estimate Information Sheet Reminder

Reminder, the Estimate Information Report is required for "JBS Packerland (SB testing)" and is due in 7 days on 28-APR-2010.

Please fill out the information needed in CMiC using the link http://[illegible].

You are also required to complete and attach the Contract Terms % Conditions Worksheet, the Project Risk Matrix, and the Act, Improve, Repeat worksheet which can be found on the N Drive (file:D:\sbdocs\docum.txt).

The link in the email body allows the user to log in directly to the referenced opportunity in the Opportunity Management module.

Workflow Email Notifications (Alerts)

Hierarchy for Sender's Email

1st. System uses DA's e-mail in E-mail Address field on System Data module's User Preferences screen (program: SDUPREF; standard Treeview path: *System* > *Preferences* > *User Preferences*).

2nd. If above field is null, system uses e-mail address on Contact Info tab of DA's Contact record (program: SYSCNTCT – Contact Management).

3rd. If above field is null, system uses e-mail in Default Notification Email field on General tab of System Options screen (program: SYSOPT; standard Treeview path: *System* > *Setup* > *System Options*).

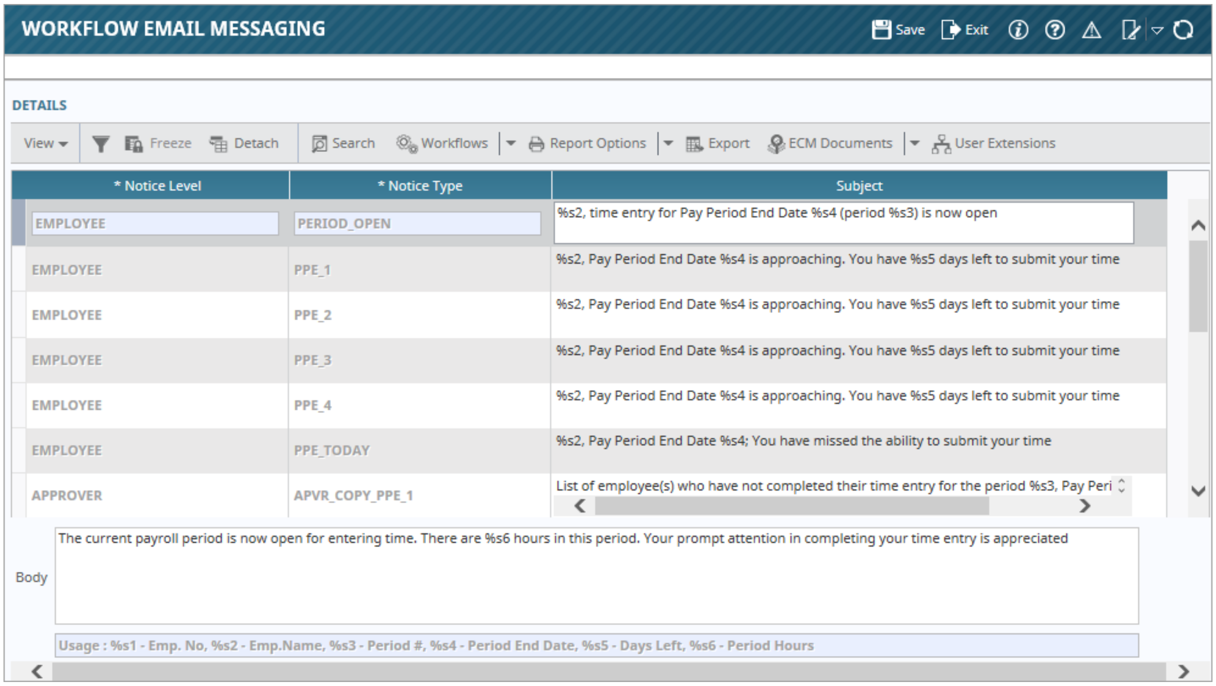
4th. If above field is null, system uses: mPOWER_Alert@cmic.ca.

Hierarchy for Receiver's Email

1st. System uses user's e-mail in E-mail Address field on System Data module's User Preferences screen (program: SDUPREF; standard Treeview path: *System* > *Preferences* > *User Preferences*).

2nd. If above field is null, system uses e-mail address on the Contact Info tab of receiver's Contact record (program: SYSCNTCT – Contact Management).

Email Messaging Maintenance



Pgm: WKF_EMAIL_MSG_MNT – Workflow Email Messaging; standard Treeview path: Workflow > Setup > Email Messaging Maintenance

This screen is used for the E-Time Approval notice workflow. There is a Standard (Enterprise only) workflow that can be used to send notices to users to enter time and approve time. This screen allows a company to tailor the email notices their users receive from the standard verbiage used.

Index

M

N

O

P

R

S

U

W