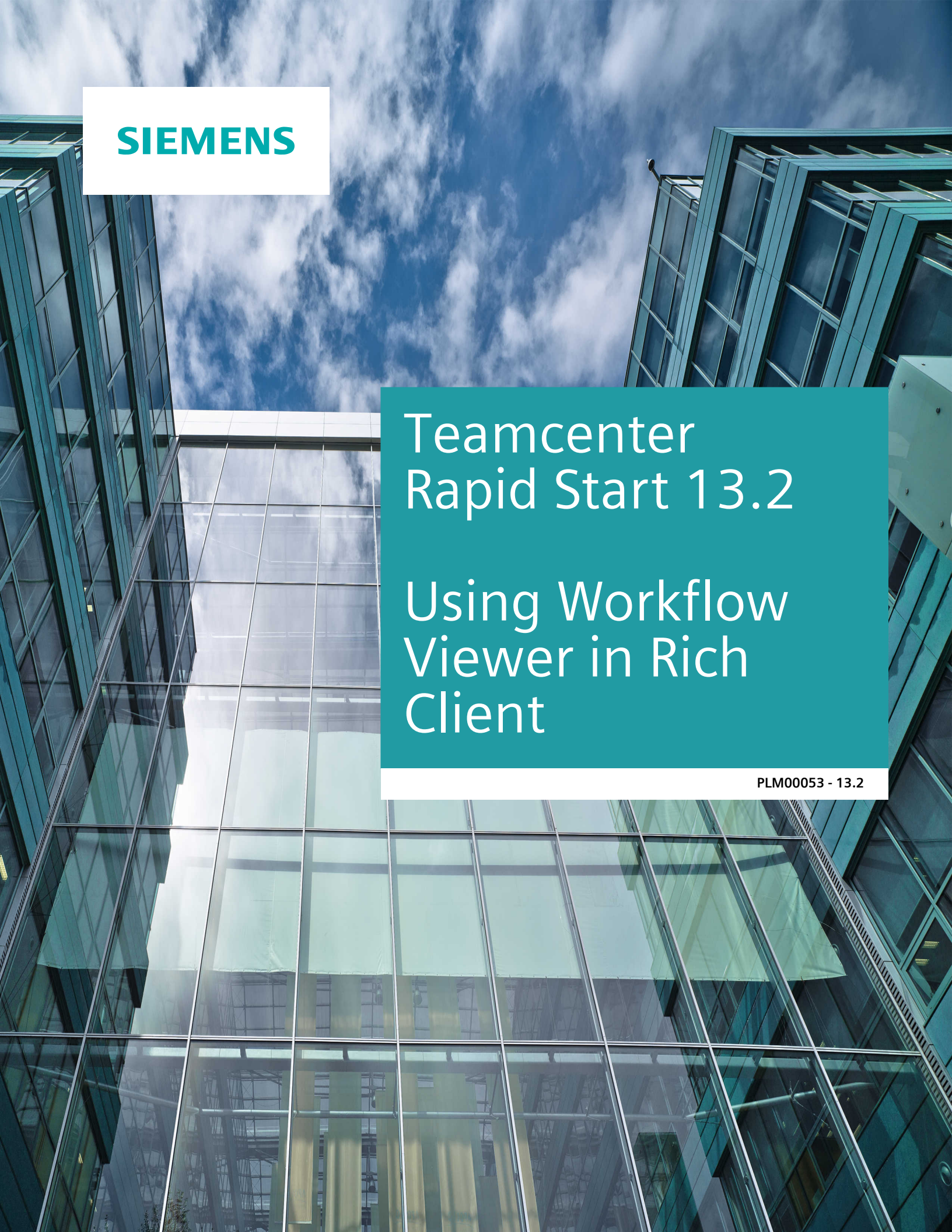


SIEMENS

Teamcenter Rapid Start 13.2

Using Workflow Viewer in Rich Client

PLM00053 - 13.2

Contents

1. Getting started with Workflow Viewer

What is Workflow Viewer?

Workflow Viewer is an application that provides more functionality than is available in My Teamcenter for workflows. In Workflow Viewer, you can:

- View any initiated workflow process, whether it is currently in process or has already completed.
- Edit an active workflow process, if you have write permissions.

  Note:

  Privileges granted with the **WORKFLOW_adhoc_process** preference are required to edit active workflow processes.

- Perform workflow tasks.
- Override task actions.

You can view workflow processes from your worklist by selecting a task and selecting **Process View** in the **Viewer** view. However, this method limits you to viewing only those workflow processes that contain tasks assigned to you at the time the task remains in your worklist.

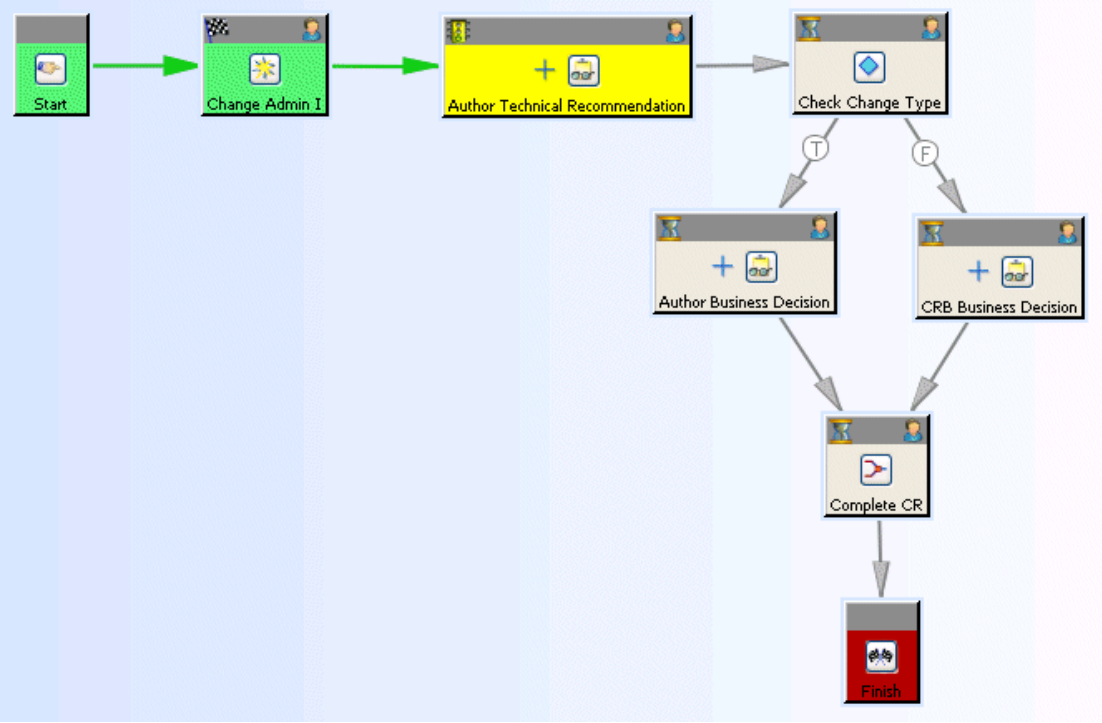
However, Workflow Viewer allows you to view the progress of a workflow process, even if you are not a participating member of that particular workflow process. If you have read privileges for the workflow process data, you can view any workflow process in the database, whether it is currently in process or has already achieved its final status.

Note:

My Worklist in My Teamcenter is designed to provide a more streamlined process for progressing through workflow processes to which you are associated. The worklist lists only those tasks that you can perform or that you are assigned to track.

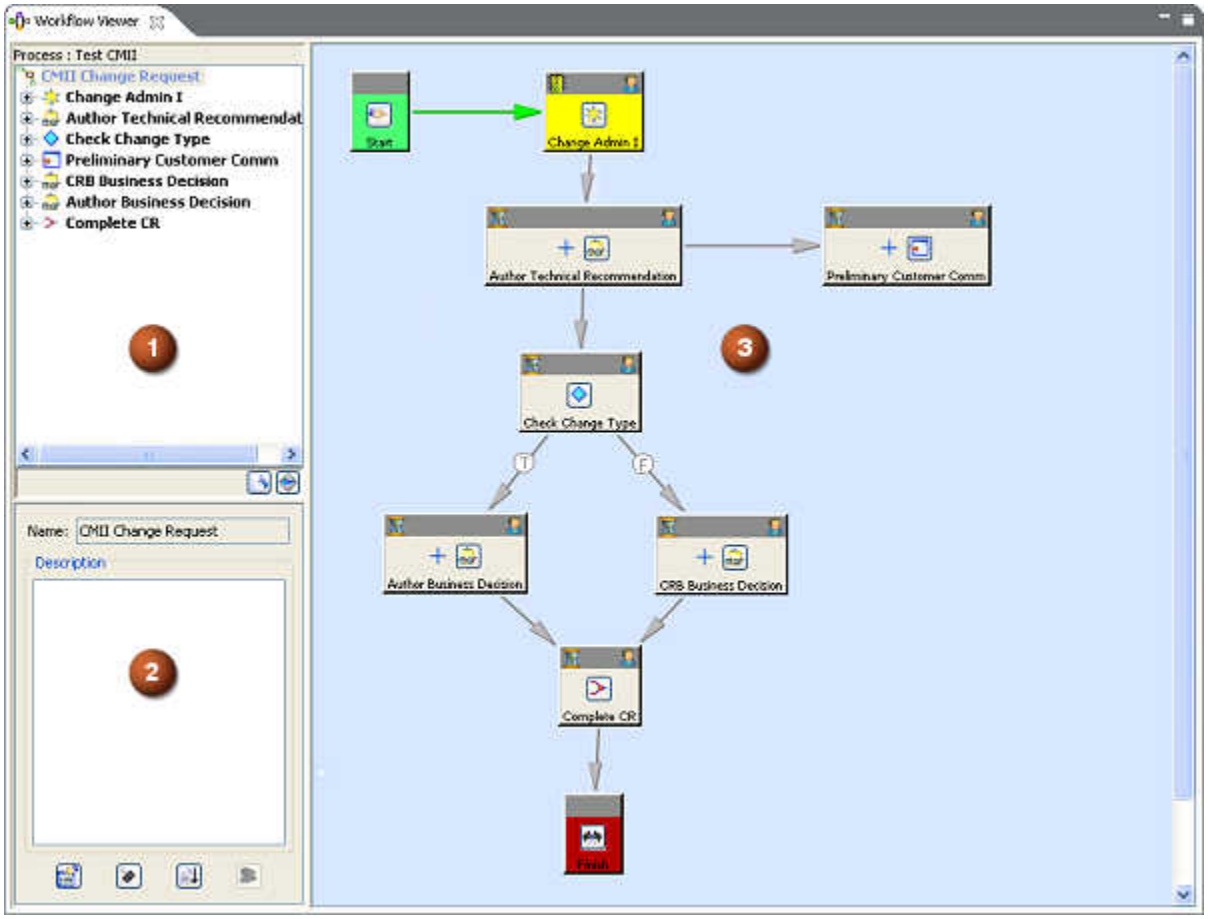
Example:

The following workflow process shows that the **Change Admin I** task is complete, that the **Author Technical Recommendation** task has started, and that the remaining tasks are pending. The name of the **Check Change Type** task (a **Condition** task) indicates whether the workflow branches to either an author or change review board (CRB) business decision, depending on what type of change object is the target of the workflow.



Workflow Viewer view

Workflow Viewer uses the standard Teamcenter rich client interface. There are some panes, buttons, menus, and menu commands that are specific to Workflow Viewer.



1	Task hierarchy tree	Displays the root-level workflow process, along with its tasks and subtasks, in a hierarchical listing. Task precedence in the task hierarchy tree is based on the order in which the tasks were created.
2	Template manager pane	Displays the name and description of the selected task.
3	Process flow pane	Displays graphical views of the different levels of a workflow process. You can view all the tasks in an entire workflow process, or the subtasks in a task, or the subtasks of subtasks, and so forth.

There are two ways you can view tasks and subtasks in Workflow Viewer.

- Select a task in the task hierarchy tree.
  The process flow pane displays the selected task's subtasks in a graphical display.

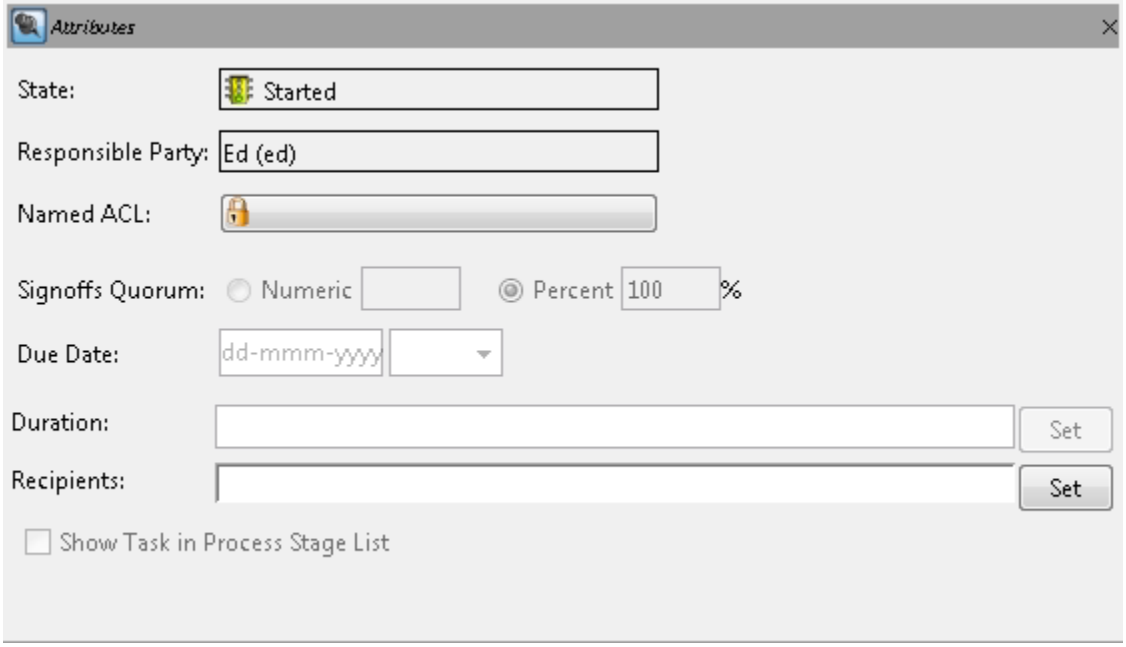
- Double-click the desired task in the process flow pane.
  The process flow pane advances down a level and displays the selected task's subtasks.

Note:

Click F5 to refresh the currently selected task. Click F6 to refresh the entire page (and all tasks on it).

Task Attributes

In the template manager pane, click **Task Attributes** to display the **Task Attributes** pane.



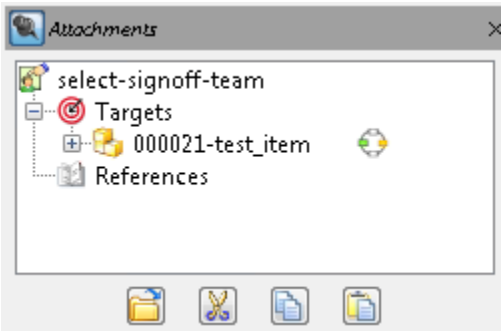
Element	Description
State	Displays the task's state, such as **Started**, **Pending**, or **Completed**.
Responsible Party	Displays the responsible party for the task.
Named ACL	Click to display the **Named ACL** dialog box.
Condition Query	Displays when a **Condition** task is selected. The entry lists the query selected to determine the true and false paths of the **Condition** path. If a query has not yet been defined, it is listed as empty. Click the entry to display the **Condition Query** dialog box, which you can use to change, modify, or delete the defined query.
Condition Result	Displays when a **Condition** task is selected. The entry lists the required result of the query: either **true** or **false**.

Element	Description
Due Date	Displays when the selected task contains a due date. The entry lists the date by which the task must be completed. If the task is not completed by the specified date, the task's status changes to late, and the task becomes overdue. Click **Due Date** to display the **Due Date** dialog box, which you can use to set the date and time by which the task must be completed. If the task is not completed by the specified date, the task's status changes to late, and the task becomes overdue.
Duration	Displays when the selected task contains a defined duration. The entry lists the length of time allowed for the completion of the project. If the task is not completed within the specified amount of time, the task's status changes to late, and the task becomes overdue. Click **Set** to display the **Set Duration** dialog box, which you can use to set a length of time in which the task must be performed. If the task is not completed within the specified amount of time the task's status changes to late, and the task becomes overdue.
Recipients	Displays the names of users selected to receive program mail when the selected task becomes overdue. Click **Set** to display the **Select Recipients** dialog box, which you can use to select users who will receive program mail if the selected task becomes overdue.
Show Task in Process Stage List	Displays if the **Set Stage to Available** check box is available.
Process in Background	Indicates if the task is to be executed in the background.

Task Attachments

You can use the **Attachments** pane to view and manipulate attachments.

In the template manager pane, click **Attachments** to display the **Attachments** dialog box.

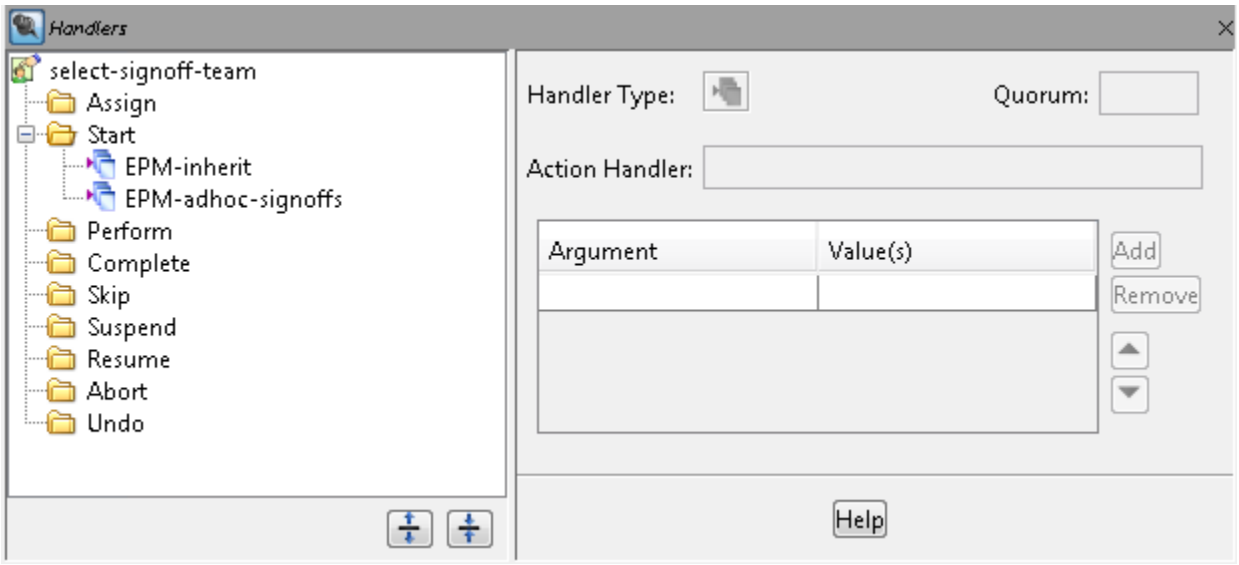


This dialog box displays the objects attached to the workflow as targets or references.

- Replica proposed targets appear if they exist.
- You can cut, copy, or paste the objects with the respective buttons in the pane.

Task Handlers

In the template manager pane, click **Task Handlers** to display the **Handlers** dialog box.



The **Handlers** values cannot be edited.

Item	Description
Task Handler tree	Lists folders representing each of the task actions. Each folder contains the handlers associated with that task action. Action handlers exist as direct descendants of the parent task action folders. Rule handlers exist as children of rules.

Item	Description
	Rules are direct descendants of task action folders.
Handler Type	Specifies the handler types: *action handler* or *rule handler*.
Quorum	Indicates how many rule handlers must be satisfied before the rule is satisfied, therefore allowing the workflow process to proceed. When a rule handler is selected, an integer appears representing the number required.
Rule/Action Handler	Selects the handler by name.
Argument/Value(s)	When a predefined handler is selected, displays the predefined arguments and values for the handler.
Help	Selecting a handler from the **Task Handler** tree and clicking **Help** displays the documentation for the selected handler.

Task signoffs

In the template manager pane, click **Task Signoffs**  to display the **Signoff Profiles** dialog box.

Item	Description
Signoff Profiles tree	Displays the name of the selected workflow process.
Signoffs Quorum	Lists the number or percent of signoffs required for the task to complete, and displays the **Wait for Undecided Reviewers** option that allows the **Review** task to wait for all reviewers to submit their decisions before completing and following the appropriate path.

Edit menu

The **Edit** menu contains commands used for editing workflow process properties.

Command	Description
Template	Lists the task templates available in Teamcenter.
Template→Task 	Workflow Designer default template setting. The **Task** template is synonymous with the **EPMTask** template.
Template→Do Task 	Has two options if at least one failure path is configured: **Complete** confirms the completion of a task and triggers the branching to a success path. **Unable to Complete** indicates the task is unable to complete, for various reasons. Uses the **EPM-hold** handler, which stops the task from automatically completing when started.
Template→Review Task 	Uses the **select-signoff-team** and **perform-signoff** subtasks, each of which has their own dialog box. **Wait for Undecided Reviewers** is an option to set the **Review** task to wait for all reviewers to submit their decisions before completing and following the appropriate path.
Template→Add Status Task 	Creates and adds a release status to the target objects of the workflow process. It is a visual milestone in a workflow process. There is no dialog box associated with this type of task.
Template→Or Task 	Inserts an **Or** task into the workflow process. This task continues the workflow process when any one of its multiple task predecessors is completed or promoted. There is no limit to the number of predecessors an **Or** task may have.
Template→Acknowledge Task 	Inserts an **Acknowledge** task into the workflow process. This task uses the **Acknowledged** and **Not Acknowledged** subtasks, each of which has its own dialog box.
Template→Condition Task 	Inserts a **Condition** task into the workflow process. This task requires that the succeeding task contains a **EPM-check-condition** handler that accepts **True**, **False**, or any string corresponding to custom result string configured on the paths emerging from the preceding **Condition** task.
Template→Route Task 	Inserts a **Route** task into the workflow process. This task uses the **Review**, **Acknowledge**, and **Notify** subtasks, each of which has its own dialog box.
Template→Validate Task 	Inserts a **Validate** task into the workflow process. This task give you the ability to respond to errors by providing an

Command	Description
	alternate path which the workflow process traverses when an error occurs.
Copy Workflow Process	Copies the workflow process to the clipboard
Mode→Execute	Initiates **Execute** mode to perform workflow process tasks.
Mode→Design	Initiates **Design** mode to perform ad hoc process modification.

View menu

The **View** menu contains commands used for viewing workflow process properties.

Command	Description
Task Properties	Opens a **Task Properties** dialog box that presents task information in a concise format. Unlike **Properties**, **Task Properties** displays only relevant information to the selected task.
Access	Contains the user, group and role assigned to this task, if any. You can open the **ACL Control List** and **Extra-Protection** dialog boxes for reference. Access control lists can be viewed and edited in Workflow Viewer. Create an access control list from the Access Manager.
Audit→View Audit Logs	Note: This command appears only if the **TC_audit_manager** preference is set to **ON** and the **TC_audit_manager_version** preference is set to **2**. Opens the **Audit Log** dialog box. Enter query data into the text boxes to perform a search on any objects in the database. The search returns a history of the actions taken on the defined objects. Note: Audit logs are based on site-defined audit definition objects. Default settings of the Audit Manager provide audit definitions for workflow and checkin/checkout events, allowing audit logs to be automatically created for these functions. Site-defined audit

Command	Description
	definitions must be created to generate general workflow and checkin/checkout audit logs.
Organization	Displays a read-only organization chart.

Actions menu

The **Actions** menu contains commands used for setting the actions of tasks. All commands on the **Actions** menu require **privileged user** status to function.

If a task is designated to process in the background, all actions except **Perform** and **Assign** are processed in the background. The **Perform** and **Assign** action execute in the foreground.

Command	Description
Perform	Displays the **Perform** dialog box for the selected task. The contents of the dialog box varies depending on the task selected.
Assign	Reassigns the selected task to another user.
Start	Manually starts a task. This command works only in certain circumstances.
Complete	Manually completes a task, if it is in either the **Started** or **Pending** states.
Suspend	Moves a selected task to a **Suspended** state. The only valid action from a **Suspended** state is **Resume**.
Resume	Moves a selected task from a **Suspended** state to the previous state.
Promote	Places the selected task into a **Skipped** state, and starts the successor tasks in the workflow process. For **Review** and **Route** tasks, the successor task can be either along the approve or reject path, depending on the user's selection.
Demote	Demotes a task is to retract workflow process control. The selected task changes from a **Started** state to a **Pending** state. To demote subtasks and restart the predecessor tasks, an **EPM-demote** handler must be built into the selected tasks template.
Stand-In	Allows you to perform the task while allowing the original user to retain control.
Abort	Cancels a workflow process and exits without workflow process completion.
Claim Task	Allows you to reassign a task to yourself.

Go menu

The **Go** menu contains commands used for maneuvering through a workflow process.

Command	Description
Up a level	In the task hierarchy tree, opens the parent task of the currently selected task. The remaining views are initialized accordingly.
Down a level	The currently selected task in the process flow pane is selected in the task hierarchy tree and the remaining task views are initialized accordingly. If there is no task selected in the process flow pane, the first subtask of the currently selected task in the task hierarchy tree is selected and the other task views are initialized accordingly.
Top level	In the task hierarchy tree, opens the root task of the workflow process.

Workflow Viewer buttons

Button	Description
Task Properties	Displays the name, description, attributes, and handlers of the selected task.
Open By Name	Searches for a workflow process by name.
MRU	Displays the mostly recently opened workflow processes.
Task Attributes	Displays and opens for edit the named ACL, task type, and quorum requirements for the selected task.
Task Attachments	Displays and opens for edit the attachments to the selected task.
Task Handlers	Displays and opens for edit task handlers for the selected task.
Task Signoffs	Displays and opens for edit the group, role, quorum, and number of reviewer requirements for the selected task.
Task	Inserts an empty task with no handlers into the workflow template for you to customize.
Perform Task	Starts the required work for the task. For example, to complete a **select-signoff-team** task, the responsible party clicks the **Perform Task** button and then selects team members meeting the defined group and role requirements to complete the task.
Do Task	Inserts a **Do** task into the workflow template. This task has two options, if at least one failure path is configured: **Complete** confirms the completion of a task and triggers the branching to a success path. **Unable to Complete** indicates the task is unable to complete, for various reasons.

Button	Description
	This task uses the handler, which stops the task from automatically completing once started.
Review Task 	Inserts a **Review** task into the workflow template. This task uses the **select-signoff-team** and **perform-signoffs** subtasks, each of which has its own dialog box. **Full Participation Required** is an option that allows the workflow designer user to set the **Review** task to wait for all reviewers to submit their decisions before completing and following the appropriate path.
Add Status Task 	Inserts an **Add Status** task into the workflow template. This task creates and adds a release status to the target objects of the workflow process. It is a visual milestone in a workflow process. There is no dialog box associated with this type of task.
Or Task 	Inserts an **Or** task into the workflow process. This task continues the workflow process when any one of its multiple task predecessors is completed or promoted. There is no limit to the number of predecessors an **Or** task may have.
Acknowledge Task 	Inserts an **Acknowledge** task into the workflow template. This task uses the **Acknowledged** and **Not Acknowledged** subtasks, each of which has its own dialog box.
Condition Task 	Inserts a **Condition** task into the workflow template. This task requires that the succeeding task contains an **EPM-check-condition** handler that accepts a Boolean value of either **True** or **False**.
Route Task 	Inserts a **Route** task into the workflow template. This task uses the **Review**, **Acknowledge**, and **Notify** subtasks, each of which has its own dialog box.
Validate Task 	Inserts a **Validate** task into the workflow template. This task gives you the ability to respond to errors by providing an alternate path which the workflow process traverses when an error occurs.
Up a Task Level	Displays the task one level higher than the current task.
Down a Task Level	Displays the task one level lower than the current task.

2. Viewing workflows

Workflow terminology

In Teamcenter, workflows are *processes* based on *process templates* that are composed of *tasks*.

Term/Concept	Description
Process	A process is the automation of a business procedure, describing the individual tasks and task sequences required to complete a business procedure.
Process template	Workflow processes are created based on a process template, which functions as a blueprint of the workflow process. A specific workflow process is defined by placing workflow and/or change management tasks in the order they should be performed. Process templates are created using Workflow Designer.
Tasks	The fundamental building block used to construct a process is a task. Each task defines a set of actions, rules, and resources used to accomplish that task. User actions cause tasks to move from one state to another, and as a result, the overall process moves forward or backward.

In a workflow, actions are assigned or allowed depending on the type of user.

User	Description
Responsible party	A *responsible party* is the user responsible for performing a particular task within a workflow process. While performing the task, the responsible party can reassign responsibility of the task to another user. If the task is reassigned to a user other than the workflow process owner, the workflow process owner is no longer the responsible party.
Privileged user	A *privileged user* is the responsible party, the process owner, or a member of a system administration group.
Process owner	A *process owner* is the user who initiated the workflow process. The process owner is also known as the process initiator. When the workflow process is initiated, the process owner becomes the responsible party for the workflow process; the root task of the workflow process is placed in the process owner's worklist. Whenever any task in the workflow process is not explicitly assigned to another user, person or resource pool, the responsible party for the task defaults to the process owner.

Viewing task flow

Task flow is both the order in which tasks are placed in the workflow process and the method by which the tasks are linked. View the task flow of a workflow process in the **process flow pane**. Links determine the sequence in which tasks are executed.

For example, in the following workflow process, the **Update Timesheet** task starts first. When it completes, the **Review Timesheet** task starts. This second task is a **Review** task, a container task containing both the **select-signoff-team** and **perform-signoffs** tasks. When both subtasks are completed, the workflow process reaches the **Finish** node and completes.

Success paths are indicated by a solid line. Failure paths are indicated by a dotted line. All paths are configured in the workflow template at design time.

Failure paths provide an alternate course for the workflow process to follow when:

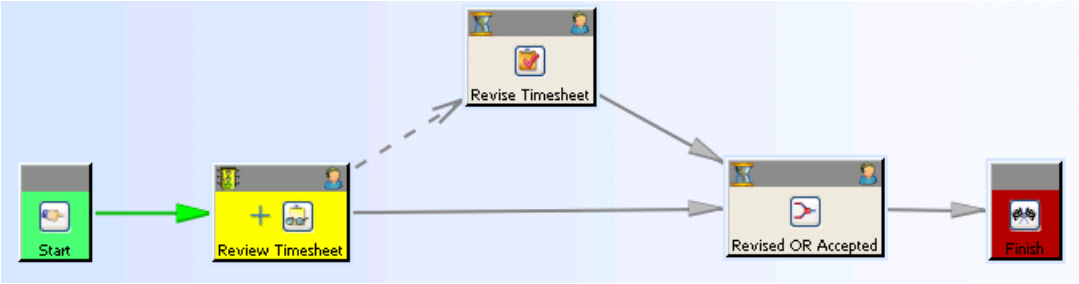
- A task is rejected.
- The user determines that the task cannot be completed.
- There is an error.

Failure paths represent different results for different tasks.

Task	Failure option
Do	**Set to Unable to Complete**
Review	**Set to Reject**
Route	**Set to Reject**
Condition	**Set to Unable to Complete**
Validate	**Set to Error Path**
EPM	**Set to Unable to Complete**

In the following workflow process, the task flow follows the success path from **Review Timesheet** to **Revised OR Accepted** when the number of reviewers defined by the quorum setting approve the timesheet.

Alternatively, the task flow follows the failure path from the **Review Timesheet** task to **Revise Timesheet** when less than the number of reviewers defined by the quorum setting approve the timesheet. This failure path allows the specified user to revise the timesheet based on reviewer comments.

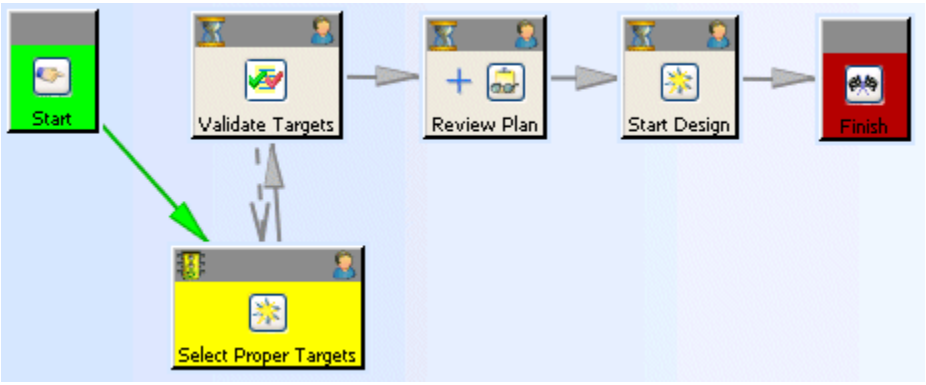


Task flow can also flow backward. The following workflow process uses a **Validate** task to ensure that the correct types of target objects are always selected for a design review.

The task flow begins with a **Do** task, which sends the process initiator a instructions to ensure the workflow process was initiated against the correct target objects.

When the **Select Proper Targets** task completes, the workflow process continues to the **Validate Targets** task, which, in this example, is configured to confirm that the correct target objects were chosen for the workflow process. If the target types are correct, the process flow continues to the **Review Plan** task. If not, the process flow moves backward to the **Select Proper Targets** task.

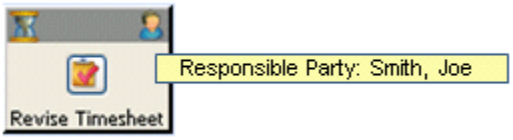
The process initiator must once again complete the **Do** task. The process flow continues to loop until the correct target types are chosen.



Determining a task's responsible party

Each task within a workflow process has a *responsible party*. The responsible party is the person responsible for performing the task.

When viewing workflow processes in Workflow Viewer, you can determine the responsible party by placing the cursor over the **Responsible Party** button in the upper-right corner of each task.



> Note:
>
> In the case of **perform-signoffs** tasks, multiple users are members of the signoff team. Each member is responsible for performing a signoff, but none need be the responsible party. By default, the responsible party for this task is the process initiator. But this responsibility may be configured differently at your site. The responsible party has oversight over all signoffs and has the responsibility to oversee the completion of all **perform-signoffs** tasks. To this end, the responsible party has permission to delegate the signoff of any signoff team member.

Opening a workflow process from an object

You can open workflow processes in Workflow Viewer by selecting any object associated with a workflow process and choosing the **Send To** command from the shortcut menu to send the object to Workflow Viewer.

- You can select an object from anywhere within the rich client.
- The act of sending the object to Workflow Viewer opens the workflow process, letting you view all aspects of the workflow process.
- This method is useful for viewing the most current workflow associated with the selected object.

For example, perhaps you worked on a subassembly last week. A review process has since been initiated for the subassembly. You are not on the review team but want to read the review comments. Having recently worked on the subassembly, the object is still in your **Home** folder.

You can:

1. Right-click the subassembly and choose the **Send To** command to send the subassembly to Workflow Viewer.

2. Choose the **Actions→Perform** command to open the **Perform Signoff** dialog box.

3. Click the **Browse Signoffs** tab to read all reviewer comments.

> Note:
>
> Because you are not a member of the review team, you cannot perform the signoff.

In another example, you may want to use the Teamcenter search feature to identify all objects of a specified type currently in a workflow process and then send each object Workflow Viewer to view them in detail.

1. In the **Search** view, select **WF – Object in Process** from the **System Defined Searches** folder.

2. Select which type of object you want to find in active workflow processes, such as item revisions or master parts.

3. Run the search, and then select objects one by one from the **Search Results** tab, using the **Send To** command to send the objects to Workflow Viewer, which opens the associated workflow.

Open a workflow process from an object

1. Select a Teamcenter object that is, or has been, involved in a workflow process using one of the following methods:

   - Select an object from your worklist.
   - Search for in-process objects using the **WF-Object in Process** defined search.
   - Select an object from any assembly.

> Note:
>
> In-process objects are indicated by the symbol.
>
> Objects already granted release status are indicated by the symbol.

2. Right-click the selected object and choose **Send To→Workflow Viewer**.
   The Workflow Viewer view is opened, and the workflow process displays in the process flow pane. By default, the workflow process displays in **Execute** mode. This mode allows you to view all workflow process details. If the workflow process contains any tasks assigned to you, you can perform them in **Execute** mode.
   The **Design** mode is used by privileged users to modify active workflow processes.

Opening a workflow process from a reference

You can view current and previous workflows and workflow subprocesses associated with an object.

- Perform a **Where Referenced** search on any object ever associated with a workflow process.
- Use the **Send To** command to send any of the referenced workflow processes to Workflow Viewer.

For example, perhaps you worked on a subassembly last year and since then several workflow processes have been initiated against the subassembly.

To see all the workflow processes associated with the subassembly:

1. Use the **Search** command to find the subassembly.
2. Click the **Impact Analysis** tab
3. Perform a **Where Referenced** search on the subassembly.

   > Note:
   >
   > Set the depth of the reference search to cover all levels to ensures that all workflow processes associated with the subassembly are displayed.

4. Select and open any workflow process from the **Where Referenced** search results by selecting the workflow process and using the **Send To** command to send the subassembly to Workflow Viewer.

Open a workflow process from a reference

1. Select a Teamcenter object that is, or has been, involved in a workflow process using one of the following methods:

   - Select an object from your worklist.
   - Search for in-process objects using the **WF-Object in Process** defined search.
   - Select an object from any assembly.

   > Note:
   >
   > In-process objects are indicated by the symbol.
   >
   > Objects already granted release status are indicated by the symbol.

2. Click the **Impact Analysis** tab.

3. Set the **Where** box to **Referenced** and the **Depth** box to **All Levels**.
   All references to the selected object display in the bottom pane, including all workflow processes.

4. Open any workflow process by right-clicking the workflow object from the **Where Referenced** results and choosing **Send To→Workflow Viewer**.
   The Workflow Viewer view is opened, and the workflow process appears in the process flow pane. By default, the workflow process displays in **Execute** mode. This mode allows you to view all workflow process details. If the workflow process contains any tasks assigned to you, you can perform them in **Execute** mode.
   The **Design** mode is used by privileged users to modify active workflow processes.

What are workflow subprocesses?

Subprocesses are child workflow processes of a parent workflow process. You can create subprocesses while performing tasks from your worklist.

A typical scenario is one in which you receive a task in your worklist that is dependent upon the completion of an additional workflow process. You decide to create a workflow subprocess to track the work which must be completed before you can complete the task in the parent workflow.

Subprocesses are created in two locations:

Parent workflow templates	Administrators can configure workflow templates to create subprocesses. For example, a parent workflow template can be configured to automatically launch subprocesses for each target of the parent workflow.
My Worklist	When you create a workflow subprocess from an in-process task in your worklist, you create a dependency between the selected task in the parent process and the newly created subprocess. The targets of the active parent workflow process are carried over if you check the **Inherit Targets** box. If a subprocess is created from an in-process task, the task cannot complete until the subprocess completes.

> Note:
>
> The behavior of the **Inherit Targets** box is determined by the **EPM_multiple_processes_targets** and **EPM_sub_process_target_inheritance** preferences.
>
> Regardless of how these two preferences are set to control the inheritance of target objects from the parent process, users can always manually add or remove targets from subprocesses.

> Note:
>
> Workflow subprocesses are not always dependent on parent processes. The **WRKFLW_skip_abort_on_sub_process** preference is honored only for *independent* subprocesses.

Set the **WRKFLW_skip_abort_on_sub_process** preference to **true** to skip abort of subprocess when a parent process is aborted.

If there is a dependency from a parent process to its subprocesses, aborting the parent will abort the *dependent* subprocesses, irrespective of the value of the preference.

The default value is **false** which will abort the subprocesses along with parent process.

Create a workflow subprocess

You can create workflow subprocesses while performing tasks from your worklist or Workflow Viewer.

To create workflow subprocesses while performing tasks from Workflow Viewer:

1. In the **Task hierarchy** tree, select the task in the existing workflow from which you want to create a subprocess.
   The task you select becomes dependent upon the workflow subprocess. It cannot complete until the workflow subprocess completes.

2. Right-click the task and choose **Create New Workflow Sub-Process**.
   The **New Sub-Process** dialog box appears.

3. Type a name for the process in the **Sub-Process Name** box.

4. Type a description to identify the process in the **Description** box.

5. To include process templates currently under construction in the **Process Template** list, select the **Show Under Construction Templates** check box.

6. (Optional) Select a **Process Template Filter** option, if available.

   Caution:

   Process Template Filter functionality has been deprecated as of Teamcenter 11.2, and is turned off by default. This functionality is replaced by Business Modeler IDE conditions used to associate templates.

   - To display all available process templates in the **Process Template** list, select **All**.
   - To display only those process templates assigned to your group in the **Process Template** list, select **Assigned**.

7. Click the **Process Template** list to view available workflow process templates and make a selection. Your selection determines the workflow that is initiated as a workflow subprocess.

8. (Optional) Select the **Inherit Targets** ☑ check box if you want the new workflow subprocess to include all the targets of the parent workflow process.

9. (Optional) Click the **Attachments** tab to view or assign target and reference attachments.

10. (Optional) Click the **Process Template** tab to view the process template selected as the basis of the new process.

11. (Optional) Assign all tasks in the process.

    a. Click the **Assign All Tasks** tab.

    b. Select a list from the **Assignment Lists** list.
    Teamcenter applies the assignment list to the tasks in the process. Users are displayed as nodes in the process tree and the action assigned to the user is displayed to the right of the tree under the **Actions** heading.

    > Note:
    >
    > The **select-signoff-team** and **perform-signoffs** subtasks associated with **Route**, **Review**, and **Acknowledge** tasks are not displayed in the tree.

    c. Assign users:

        A. Expand the task node in the tree to begin to assign the responsibility of performing each task to users.
        If the selected task requires users, or users of a specific/group role profile, to perform the task, the **Users** node or **Profiles** node appears under the task.

        B. Select the task, or if available, the **Users** or **Profiles** node within the task.

        C. Use the **Organization** and **Project Teams** trees to select users to be responsible for performing the selected task.
        You can search for a specific user, group, role, or combination.

        D. Alternatively, use **Resource Pool Options** to select a resource pool to be responsible for performing the task.

        E. The action that the selected users are responsible for display next to the **Action** option. The action list is based on the task type. For example, if a **Route** task is selected, the **Review**, **Acknowledge**, and **Notify** actions are displayed. If a **Review** task is selected, only the **Review** action is available; if an **Acknowledge** task is selected, only the **Acknowledge** action is available.

        F. Click **Add**.
        The system displays the user information and action assigned to that user beneath the task node in the process tree.

        G. Repeat the previous steps to continue to assign user responsibility for performing other tasks in the tree.

d. (Optional) If the selected task is a **Review** or **Acknowledge** task, you can set the approval quorum values for the tasks in the **Review Quorum** or **Acknowledge Quorum** box.

e. (Optional) If the selected task is a **Review** or **Acknowledge** task, specify that you do not want the task to complete until all reviewers perform their signoff by selecting the **Wait For Undecided Reviewers** check box. If you do not select this check box, the task completes as soon as the approval quorum is satisfied.

f. (Optional) To save modifications to the process assignment list, select the **Save Modifications Back to List** check box.

> Note:
>
> You can only save modifications to personal process assignment lists. Shared lists can be modified, but the changes cannot be saved.

12. Click **OK** to initiate the process.

> Note:
>
> Click **Cancel** at any time to cancel the operation without initiating a process.

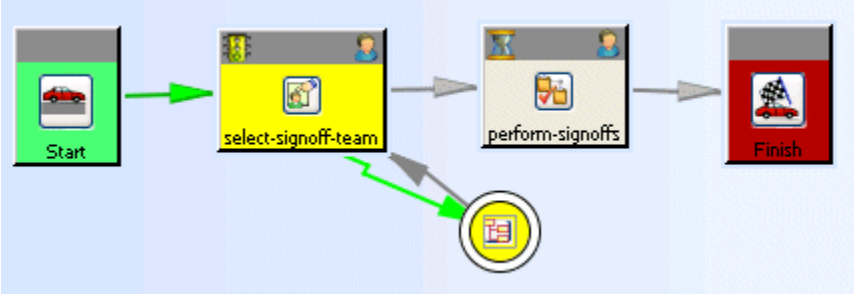
Opening a workflow subprocess in Workflow Viewer

Subprocesses are child workflow processes of a parent workflow process. Users can create ad hoc subprocesses while performing tasks from their worklist or Workflow Viewer. When created in this manner, parent workflow processes are dependent upon subprocesses; they cannot complete until the subprocess completes.

> Note:
>
> You can create both dependent and nondependent subprocesses from the worklist. A nondependent subprocess does not have tasks that depend on the subprocess's completion.

A typical scenario is one in which a user receives a task in his worklist that is dependent upon the completion of an additional workflow process. The user creates a workflow subprocess to track the work which must be completed before he can complete the task in the parent workflow.

The existence of a subprocess within a parent process is indicated by a yellow circle outlined in white. For example, the following workflow indicates that the **select-signoff-team** task within a parent process is associated with a subprocess.



Display the list of associated subprocesses by clicking the subprocess button. Click a name in the list to open the subprocess in Workflow Viewer. (Double-clicking the subprocess button opens the first subprocess in the list.)

Open a subprocess

From a parent workflow process displaying the subprocess button  , open a subprocess using one of the following methods:

- Click the subprocess button to display the list of associated subprocesses. Click a subprocess in the list.
- Double-click the subprocess button. The first subprocess in the list opens.

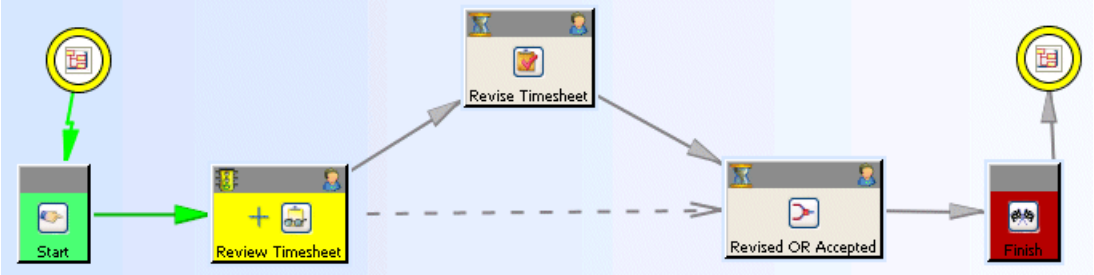
The parent process closes and the selected subprocess appears in the process flow pane.

In the subprocess, the parent workflow process button  appears at the locations the parent process encompasses the workflow subprocess.

Opening a parent workflow process in Workflow Viewer

Workflow processes can be associated with child workflow processes. Users can create subprocesses while performing tasks from their worklist or Workflow Viewer. When subprocesses are created in this manner, the parent workflow processes are dependent upon subprocesses; they cannot complete until the subprocess completes.

The existence of a parent workflow process is indicated within a subprocess by a white circle outlined in yellow. For example, the following workflow process indicates that the entire workflow is a child workflow process related to a parent workflow process.



Open a parent workflow process by double-clicking the parent process button.

Open a parent process

In a parent workflow process, the workflow subprocess button appears at the location the workflow subprocess occurs.

- To see a list of parent process nodes for a workflow subprocess, click the parent workflow process button .

- To open a parent process, double-click the parent workflow process button .
  The workflow subprocess closes and the parent workflow process appears in the process flow pane.

View signoff team profiles

The **Signoff Profiles** pane can be displayed only if a **select-signoffs-team** task or a **Route** task is selected.

> Note:
>
> The **Signoff Profiles** pane is unavailable for the **Acknowledge** subtask within the **Route** task template.

1. Click **Task Properties** on the toolbar.
   The **Task Properties** dialog box displays. The name of the selected process template or task template is listed in the **Name** box. Task instructions, if any, are displayed in the **Instructions** box. The task's attributes display by default. Other property tabs are available in this view.

2. Click the **Signoff Pane** tab.
   The number or percent of signoffs required for the task to complete is listed. Also, the **Wait for Undecided Reviewers** check box is displayed.

3. Click **Close**.

3. Tasks you can perform

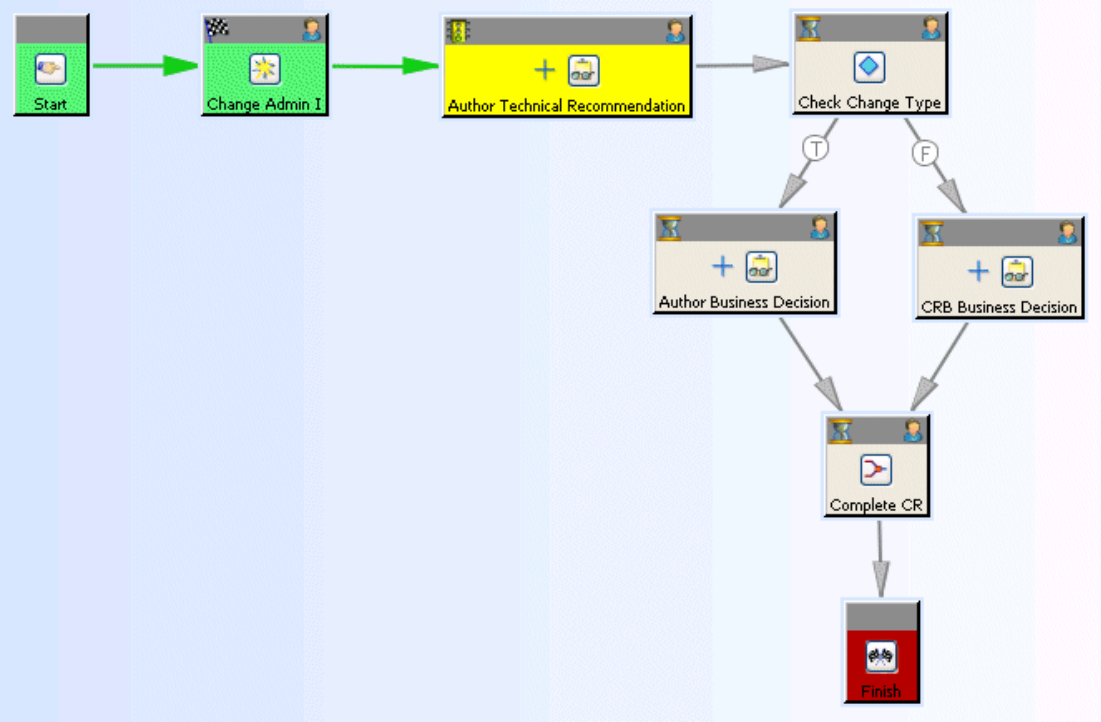
Performing tasks in Workflow Viewer

You can perform any interactive task from Workflow Viewer that is assigned to you and currently active. In other words, any task you can perform from **My Worklist** you can perform from Workflow Viewer.

Your **My Worklist** view is streamlined to display only tasks that are ready to be performed. Because Workflow Viewer displays the entire workflow process, selecting tasks to perform requires a basic understanding of the different task statuses in a workflow process.

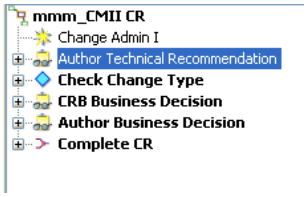
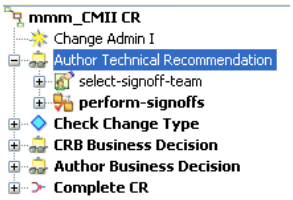
Example:

The following workflow process indicates that the **Change Admin I** task is complete. You can no longer perform this task. The **Author Technical Recommendation task** has started and can be performed.



The **Author Technical Recommendation** task is a **Review** task. **Review** tasks are container tasks; they always contains two subtasks, a **select-signoff-team** subtask and a **perform-signoffs** subtask.

You must expand the **Review** task to view the status of the two subtasks and determine which subtask is ready to be performed. You can expand container tasks from either the task tree or by double-clicking the task within the process flow pane.

Expansion method	Container task	Container task expanded
Task tree		
Process flow pane		

Using either method to expand the **Author Technical Recommendation** task reveals that the **select-signoff-team** task is started and can be performed, and that the **perform-signoffs** task is pending and cannot yet be performed.

Perform a Do task in Workflow Viewer

To perform a **Do** task, follow the instructions in the **Instructions** box. Select **Done** when the task criteria is met. To complete a **Do** task that has reached a **Started** state, perform the following steps:

1. Click the **Do Task** to be completed, either in the task hierarchy tree or the process flow pane.

2. (Optional) If you know you have additional tasks to perform before you can perform the **Do** task, you can create a subprocess from this task. The subprocess must complete before the **Do** task can complete.

3. Click **Perform Task** on the toolbar.
   The **Perform Do Task** dialog box appears.

4. Review the task instructions listed in the **Instructions** box.

5. (Optional) Review any contents in the **Process Description** box. If necessary, type additional information into the box.

6. Complete the task instructions.

7. (Optional) In the dialog box, type any comments regarding the task in the **Comments** box.

8. Select **Complete**.
   If the task is configured with a failure path, you can also select **Unable To Complete**.

9. Type your user password in the **Password** box.

This box appears only if user authentication is required for the completion of this task. This authorization is determined by the creator of the process template.

10. Click **OK** to save the changes to the database and close the dialog box.

11. Click **Cancel** at any time to cancel the operation without making changes to the database.

Perform a Condition task manually in Workflow Viewer

To perform a **Condition** task, follow the instructions in the **Instructions** box. The instructions should pose a question or define a set of parameters that can be answered. **Unset** is the initial value of the task, which must be changed. The task cannot complete or the workflow process continue, while the task remains set at **Unset**. If the **Condition** task is configured with custom paths (paths that are set with result values other than true and false), the available options will reflect these custom results. The **Unable To Complete** option displays on **Perform Condition Task** dialog box, if the **Condition** task is configured with a failure path.

> Note:
>
> An automatic **Condition** task is configured to proceed during the workflow process. It acts as a visual milestone in the workflow process. There is no action for a user to perform and no dialog box associated with the automatic **Condition** task.

1. Select the **Condition** task to be completed, either in the task hierarchy tree or the process flow pane.

2. (Optional) If you know you have additional tasks to perform before you can perform the **Condition** task, you can **create a subprocess** from this task. The subprocess must complete before the **Condition** task can complete.

3. Click **Perform Task** on the toolbar.
   The **Perform Condition Task** dialog box displays.

4. Complete the task instructions listed in the **Instructions** box.

5. (Optional) Review any contents in the **Process Description** box. If necessary, type additional information into the box.

6. Set **Task Result** to **true** or **false**, based on the requirements listed in the **Instructions** box. If the **Condition** task is configured with custom paths (paths that are set with result values other than **true** and **false**), the available options reflect these custom results. This setting determines whether the workflow process continues along the true or false flow line branching off the **Condition** task. Setting the condition path to **unset** prevents the task from completing and pauses the workflow process.

7. Select **Complete**.
   If the task is configured with a failure path, you can also select **Unable To Complete**.

8. Type your user password in the **Password** text box. This text box appears only if user authentication is required for the completion of this task. This authorization is determined by the creator of the process template.

9. Click **OK** to save the changes and close the dialog box.

10. Click **Cancel** at any time to cancel the operation without making changes.

Note:

You can set a **Condition** task result while it is still in a **Pending** state.

- Performing a manual **Condition** task while it is pending prevents the task from appearing in the assigned user's worklist.
- Performing an automatic **Condition** task while it is pending preempts the query results, allowing you to override the confines of the query and manually set the task to **true** or **false**.

If you perform a **Condition** task while it is still in a **Pending** state, you can return to the task and reset the true/false/unset setting at anytime until the task reaches a **Started** state.

Perform a Route task in Workflow Viewer

A **Route** task is the electronic equivalent of a routing sheet; the task is used to assign different responsibilities for the same task to multiple users. After you complete a **Route** task, the users are notified of their tasks by Teamcenter mail.

1. Select the **Route** task, either in the task hierarchy tree or the process flow pane.

2. (Optional) If you know you have additional tasks to perform before you can perform the **Condition** task, you can create a subprocess from this task. The subprocess must complete before the **Condition** task can complete.

3. Click **Perform Task** on the toolbar.
   The **Select Signoff Team** dialog box appears.

4. Click **Users** in the **Signoff Team** tree.
   The right pane displays the **Organization** pane.

   a. Search or select a user from the **Organization** or **Project Teams** tree.
      In the **Organization** tree, you can search for a specific user, group, role, or combination.
      You can assign a resource pool to the task in the **Resource Pool Options**.

   b. Select a group, role, or user to whom the task will be assigned.

   c. Select either **Review**, **Acknowledge**, or **Notify** from the **Action** list.

d. Click **Add**.
Teamcenter displays the user information and action assigned to that user beneath the task node in the process tree.

e. Repeat the previous steps to add additional users and task responsibilities.

5. If you want to use address lists to add other users, click **Address Lists** in the **Signoff Team** tree.
The right pane displays the **Address Lists** pane.

a. Select a list from the **Address Lists** list.

b. Select either **Review**, **Acknowledge**, or **Notify** from the **Action** list.

c. Click **Add**.
Teamcenter displays the address list information and action assigned to that address list beneath the task node in the process tree.

d. Repeat the previous steps to add address lists.

6. Optionally, modify or set the approval quorum value for the **Review** and **Acknowledge** tasks in the **Review Quorum** and **Acknowledge Quorum** boxes.

7. If you want the workflow process to wait for all reviewers before continuing, select the **Wait for Undecided Reviewers** check box.

8. Select the **Ad-hoc done** check box to indicate you have completed adding signoff team member assignments to this task.

9. Click **OK**.

Perform a Custom task in Workflow Viewer

To perform a **Custom** task, complete the form or instructions provided. Custom tasks usually involve custom forms that are unique to your company's processes. Incorporating company forms into a custom task further automates the workflow process.

1. Select the **Custom** task in either in the task hierarchy tree or the process flow pane.
In the process flow pane, the custom task's subtasks appears.

2. Click **Perform Task** on the toolbar.
The **Perform** dialog box for the selected custom task appears.

> Note:
>
> The **Perform** dialog box for the selected custom task varies depending on the form and/or other tasks the system administrator attaches to the selected task.

3. Complete the steps listed in the dialog box.

4. Select **Complete**.
   If the task is configured with a failure path, you can also select **Unable To Complete**.

5. Click **Close** or **OK**.

> Note:
>
> If the form attached to the **Custom** task is a simple form, the task may not automatically move to the **Complete** state when you click the **Finish/Close** button.

Reassign a task in Workflow Viewer

If you are the responsible party or a privileged user, you can reassign any task that has not already been started.

For example, if you are the initiator of a process, the tasks of selecting a signoff team and performing signoffs are automatically assigned to you. You may want to reassign one or both of these tasks to another user.

> Note:
>
> - You can only reassign a task to another user who meets the group and role criteria defined for the selected task.
> - If you want to reassign the task to yourself, use the **Claim Task menu command** instead.
> - Your administrator can change who can reassign a task using the **Fnd0AssignTaskPrivilege** Business Modeler IDE condition to restrict the reassignment of workflow tasks.

1. Select the task to be reassigned.
   You can select it in either in the task hierarchy tree or the process flow pane. In the process flow pane, the selected task's subtasks appear.

2. Choose **Actions→Assign**.
   The **Assign Responsible Party** dialog box appears.

3. If the **Responsible Party** entry contains a link, you can reassign the responsible party for this signoff task. Reassign the responsible party by clicking the link next to this entry.

The **Assign Responsible Party** dialog box appears. The **Organization** and **Project Teams** lists display the available groups, roles, and users to which you can reassign the task.
You can search for a specific user, group, role, or combination.

4. Select the desired group, role, or user. You can only reassign the selected task to a user who meets the group and role criteria required by the task.

5. (Optional) Reassign multiple tasks, as follows:

   a. Click **Show Tasks**.
   The system displays the pending tasks associated with the selected process in a tree structure.

   b. Select individual tasks to be reassigned, or click the **Select All the Tasks** button to select all displayed tasks.

   > Note:
   >
   > Click the **Clear the Selection** button to clear selections you have made in the tree.

6. Click **OK** or click **Cancel** at any time to cancel the operation without making changes to the database.

Claim a task in Workflow Viewer

> Note:
>
> You can perform the task immediately without first claiming it. This is useful for tasks you can perform right away.

You can claim a task from a resource pool or another user whose worklist you have access to. This reassigns the task to you and makes you the responsible party. This is a simpler way of reassigning a task to yourself using the **Assign** action.

1. Open a process in Workflow Viewer.

2. Select the task in the workflow you want to claim.

3. Choose **Actions→Claim Task**.

4. If the task is assigned to a single user, such as a **Do** task or **select-signoff-team** task, click **OK** in the confirmation dialog box.

   If the task is assigned to multiple users, such as a **perform-signoffs** task, the **Claim Perform Signoff** dialog box appears.

5. In the **Claim Perform Signoff** dialog box, select the user you want to claim the task from and click **Claim**.

   If the **Claim** button is not active after selecting a user, you cannot claim the task from that user.

The task appears in your worklist, and you become the responsible party for the task.

> Note:
>
> When you claim a perform signoff task, the *signoff* is assigned to you. The responsible party for the task, however, remains unchanged.

Move a task in My Worklist

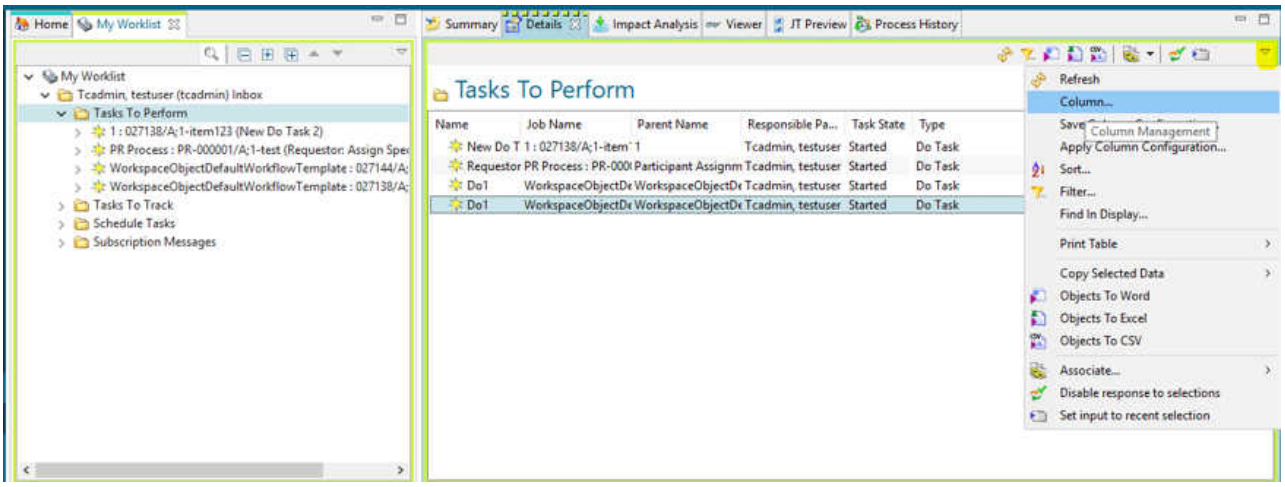
Tasks in **My Worklist** can be assigned **Priority** value and then sorted based on that.

Do the following:

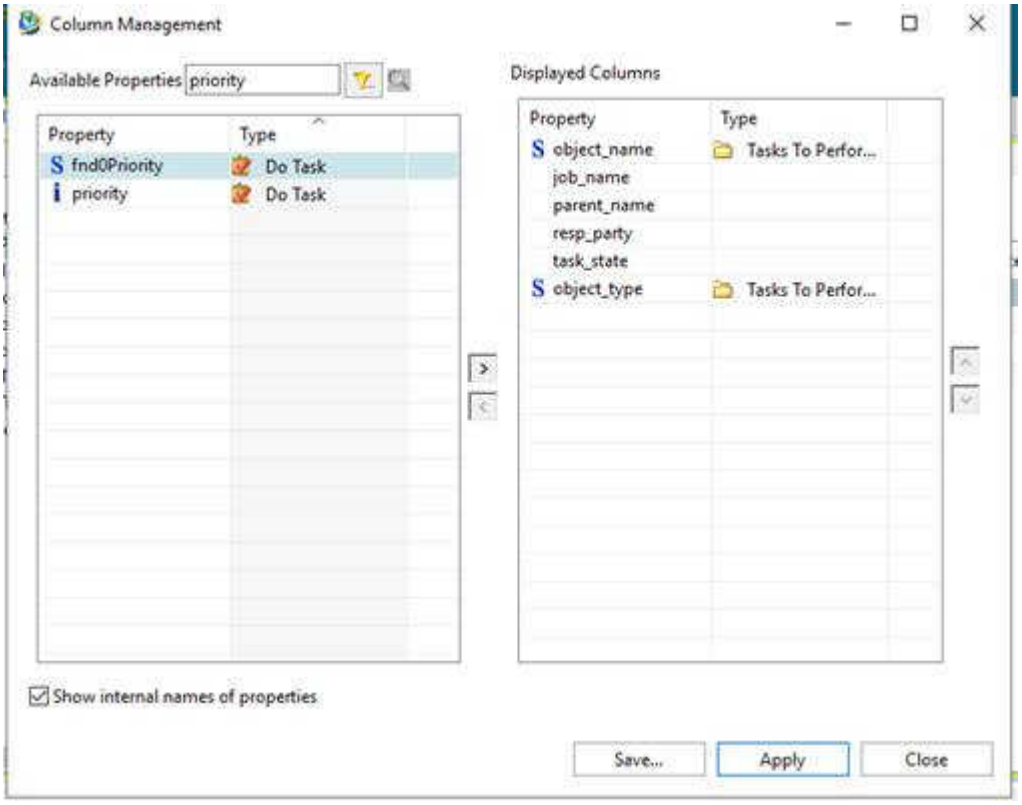
1. In Teamcenter, set **TC_Enable_Implicit_CO** preference to **true**.

2. Click the **Details** tab.

3. Click the inverted triangle icon in the upper-right corner, then select **Column**.

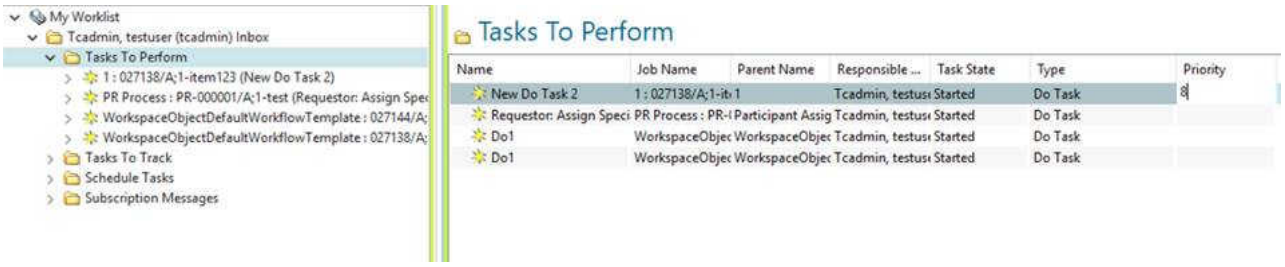


4. Search for the string property **fnd0Priority** and add it to list of displayed columns.

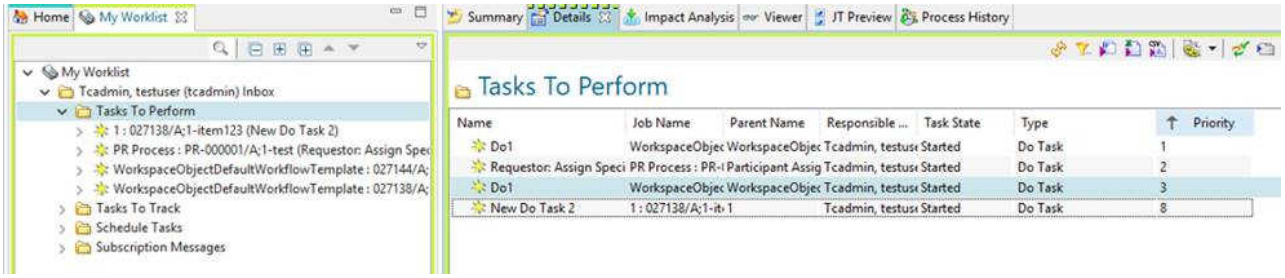


5. Click **Apply**.

6. Click the **Priority** field and edit the priority (alphanumeric values are accepted) for each of the tasks that need to be sorted.



7. Once the priority field is filled, click the column heading to sort it in ascending/descending order.



Note:

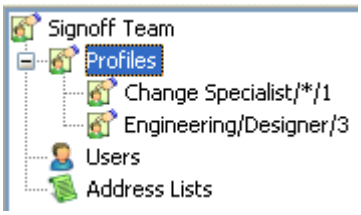
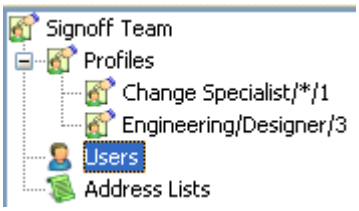
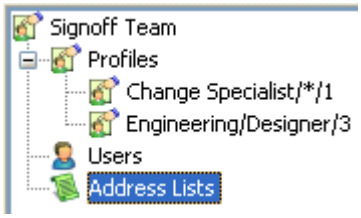
The tasks are sorted in the **Details** tab as per priority. However, the tasks remain in their default creation date-based sorting order under the **Tasks to Perform** folder.

4. Selecting a signoff team

Selecting a signoff team in Workflow Viewer

To perform a **select-signoff-team** task, the responsible party selects users to be members of the signoff team. Each member of the signoff team is responsible for reviewing and signing off on the attached target objects. They do this using the **perform-signoffs** task, which is sent to their worklist as soon as the signoff team is selected.

There are three methods of selecting a signoff team.

Selection method		Description
Profiles		Select the specified number of users to be members of the signoff team or use a resource pool. Each user must meet the group and role requirements of the profile. In this example, you must select one user from the **Change Specialist** group, of any role. (The ***** is a wildcard.) You must select three users from the **Engineering** group with the role of **Designer**. (Profile requirements can be met using resource pools, as well as individual members.) The **OK** button in the **Select Signoff Team** dialog box remains unavailable until you fulfill all profile requirements.
Users		Select any number of users, from any group and role, to be members of the signoff team. This is an ad hoc selection method. You can also select resource pools. If the **Ad-hoc done** check box is enabled at the bottom of the **Select Signoff Team** dialog box, you can use this selection method, regardless of whether you also use the profiles and address list methods.
Address lists		Select all the members of one or more address lists to be members of the signoff team. You can also select resource pools. If the **Ad-hoc done** check box is enabled at the bottom of the **Select Signoff Team** dialog box, you can use this selection method, regardless of whether you also use the profiles and ad hoc methods.

Select a signoff team from profiles in Workflow Viewer

1. Select a **select-signoff-team** task that has reached **Started** status, either in the task hierarchy tree or the process flow pane.

2. Review any task instructions written in the **Instructions** box at the bottom of the template manager pane.

3. (Optional) If you know you have additional tasks to perform before you can perform the **select-signoff-team** task, you can create a subprocess from this task. The subprocess must complete before the **select-signoff-team** task can complete.

4. Click **Perform Task** on the toolbar or the button in the middle of the task in the process flow pane.
   The **Select Signoff Team** dialog box appears.

5. Expand the **Profiles** folder in the **Signoff Team** tree.

6. Select a profile. The **Organization** tab displays to the right, filtered to the group and role required by the selected profile

7. Search or select a user from the **Organization** tree.
   You can search for a specific user, group, role, or combination.
   You can assign a resource pool to the task in **Resource Pool Options**.

8. Click **Add** to add the selected user to the signoff team.
   The user name is added under the selected profile.

9. Repeat these steps to assign additional users to the signoff process. You must select the specified number of users, of the specified group and role, for each profile.
   For example, if the profile states: **Engineering/Designer/3**, you must select three users from the Engineering group, with the role of Designer.
   All profiles must be satisfied before the **select-signoff-team** task can complete.

10. (Optional) Type a description of the workflow process in the **Process Description** box.

11. (Optional) From the **Review Quorum** box, select the amount of users who must approve in order for the task to complete. The initial setting is inherited from the process template. If you want to change that setting, select a quorum using one of the following methods:

    - Select the **Numeric** option and type a number in the box.

    - Select the **Percent** option and type a percentage in the box.

12. (Optional) Type any comments regarding the task in the **Comments** box.

13. If you want the workflow process to wait for all reviewers before continuing, select the **Wait for Undecided Reviewers** check box.

14. Click **Ad-hoc done** to indicate you have completed adding signoff team members.

15. Click **OK** to complete the task and close the dialog box.

Select a signoff team ad hoc

1. Select a **select-signoff-team** task that has reached **Started** status, either in the task hierarchy tree or the process flow pane.

2. Review any task instructions written in the **Instructions** box, at the bottom of the template manager pane.

3. (Optional) If you know you have additional tasks to perform before you can perform the **select-signoff-team** task, you can **create a subprocess** from this task. The subprocess must complete before the **select-signoff-team** task can complete.

4. Click **Perform Task** on the toolbar.
   The **Select Signoff Team** dialog box appears.

5. Click **Users** in the **Signoff Team** tree.
   The **Organization** tab displays to the right.

6. Search and select a user from the **Organization** tree.
   You can search for a specific user, group, role, or combination.
   You can assign a resource pool to the task in the **Resource Pool Options**.

7. Click **Add** to add the selected user to the signoff team.

8. Repeat these steps to assign additional users to the signoff process.

9. (Optional) Type a description of the workflow process in the **Process Description** box.

10. (Optional) From the **Review Quorum** box, select the amount of users who must approve in order for the task to complete. Select a quorum using one of the following methods:

    - Select the **Numeric** option and type a number in the box.

    - Select the **Percent** option and type a percentage in the box.

11. (Optional) Type any comments regarding the task in the **Comments** box.

12. If you want the workflow process to wait for all reviewers before continuing, select the **Wait for Undecided Reviewers** check box.

13. Click **Ad-hoc done** to indicate you have completed adding signoff team members.

14. Click **OK** to complete the task and close the dialog box.

Select a signoff team from address lists in Workflow Viewer

1. Select a **select-signoff-team** task that has reached **Started** status, either in the task hierarchy tree or the process flow pane.

2. Review any task instructions written in the **Instructions** box, at the bottom of the template manager pane.

3. (Optional) If you know you have additional tasks to perform before you can perform the **select-signoff-team** task, you can **create a subprocess** from this task. The subprocess must complete before the **select-signoff-team** task can complete.

4. Click **Perform Task** on the toolbar.
   The **Select Signoff Team** dialog box appears.

5. Click **Address Lists** in the **Signoff Team** tree.
   The **Address Lists** tab displays to the right.

6. Select an address list from the list to display the members of the address list.

7. Click **Add**.
   All members of the address list appears under **Addresses** in the **Signoff Team** tree.

8. Repeat these steps to add additional address lists.

9. (Optional) Type a description of the workflow process in the **Process Description** box.

10. (Optional) From the **Review Quorum** box, select the amount of users who must approve in order for the task to complete. Select a quorum using one of the following methods:

    - Select the **Numeric** option and type a number in the box.

    - Select the **Percent** option and type a percentage in the box.

11. (Optional) Type any comments regarding the task in the **Comments** box.

12. If you want the workflow process to wait for all reviewers before continuing, select the **Wait for Undecided Reviewers** check box.

13. Click **Ad-hoc done** to indicate you have completed adding signoff team members.

14. Click **OK** to complete the task and close the dialog box.

View signoff team profiles in Workflow Viewer

1. In **My Worklist**, select a **select-signoff-team** task.

2. Choose **View→Task Properties** .
   The system displays the **Task Properties Dialog** dialog box.

3. Click the **Task Signoffs Panel** tab.

   - The system opens the **Signoff Profiles** pane.
   - The task breakdown tree displays the group/user profiles of the signoff team.
   - The **Signoff Quorum** box displays the number of users who must sign off to complete the task.

4. Click **Close**.

5. Signing off an Acknowledge or Review task

Signing off an Acknowledge or Review task

To perform a signoff task, complete the selected **perform-signoffs** task in the task tree. There are two types of **perform-signoffs** tasks:

- *Review signoffs*, with which you can elect to **Approve**, **Reject**, or make **No Decision** for the selected task.
- *Acknowledge signoffs*, for which you can set the **Acknowledged** or **No Decision** value on the selected task.

Only members of the signoff team can sign off a task.

> Note:
>
> Siemens Digital Industries Software recommends using your worklist in My Teamcenter to perform signoffs, as the worklist is designed specifically for performing tasks. If you are a responsible party, the **Perform Signoff** task is automatically sent to the **Tasks to Perform** folder in your worklist.

Information most pertinent to a signoff task is displayed in the **Perform Signoff** dialog box. The process name, task name, and task state are listed at the top of the dialog box. View any comments and instructions by clicking the respective links. Additional task information, such as task attributes, is displayed in other dialog boxes.

Click any linked entry to display its related dialog box. For example, click a linked entry in the **Decision** column to display the **Signoff Decision** dialog box and make your signoff decision.

Tool tips are available for each column in the dialog box. Activate the tool tips by moving your cursor over each column.

Perform a signoff of an Acknowledge task in Workflow Viewer

1. Select the **perform-signoffs** task to be completed, either in the task hierarchy tree or the process flow pane.
2. (Optional) If you know you have additional tasks to perform before you can perform the **perform-signoffs** task, you can **create a subprocess** from this task. The subprocess must complete before the **perform-signoffs** task can complete.
3. Click **Perform Task** ☑ on the toolbar.

The **Perform Signoff** dialog box appears. The process name and task state appear at the top of the dialog box.

4. Review the contents of the **Process Description** box. If necessary, type additional information into the box.

5. If the **Responsible Party** entry contains a link, you can reassign the responsible party for this signoff task.

   a. Click the linked user name next to the **Responsible Party** entry.
   The **Assign Responsible Party** dialog box appears.

   b. The **Organization** and **Project Teams** tabs display the available groups, roles, and users to which you can reassign the role of responsible party.
   You can search for a specific user, group, role, or combination.

   c. Select the desired group, role, or user and click **OK**.
   The task is reassigned to the selected responsible party and the dialog box closes.

6. If the **All Comments** entry is linked, comments have been written regarding this signoff task. View the comments by clicking the linked entry. The **All Comments** dialog box appears. Any comments that have been written by yourself and other users are displayed within the text box.

7. View attachments to the workflow process by clicking the **Attachments** link.
The **Attachments** dialog box appears. Target and reference attachments are listed below the signoff task in the task tree.

8. If the **Instructions** entry appears, instructions have been written for this signoff task. View the instructions by clicking the linked entry.
The **Instructions** box appears. All task instructions are displayed within the text box.

9. (Optional) If you do not want to perform this signoff, delegate the signoff task to a different user.

   a. Click on your user name in the **User-Group/Role** column.
   The **Delegate Signoff** dialog box appears.

   b. The **Organization** and **Project Teams** tabs display the available groups, roles, and users to which you can delegate your signoff responsibility.
   You can search for a specific user, group, role, or combination.

   c. Select the desired group, role, or user and click **OK**.
   Your signoff responsibility is delegated to the selected user and the dialog box closes. The **perform-signoffs** task is removed from your worklist, and sent to the worklist of the selected user.

> Note:
>
> Signoff responsibility can also be delegated by the responsible party, or a member of the **System Administration** group.

10. Perform any signoff assigned to you. You can perform any entry in the **Decision** column that is linked. Typically, you are only listed once. However, it is possible that you hold multiple entries within the signoff team for various groups or roles.

    a. Click a linked entry in the **Decision** column. By default, all entries begin as **No Decision**. The **Signoff Decision** dialog box appears.

    b. Select either **Acknowledged** or **No Decision** from the **Decision** section of the dialog box.

    c. Type any comments regarding your in the **Comments** box. It is particularly useful to include comments when you reject a signoff.

    d. Click **OK**.
    The signoff decision is recorded and the dialog box closes.

> Note:
>
> You must be a member of the group/role required by the signoff task to perform a signoff. Whether you must also be currently logged on to that role, or may be logged on under another group/role is determined by the **SIGNOFF_required_group_and_role** preference. If this preference is changed from its default setting, you must be a registered member of the signoff's required group and role, and you must be currently logged on as a member of that group and role to perform the signoff. If this situation exists at your site, and if you are logged on under another group/role, a **Change User Setting** notification appears:
>
> `Your current group/role does not match the required group/role --`*`signoff group/signoff role`* `Do you want to change your current user setting to --`*`signoff group/signoff role`*`?`
>
> *signoff group/signoff role* is the required group and role for the signoff task. Click **Yes** to automatically change your user settings to the required group/role.

11. If user authentication is implemented for this signoff task, a password box appears in the **Signoff Decision** dialog box, and your logon password is required to perform the signoff. If this situation exists at your site, type your logon password in the **Password** box. This box appears only if user authentication is required for the completion of this task. This functionality is determined by the creator of the process template. It is implemented by attaching the handler to the signoff task.

12. Complete the signoff of this task by performing one of the following steps:

- Click **OK** to save the changes to the database and close the **Signoff Decision** dialog box.
- Click **Cancel** at any time to cancel the workflow process and exit the **Signoff Decision** dialog box.

13. Click **Close** after you finish working with all the signoff information. The **Perform Signoff** dialog box closes.

Sign off a Review task in Workflow Viewer

Information most pertinent to a signoff task is displayed in the **Perform Signoff** dialog box. The process name, task name, and task state are listed at the top of the dialog box. View any comments and instructions by clicking the respective links. Additional task information, such as task attributes, is displayed in other dialog boxes.

Click any linked entry to display its related dialog box. For example, click a linked entry in the **Decision** column to display the **Signoff Decision** dialog box and make your signoff decision.

Tool tips are available for each column in the dialog box. Activate the tool tips by moving your cursor over the head of each column.

1. Select the signoff task to be completed, either in the task hierarchy tree or the process flow pane.

2. (Optional) If you know you have additional tasks to perform before you can perform the **perform-signoffs** task, you can **create a subprocess** task can complete.

3. Click **Perform Task** on the toolbar.
   The **Perform Signoff** dialog box appears. The process name and task state appear at the top of the dialog box.

4. Review the contents of the **Process Description** box. If necessary, type additional information into the box.

5. If the **Responsible Party** entry contains a link, you can reassign the responsible party for this signoff task.

   a. Click the linked user name next to the **Responsible Party** entry.
      The **Assign Responsible Party** dialog box appears.

   b. The **Organization** and **Project Teams** tabs display the available groups, roles, and users to which you can reassign the role of responsible party.
      You can search for a specific user, group, role, or combination.

   c. Select the desired group, role, or user and click **OK**.
      The task is reassigned to the selected responsible party and the dialog box closes.

6. If the **All Comments** entry is linked, comments have been written regarding this signoff task. View the comments by clicking the linked entry.
   The **All Comments** dialog box appears. Any comments that have yet been written by yourself and other users are displayed within the text box.

7. View attachments to the workflow process by clicking the **Attachments** link.
   The **Attachments** dialog box appears. Target and reference attachments are listed below the signoff task in the **Task** tree.

8. If the **Instructions** entry appears, instructions have been written for this signoff task. View the instructions by clicking the linked entry.
   The **Instructions** box appears. All task instructions are displayed within the text box.

9. (Optional) If you do not want to perform this signoff, delegate the signoff task to a different user.

   a. Click on your user name in the **User-Group/Role** column.
      The **Delegate Signoff** dialog box appears.

   b. The **Organization** and **Project Teams** tabs display the available groups, roles, and users to which you can delegate your signoff responsibility.
      You can search for a specific user, group, role, or combination.

   c. Select the desired group, role, or user and click **OK**.
      Your signoff responsibility is delegated to the selected user and the dialog box closes. The **perform-signoffs** task is removed from your worklist, and sent to the worklist of the selected user.

   > Note:
   >
   > Signoff responsibility can also be delegated by the responsible party, or a member of the **System Administration** group.

10. Perform any signoff assigned to you. You can perform any entry in the **Decision** column that is linked. Typically, you are only listed once. However, it is possible that you hold multiple entries within the signoff team, for various groups or roles.

    a. Click a linked entry in the **Decision** column. By default, all entries begin as **No Decision**.
       The **Signoff Decision** dialog box appears.

    b. Select either **Approve**, **Reject**, or **No Decision** from the **Decision** section of the dialog box.

       - Choosing **Approve** performs a signoff of the task. The link in the **Decision** column changes to green and reads **Approve**.

- Choosing **Reject** performs a signoff of the task. Your decision does not count towards the quorum approval count required to complete the task. If the quorum requires all signoffs to approve, your rejection stops the workflow process. The link in the **Decision** column changes to red and reads **Reject**.

- Choosing **No Decision** allows you to abstain from the signoff of the task. **No Decision** is the default setting for this dialog box. Your decision does not count towards the approval of the task. The link in the **Decision** column changes to blue and reads **No Decision**.

c. Type any comments regarding your decision in the **Comments** box. It is particularly useful to include comments when you reject a signoff.
If you want, you can also add a comment, but leave the decision set to **No Decision**.

d. Click **OK**.
The signoff decision is recorded and the dialog box closes.

> Note:
>
> You must be a member of the group/role required by the signoff task to perform a signoff. Whether you must also be currently logged on to that role, or may be logged on under another group/role is determined by the **SIGNOFF_required_group_and_role** preference. If this preference is changed from its default setting, you must be a registered member of the signoff's required group and role, and you must be currently logged on as a member of that group and role to perform the signoff. If this situation exists at your site, and if you are logged on under another group/role, a **Change User Setting** notification appears:
>
> `Your current group/role does not match the required group/role --`*`signoff group/signoff role`* `Do you want to change your current user setting to --`*`signoff group/signoff role`*`?`
>
> *signoff group/signoff role* is the required group and role for the signoff task. Click **Yes** to automatically change your user settings to the required group/role.

11. If user authentication is implemented for this signoff task, a password box appears in the **Signoff Decision** dialog box, and your password is required to perform the signoff. If this situation exists at your site, type your password in the **Password** box. This box appears only if user authentication is required for the completion of this task. This functionality is determined by the creator of the process template. It is implemented by attaching the **EPM-require-authentication** handler to the signoff task.

12. Complete the signoff of this task:

    - Click **OK** to save the changes to the database and close the **Signoff Decision** dialog box.

    - Click **Cancel** at any time to cancel the workflow process and exit the **Signoff Decision** dialog box.

13. Click **Close** when you have finished working with all the signoff information.
    The **Perform Signoff** dialog box closes.

Waiting for undecided reviewers

In a **Review** or **Route** task, when enough reviewers reject the task to prevent a quorum from being reached, Teamcenter takes one of the following actions:

- If the **Wait for Undecided Reviewers** ☑ check box was selected when the signoff team was selected, the task is not rejected until all reviewers submit their decision. This is true even if enough reviewers reject the task to prevent a quorum before all reviewers respond.
  This allows all reviewers to give their input and early reviewers time to change their decision. However, this may delay a time-sensitive workflow.

- If the **Wait for Undecided Reviewers** ☐ check box on the task was cleared when the signoff team was selected, the task is rejected immediately.
  Reviewers who do not respond before the quorum is prevented do not have the opportunity to submit a decision or their comments.

- If the **EPM-demote-on-reject** or **EPM-suspend-on-reject** handler is attached to the task, the task is demoted or suspended immediately. The **Wait for Undecided Reviewers** check box is ignored.

6. Determining the workflow’s status

Determining task type

Teamcenter provides different types of tasks to be used in workflow processes. Each type of task performs specific behavior. For example, **Do** tasks relay instructions to selected users. The instructions can be to send a shipment, mail a payroll, update a part design, or any other duty that is part of your company's business processes.

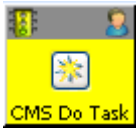
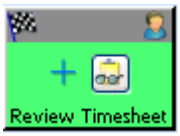
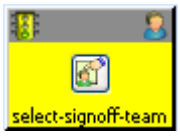
Another example is the **Review** task, a container task that always contains the **select-signoff-team** and the **perform-signoffs** tasks. The **select-signoff-team** task is sent to the worklist of the user responsible for selecting the signoff team. By default, this is the process initiator. But the responsibility might be configured differently at your site. The responsible party uses the **select-signoff-team** task to select the group of users responsible for signing off the target objects of the workflow process. Then each member of the signoff team receives the **perform-signoffs** task in their worklist. The **perform-signoffs** task delivers Teamcenter objects (target objects) such as documents, design parts, and so on, to the signoff team for review and required approval/rejection.

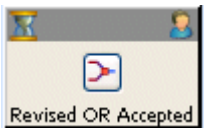
All of these types of tasks are interactive tasks.

Behavior	Description
Interactive tasks	**Do** tasks, **Review** tasks, and the **select-signoff-team** and **perform-signoffs** tasks are a few examples of interactive tasks. You know a task is interactive because it appears in the worklist of the user responsible for performing it. Interactive tasks are performed by users. For example, **Do** tasks relay instructions to selected users. The instructions can be to send a shipment, mail a payroll, update a part design, or any other duty that is part of your company's business processes. Another example is the **Review** task, a container task that always contains the **select-signoff-team** and the **perform-signoffs** tasks. • The **select-signoff-team** task is sent to the worklist of the user responsible for selecting the signoff team. By default, this is the process initiator, but the responsibility may be configured differently at your site. • The responsible party uses the **select-signoff-team** task to select the group of users responsible for signing off the target objects of the workflow process. Then each member of the signoff team receives the **perform-signoffs** task in their worklist.

Behavior	Description
	• The **perform-signoffs** task delivers Teamcenter objects (target objects) such as documents, design parts, and so on, to the signoff team for review and required approval/rejection.
Noninteractive tasks	Other tasks are noninteractive. They are performed by the system in response to handler settings, flow paths, and the results of interactive tasks. For example, the **Or** task is used to unite alternate paths. This task is often placed near the end of a workflow process to join together two or more branching paths. No user interaction is required to complete an **Or** task. Other noninteractive tasks include the **Add Status** and **Validate** tasks. When you view workflow processes in Workflow Viewer you may see these tasks. But users do not perform these tasks. Typically, they never displays in any users' worklist.

Each type of task is identified by a symbol in the center of the task. The following table illustrates the symbols of just a few of the types of tasks you see when viewing workflow processes in Workflow Viewer.

Symbol	Example	Task name	Description
		**Do**	Relays instructions to users to perform. The yellow background of the task and the symbol at the top-left corner of the task indicate that the status of the task in this example is **Started**.
		**Review**	Controls the selecting of the signoff team, and delivers objects to the signoff team for review. This is a container task containing both the **select-signoff-team** and **perform-signoffs** tasks. The green background of the task and the symbol at the top-left corner of the task indicate that the status of the task in this example is **Completed**.
		**select-signoff-team**	Permits the process initiator to select members of the signoff team. This is a subtask of the **Review** task. The yellow background of the task and the symbol at the top-left corner of the

Symbol	Example	Task name	Description
			task indicate that the status of the task in this example is **Started**.
		**perform-signoffs**	Routes target items for members of the signoff team to review, and collects their approval or rejection. This is a subtask of the **Review** task. It always follows the **select-signoff-team** task. The gray background of the task and the symbol at the top-left corner of the task indicate that the status of the task in this example is **Pending**.
		**Or**	Unites branching flow paths into a single path. The gray background of the task and the symbol at the top-left corner of the task indicate that the status of the task in this example is **Pending**.

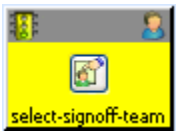
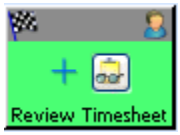
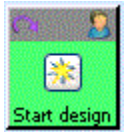
Task states

Each task within a workflow process is either **Pending**, **Started**, or **Completed**. The task's state displays in the upper-left corner of the task.

- *Task states* control and coordinate execution of individual tasks in a process.
  Tasks are always in one of the defined states.

- The symbol associated with each task state is displayed in the upper-left corner of the task box in the process view.

State	Symbol / task tile	Description
Pending	 	The task has not yet been started. A task cannot start until the previous release level has completed. Note: If you see the  symbol instead, the task is processing in the background.

State	Symbol / task tile	Description
		The gray background of the task and the symbol at the top-left corner of the task indicate that the state of this task is **Pending**.
Started		The task is active and action can be taken.
		The yellow background of the task and the symbol at the top-left corner of the task indicate that the state of this task is **Started**.
Completed		The required actions have been performed. A completed state for a **Review** task indicates that all signoffs have been performed and the number of approvals are equal to that specified in the quorum for the task.
		The green background of the task and the symbol at the top-left corner of the task indicate that the state of this task is **Completed**.
Skipped		The task has been skipped by a privileged user. If this is a **Review** task, all signoff subtasks show the **No Decision** symbol, indicating the tasks are skipped rather than completed.
		
Failed		A task's state is set to **Failed** if the task is configured with a failure path and if the failure conditions are met.
		Note: The **Failed** state does not appear on the **Actions** menu, because it can only be triggered internally. The red background of the task and the symbol at the top-left corner of the task indicate that the status of this task is **Failed**.
Suspended		The task has been suspended. If this is a **Review** task, all signoff tasks are removed from the inbox.
Unassigned		The signoff team for a **Review** task has not yet been assigned.
Aborted		The task is canceled and the process is exited without being completed.

Note:

A completed state for a **perform-signoff** task means that all signoffs have been performed, and the number of approvals are equal to the required number specified in the quorum for the task.

If the **Wait For Undecided Reviewers** check box is selected, the task completes when the last reviewer approves or rejects the task. If the check box is not selected, the task completes as soon as the quorum is satisfied.

View task attributes

1. Select the task or workflow process whose attributes you want to view.

2. Click **Task Properties** on the toolbar.
   The **Task Properties** dialog box displays the name of the selected process template or task template in the **Name** box. Task instructions, if any, are displayed in the **Instructions** box.

3. Click the **Attributes** tab at the bottom of the dialog box.
   The **Task Attributes** pane appears.

   - **State** displays the selected task's current state. A task's state changes as you and other users proceed through workflow process activities such as performing signoffs. This cannot be modified from this dialog box.

   - **Responsible Party** displays the person responsible for the selected task. This cannot be modified from the dialog box.

   - **Named ACL** displays the named ACL assigned to this task, if any. This cannot be modified from the dialog box; however, you can open the **Named ACL** dialog box for reference.

   - **Signoffs Quorum** displays the number of signoffs required for a quorum to pass the selected review task. This appears only when the selected task is either **Select Signoff Team** or **Perform Signoff**. This cannot be modified from the dialog box.

   - If a **Condition** task is selected, **Condition Query** displays the name of the assigned query. If a query is not yet defined, only **Condition Query** displays. If a **Condition** task is selected, **Condition Result** displays the result of the query, either **True** or **False**. If a query is not defined, the result is listed as **unset**.

   - The **Due Date** button displays when completion of the task is due. You can set or change the due date in Workflow Viewer.

   - The **Duration** box displays the length of time allowed for the completion of the project. You can set or change the duration in Workflow Viewer when the selected task is in a **Pending** state.

- The **Recipients** box displays the names of users selected to receive e-mail when the selected task becomes overdue. You can set or change the recipients in Workflow Viewer.

4. Click **Close**.

Set due date in Workflow Viewer

Due Date displays the date when completion of the task is due. If the task is not complete by the specified date, the task's status changes to **late** and the task becomes overdue. Overdue tasks display in red in your worklist.

The default setting is **No date set**. The due date can be set from this dialog box.

1. Click the **Due Date** button.
   The popup calendar displays the current month.

2. Enter the date using any of the following methods:

   - Type a date directly in the box at the top.
   - Type a year in the **Year** box to change it, scroll through previous or succeeding months using the arrows, and click the desired date in the calendar display.
   - Click the **Today** button.

3. Enter the hour, minute, and second of the task completion time to the left of the respective **h:**, **m:**, and **s:** boxes. Base entries on a 24-hour clock. For example, enter 1:30 p.m. as **13 h: 30 m: 00 s**. Empty boxes automatically default to **0**.

4. Choose one of the following:

   - Click **OK** to save the changes to the database and close the popup calendar.
   - Click **Clear** to clear all settings.

Note:

The amount of time it takes for a due date to reflect **late** status depends on the interval setting defined for the **Task Manager** daemon. This daemon can be modified in the preference XML file by editing the **TASK_MONITOR_SLEEP_TIME** value.

Note:

By default, any assigned user can change the due date on a task, but an administrator can configure which users can set the due date.

For example, to specify that only the process owner can change due dates, the administrator can set the following condition using the Business Modeler IDE.

```
Fnd0ManageDueDatePrivilege ( EPMTask o , UserSession u) := o.owning_user=u.user
```

Set duration in Workflow Viewer

The **Duration** box displays the length of time allowed for the completion of the project. If the task is not completed within the specified amount of time, the task's status changes to **late** and the task becomes overdue. The duration length can be defined in the template of the selected task. The duration length can also be defined in the **Attributes** dialog box when the selected task is in a **Pending** state.

Note:

The **Task Manager** daemon must be installed to see color-coding relating to task completion.

1. Click **Set** to the right of the **Duration** box.
   The **Set Duration** dialog box appears.

2. Type an integer value for any or all of the following boxes to indicate the length of time that can pass before the selected task needs to reach completion:

   years
   weeks
   days
   hours
   minutes

3. Click one of the following buttons:

   - Click **OK** to save the changes to the database and close the dialog box.
   - Click **Clear**.
   - Click **Cancel** at any time to close the dialog box without making any changes.

Set recipients list in Workflow Viewer

Recipients displays the names of users selected to receive program mail when the selected task becomes overdue. The recipients list is set from this dialog box.

1. Click **Set** to the right of the **Recipients** box.
   The **Select Recipients** dialog box appears.

2. Enter the **User**, **Group**, or **Address List** search criteria for users you want to select.

3. Click **User**, **Group**, or **Address List**, based on the search criteria entered.
The search results appear in the box below. To display all users in the selected grouping, type * and click the appropriate button. All users in the selected grouping display in the box below.

4. Select the users you want to define as recipients from the search results. You can choose multiple users by pressing the control key and clicking the desired names.

5. Click the **To** button.
The selected users display in the box in the right side of the dialog box. These are the selected recipients.

6. To delete a recipient, select the recipient and click the button.

7. Click one of the following buttons:

   - Click **OK** to save the changes to the database and close the dialog box.

   - Click **Cancel** at any time to close the dialog box without making changes.

View task attachments

1. Click **Task Properties** on the toolbar.
The **Task Properties** dialog box displays the name of the selected process template or task template in the **Name** box. Task instructions, if any, are displayed in the **Instructions** box.

   > Note:
   >
   > Displaying task instructions is dependent upon the **WRKFLW_fnd0Instructions_available** preference. This preference enables the **fnd0Instructions** property in the style sheet by default, disabling **object_desc** as a result. To display task instructions, administrators can modify **WRKFLW_fnd0Instructions_available** as false, enabling the **object_desc** property in the stylesheets.

2. Click the **Attachments** tab at the bottom of the dialog box. The **Task Attachments** pane appears.
The **Task Attachments** tree lists the **Targets** and **References** folders, which hold target and reference attachments, respectively. The **Replica Proposed Targets** folder displays if replica proposed targets exist.

3. Open, cut, copy, and paste attachments using the following methods:

   - Click **Open** to open the selected attachment in the appropriate rich client application.

   - Click **Cut** to cut the selected attachments to the clipboard.

   - Click **Copy** to copy the selected attachment to the clipboard.

- Click **Paste** to paste the clipboard contents into the selected folder.

4. Click **Close**.

View task handlers

1. Click **Task Properties** on the toolbar.
   The **Task Properties** dialog box appears.
   The name of the selected process template or task template is listed in the **Name** box. Task instructions, if any, are displayed in the **Instructions** box.

2. Click the **Handlers Pane** tab.
   The **Handlers** pane appears.

3. Click the **Expand All Folders** or **Collapse All Folders** button to view the contents of the **Handlers Hierarchy** tree.
   Based on the type of handler selected, either the **Rule Handler** or **Action Handler** pane appears, listing the name of the rule handler or action handler assigned to the selected task.
   If the selected task involves selecting signoff teams or performing signoffs, a **Quorum** box contains the number of approvals required for a quorum.
   The arguments assigned to the selected task are in the **Argument** list.

4. Click **Help** for documentation on the selected handler.

5. Click **Close** to close the dialog box.

Modifying active workflow processes

Workflow Viewer allows *privileged users* to modify active workflow processes one template at a time. Privileged users can add, remove, rearrange and modify tasks, flow paths, handlers, and other elements of the workflow process template while workflow processes based on the template are running.

This functionality is called *ad hoc process modification*. It is available using the application's **Design** mode.

Enable this functionality, and control user access, by setting the **WORKFLOW_adhoc_process** preference. Access can be granted to all users, group administrators, and/or system administrators.

> Note:
>
> Alternatively, to update many active workflow processes simultaneously, use Workflow Designer. You apply workflow template edits to all active workflow processes based on the previous (unedited) version of the workflow template.

Ad hoc modification

Adding or deleting tasks from a workflow process while it is active is called *ad hoc modification*. In Workflow Viewer, this ad hoc ability is possible whenever you are in **Design** mode.

To modify a task template, it must be in one of the following states:

Unassigned
Pending
Suspended
Completed

> Note:
>
> You can modify a **Completed** task only if the configuration of the template allows the task to rerun, such as for backward-branching loops. The modification takes effect when the task is restarted.

To modify a task, it cannot be in any of the following states:

Aborted
Failed

> Note:
>
> The **Failed** state does not appear on the **Actions** menu, because it can only be triggered internally.

Skipped
Started

> Note:
>
> If you want to modify a **Started** task, you must suspend it first.

Edit an active workflow process

1. Open the active workflow process you want to edit in Workflow Viewer. Do so by locating an object involved in the workflow process using one of the following methods:

   - Select a task involved in the workflow process you want to edit from your worklist.
   - Use **Search** to locate an object you know is involved in an active workflow process, or to search for all objects currently in-process.

- Send an object you know is involved in an active workflow process to the **Impact Analysis** view and perform a **Where Referenced** search to display all references to the object, including all referenced workflow processes.

2. Right-click the object and choose **Send To→Workflow Viewer**. Or, if performing a **Where Referenced** search, right-click the active workflow process and choose **Send To→Workflow Viewer**.
The active workflow process is opened in Workflow Viewer.

3. If the task you want to edit is active, right-click the task and choose **Actions→Suspend**.
The **Suspend Action Comments** dialog box appears.

    1. Type your comments into the dialog box. The comments are listed in the audit file.

    2. Click **OK**.

       The selected task moves to the **Suspend** state, and a red light button appears in the upper left corner.

4. Choose **Edit→Mode→Design** to enable ad hoc functionality.
The following message appears:

```
Note that changing the Workflow Viewer Application mode
to "Design" will lock this process, and allow you to modify the
Process Structure and Handlers! Do you want to continue?
```

5. Click **Yes** to lock the selected workflow process within the database and proceed with modifying the workflow process. No other users can perform tasks for this workflow process until you have unlocked the workflow process by returning to **Execute** mode. Click **No** to discontinue without making changes.

6. (Optional) Add, place, and remove tasks.

7. (Optional) Add, remove, and modify task attributes by clicking the **Task Attributes** button.

8. (Optional) Add, remove, and modify task attachments by clicking the **Task Attachments** button.

9. (Optional) Edit task handlers by clicking the **Task Handlers** button.

10. (Optional) Edit perform signoff teams by clicking the **Task Signoff** button.

> Note:
>
> Signoff profiles are unavailable for the **Acknowledge** subtask within the **Route** task template. The **Route** task does not function properly if a signoff profile is defined for the

Acknowledge subtask. The **Route** task template is designed to be used as an electronic routing sheet, and the workflow process initiator assigns specific signoff members.

11. Choose **Edit→Mode→Execute** to return to **Execute** mode.
    The following message appears:

    ```
    Note that changing the Workflow Viewer Application mode
    from "Design" to "Execute" will unlock this process. Do you want to
    commit any Design changes you made?
    ```

12. Click **Yes** to unlock the selected workflow process within the database. Any changes you made to the workflow template are implemented.
    Click **No** to unlock the selected workflow process within the database. Any changes you made to the workflow template are *not* implemented.
    Click **Cancel** to remain in **Design** mode.

13. If you suspended the task to edit it, right-click the task and choose **Actions→Resume**.
    The **Resume Action Comments** dialog box appears.

    1. Type your comments into the dialog box. The comments are listed in the audit file.

    2. Click **OK**.

       The selected task moves to the state it was in prior to the **Suspend** action.

Stopping a workflow process in Workflow Viewer

There are three ways to stop a workflow process in Workflow Viewer:

- Suspend
  Stops the process from moving forward. Choose **Actions→Suspend**. You can resume a suspended process by choosing **Actions→Resume**.

- Abort
  Cancels the process, but keeps the process in the system. Choose **Actions→Abort**.

- Delete
  Removes the process from the system. Choose **Edit→Delete**.

If you have a subprocess attached to your workflow process, the following rules apply when you delete or abort the parent process or subprocess:

- Delete or abort the parent process.

  - If the parent process is the only parent for the subprocess, the subprocess is also deleted or aborted.

  - If there is more than one parent process for the subprocess, the subprocess is not deleted nor aborted unless it is the last parent process.

- Delete or abort a subprocess—the parent process is kept.
- Delete the task in the parent process that originates the subprocess—the subprocess is not affected.
- If the subprocess has its own subprocess, it follows the rules above.

Note:

Workflow subprocesses are not always dependent on parent processes. The **WRKFLW_skip_abort_on_sub_process** preference is honored only for *independent* subprocesses.

Set the **WRKFLW_skip_abort_on_sub_process** preference to **true** to skip abort of subprocess when a parent process is aborted.

If there is a dependency from a parent process to its subprocesses, aborting the parent will abort the *dependent* subprocesses, irrespective of the value of the preference.

The default value is **false** which will abort the subprocesses along with parent process.

7. Changing a task’s state

Overriding task actions

As you work through a workflow process in Workflow Viewer, a task's actions work behind the scenes, transitioning the task from one state to another according to the actions defined in the task. You can override the task's defined actions, if necessary.

For example, the **Start** action is always used to transition a task from the **Pending** state to the **Started** state.

All tasks are transitioned by one or more of the following defined **actions**:

Abort
Assign
Complete
Perform
Resume
Skip
Start
Suspend
Undo
Failed

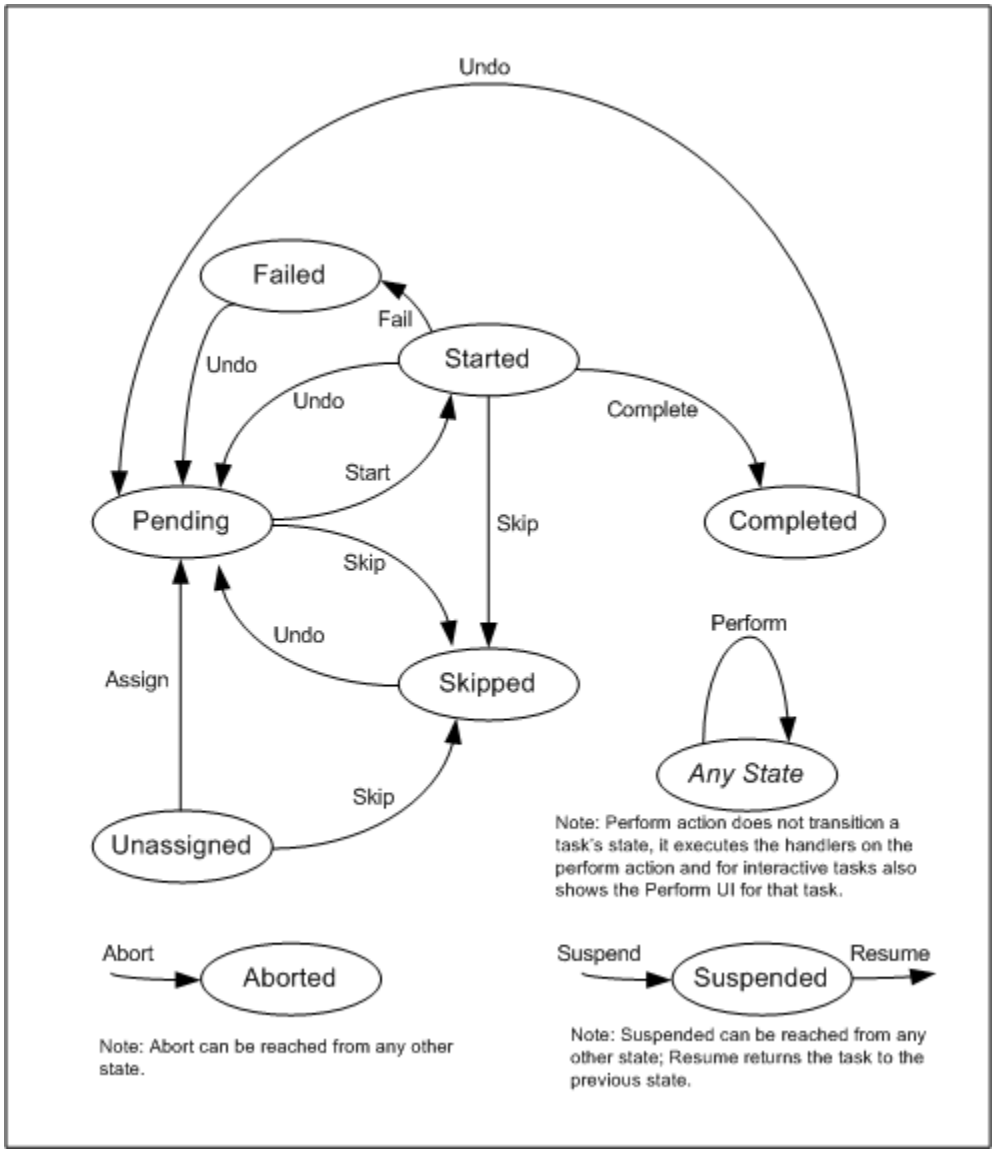
> Note:
>
> The **Failed** state does not appear on the **Actions** menu, because it can only be triggered internally.

When a task's template is created in Workflow Designer, one or more actions become part of the task's definition. As you work through a workflow process in Workflow Viewer, a task's actions work behind the scenes, transitioning the task from one state to another according to the actions defined in the task.

If a task is designated to process in the background, all actions except **Perform** and **Assign** are processed in the background. The **Perform** and **Assign** action execute in the foreground.

However, there are some situations where it is necessary to override the task's defined actions. For example, if a task is demoted, the workflow process moves backward to the preceding task. If the preceding task has an **EPM-demote** handler, it is automatically initiated. But if the preceding task does not have an **EPM-demote** handler, the task must be initiated manually. Thus, the responsible party or a privileged user must manually override the preceding task's defined action and change the task state to **Start**.

Several of these actions are used to place the task in a special state such as **Suspended** or **Skipped**. Not all tasks use all actions. The following figure shows the EPM task actions and corresponding states.



In addition to task transition, from one state to another, actions are also used to implement rules. This is done by attaching one or more handlers to an action. There is one action, **Perform**, that does not transition a task to another state. The **Perform** action executes any handlers attached to it and displays an interactive panel.

All tasks require resources to perform actions. Resources are one of the following object types:

Groups
Roles
Users

Complete a task with attached form

If a simple form is assigned as the **Perform** action for a task and it is not specialized to initiate a **Complete** action, the task does not complete automatically. When the form completes, the responsible party or a privileged user with bypass ability must manually signify that the associated task is complete by using the **Complete** action.

> Note:
>
> To perform this action, you must be the responsible party or a privileged user.

1. Click the desired task with the completed form. All of the actions for this task must have been completed.

2. Choose **Actions→Complete**.

   The **Complete Action Comments** dialog box appears.

3. Type your comments in the dialog box.

   The comments are listed in the audit file.

4. Click **OK**.

   The selected task moves to the **Complete** state and the button of a flag appears in the upper left corner. The succeeding task switches to **Start**.

   > Note:
   >
   > If a task is designated to process in the background, the move to the **Complete** state might be delayed.

Starting a paused task

In rare cases, tasks become stalled and must be initiated manually.

To reset the tasks to **Start**, the responsible party or a privileged user with bypass ability can instruct the tasks to move to a new state by performing a **Start** action on the task.

> Note:
>
> - To perform this action, you must be the responsible party or a privileged user.

- If a task is designated to process in the background, the move to the **Complete** state might be delayed.

Reset a paused task

1. Click the task that has stalled.

2. Choose **Actions→Start**.
   The **Start Action Comments** dialog box appears.

3. Enter your comments into the dialog box. The comments are listed in the audit file.

4. Click **OK**.
   The selected task moves to the **Start** state and the button of a green light appears in the upper left corner.

   Note:

   If a task is designated to process in the background, the move to the **Start** state might be delayed.

Suspend a task

1. Select the task you want to suspend.

   Note:

   You must be the responsible party or a privileged user to suspend a task.

2. Choose **Actions→Suspend**.
   The **Suspend Action Comments** dialog box appears.

3. Type your comments into the dialog box. The comments are listed in the audit file.

4. Click **OK**.
   The selected task moves to the **Suspend** state, and a red light button appears in the upper left corner.

   Note:

   If a task is designated to process in the background, the move to the **Suspend** state might be delayed.

Resume a task

1. Select the desired suspended task.

   > Note:
   >
   > The only valid action for a suspended task is **Resume**. You must be the responsible party or a privileged user to resume a task.

2. Choose **Actions→Resume**.
   The **Resume Action Comments** dialog box appears.

3. Type your comments into the dialog box. The comments are listed in the audit file.

4. Click **OK**.
   The selected task moves to the state it was in prior to the **Suspend** action.

   > Note:
   >
   > If a task is designated to process in the background, the move to the prior state might be delayed.

Skip a task in a process and start the next one

The **Promote** menu command moves the task to a **Skipped** state and starts the successor tasks in the workflow process.

Workflow Viewer treats a **Skipped** task much like a **Completed** task.

> Note:
>
> To perform this action, you must be a privileged user.

1. Select the task you want to promote.

2. Choose **Actions→Promote**.

   The **Promote Action Comments** dialog box appears.

3. Enter your comments into the dialog box.

4. If the task is a **Review** or **Route** task and it has a reject path, click either the **Approve** or **Reject** decision to determine the path you want the workflow process to follow.

This helps you to expedite the review process where you want to move the workflow process along despite rejections.

5. Click **OK**.

The selected task moves to the **Skipped** state and the next task in the process is started. The comments you entered are listed in the audit file.

> Note:
>
> If a task is designated to process in the background, the move to the **Skipped** state may be delayed.

Demote a task

The **Demote** menu command is the method of moving an active workflow process back to some predefined release level. Performing a demote action upon a task changes the task's state from **Started** to **Pending**. The specific demote behavior of any given task is configured within the original process template. For subtasks to also demote when a parent task is demoted, the **EPM-demote** handler must be applied to the task's **Undo** action when the process template is configured. Demoting a **Review** task removes any signoff decisions previously made by members of the task's signoff team, but any comments are kept.

> Note:
>
> To perform this action, you must be a privileged user.

1. Select the task you want to demote.
2. Choose **Actions→Demote**.

   The **Demote Action Comments** dialog box appears.
3. Type your comments into the dialog box.

   The comments are listed in the audit file.
4. Click **OK**.

The selected task moves to the designated state.

> Note:
>
> If a task is designated to process in the background, the move to the designated state might be delayed.

8. View audit information

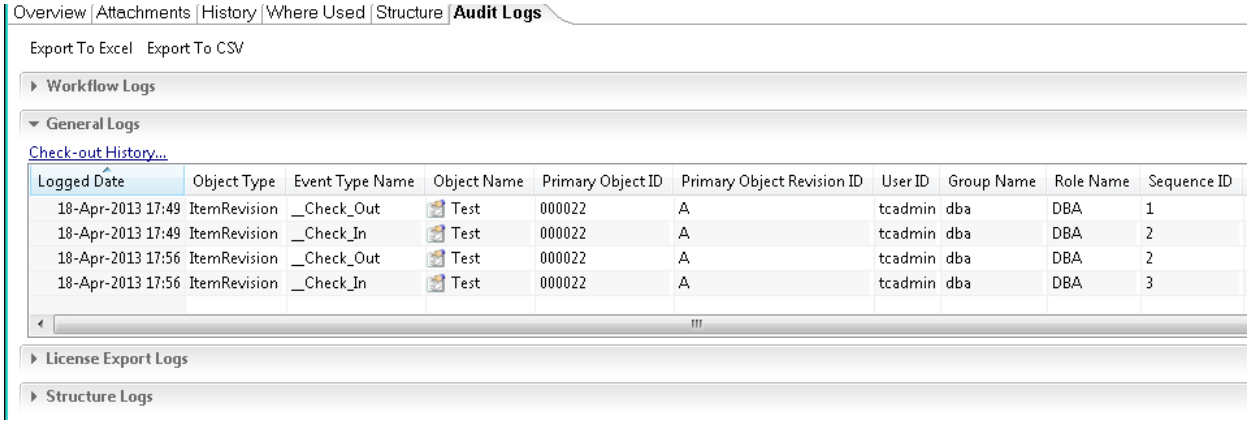
Accessing audit information

You can access audit information in the following ways:

- Go to the **Summary** view of the following Teamcenter applications, which shows **audit logs in the Audit logs tab**.
  - My Teamcenter
  - ADA License
  - Structure Manager
  - Multi-Structure Manager
  - Manufacturing Process Planner
  - Schedule Manager
  - Workflow Viewer
  - Organization
- Run predefined audit reports or create new reports, using the Report Builder application.
- **Create custom saved queries**, using the Query Builder application.
- Run predefined audit queries, using the Teamcenter advanced search functionality.

Accessing and viewing audit information

Legacy audit information is only accessible from a button in the **Audit Logs** tab in the **Summary** view when a legacy audit file is present.



The audit logs are grouped in the **Summary** view as follows:

Log name	Description
Workflow Logs	Displays workflow logs.
License Change Logs	Displays logs of ADA License changes.
License Export Logs	Displays ADA License export logs.
File Access Logs	Displays file access logs.
Structure Logs	Displays structure logs. Note: Due to performance reasons, **PSOccurence** audit logs are not immediately displayed in the **Structure Logs** table. To view the **PSOccurence** audit logs, refresh the table.
Organization Logs	Displays organization logs.
Schedule Logs	Displays schedule logs.
General Logs	Displays all other general audit logs.
Security Logs	Displays security logs. Note: The **Security Logs** table appears in the **Audit Logs Summary** tab for **Project**, **User**, and **Group** objects.

Creating and running audit queries

You can create custom search queries for audit logs, using the Query Builder application. Saved queries identify the search criteria that are used to find information in Teamcenter.

> Note:
>
> Ensure that audit definitions exist for the objects for which you have created saved queries.

Teamcenter provides the following predefined audit queries:

- **Audit - Digital Signature Logs**
- **Audit - File Access Logs**
- **Audit - General Logs**
- **Audit - License Change Logs**
- **Audit - License Export Logs**
- **Audit - Organization Logs**
- **Audit - Project Based Logs**
- **Audit - Schedule Logs**
- **Audit - Security Logs**
- **Audit - Structure Logs**
- **Audit - Workflow Attachment Logs**
- **Audit - Workflow Detailed**
- **Audit - Workflow General**
- **Audit - Workflow Signoff**
- **Audit - Workflow Summary**

Export audit logs to Microsoft Excel

1. Run a saved query and choose the audit logs you want to export from the **Details** tab.

2. Choose **Tools→Export→Objects To Excel**.

   Teamcenter displays the **Export To Excel** dialog box.

3. Under **Object Selection**, click one of the following:

   - Click **Export Selected Objects** to export the selected rows in the view.
   - Click **Export All Objects in View** to export all rows.

4. Under **Output Template**, select one of the following:

   - Select **Export All Visible Columns** to export all the columns in the view.
   - Select **Use Excel Template** to activate the template list.
     In the list, select the **AUDIT_log_export_template_new** template.

5. Under **Output**, click **Static Snapshot.**

6. Click **OK** to generate the export Excel file.

Microsoft Excel opens a temporary file. You can create a permanent file by choosing **File→Save As** in Excel to display the **Save As** dialog box.

If you save a live Excel file, you can open it later in My Teamcenter to reconnect it to the database.

> Note:
>
> You need Microsoft Excel installed on your computer to export audit logs to Excel.
>
> Values that you cannot change in Teamcenter are unavailable in the cells of the live Excel file.
>
> The export to Excel option is not available on Linux clients.

View legacy audit log information

> Note:
>
> This data is available only if the **TC_audit_manager** preference is set to **ON** and the **TC_audit_manager_version** preference is set to **2**.

1. (Optional) Select an object in the tree.

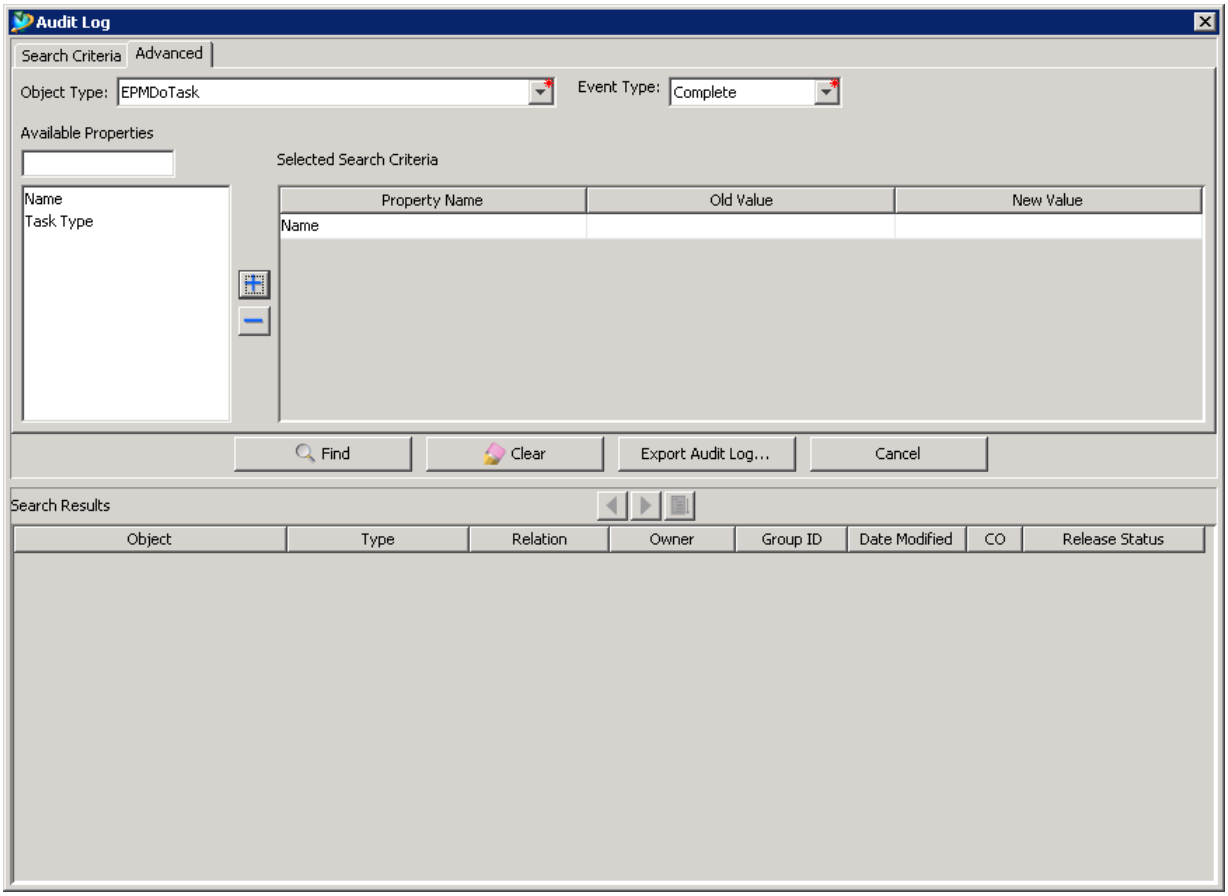
2. Choose **View→Audit→View Audit Logs**.
   OR
   Right-click an object in My Teamcenter and choose **View Audit Logs**.
   The system displays the **Audit Log** dialog box.

- If you select an object, the object ID, name, revision, and object type are displayed in the **Search Criteria** section.
- To select a project, select a project you have access to from the **Project** list.
- If you want to search for a different object, click the **Clear** button to clear the existing search criteria and then type the object ID, name, and revision in the **Audit Log** dialog box.

3. (Optional) Specify additional search criteria, such as event type, user ID, and date created.

4. (Optional) Click the **Advanced** tab and type criteria to construct a query based on property values.

> Note:
>
> The **Advanced** tab does not display any information if there are no logged properties in the audit definition object.



a. Select an object type from the **Object Type** list.
After you select an object type, the **Event Type** list is enabled.

b. Select an event type from the **Event Type** list.

The logged properties defined in the audit definition object are shown in the **Available Properties** list.

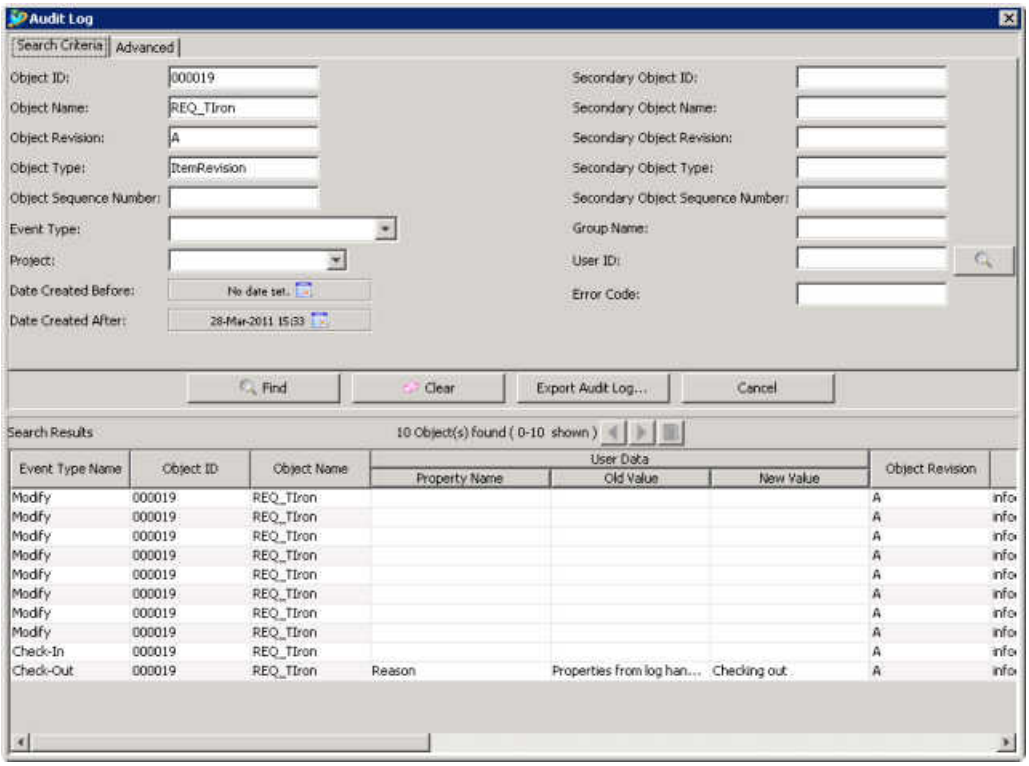
c. Select the properties for which you require audit logs from the **Available Properties** list, and click the + button to move the property to the **Selected Search Criteria** list.

> Note:
>
> You can add up to 20 properties in the **Selected Search Criteria** list.

d. To search for properties based on old or new values, in the **Selected Search Criteria** list, enter the old value in the **Old Value** column and the new value in the **New Value** column.

e. Click **Find**.
Audit logs that match your selected criteria appear.

5. Click **Find**.



The system displays the audit logs that match the search criteria.
Property value changes are shown in the **User Data** column of the audit log. The **User Data** column shows the property name, the old value of the property, and the new value of the property. The old value of the property is the same as the new value of the property if the property value does not change.

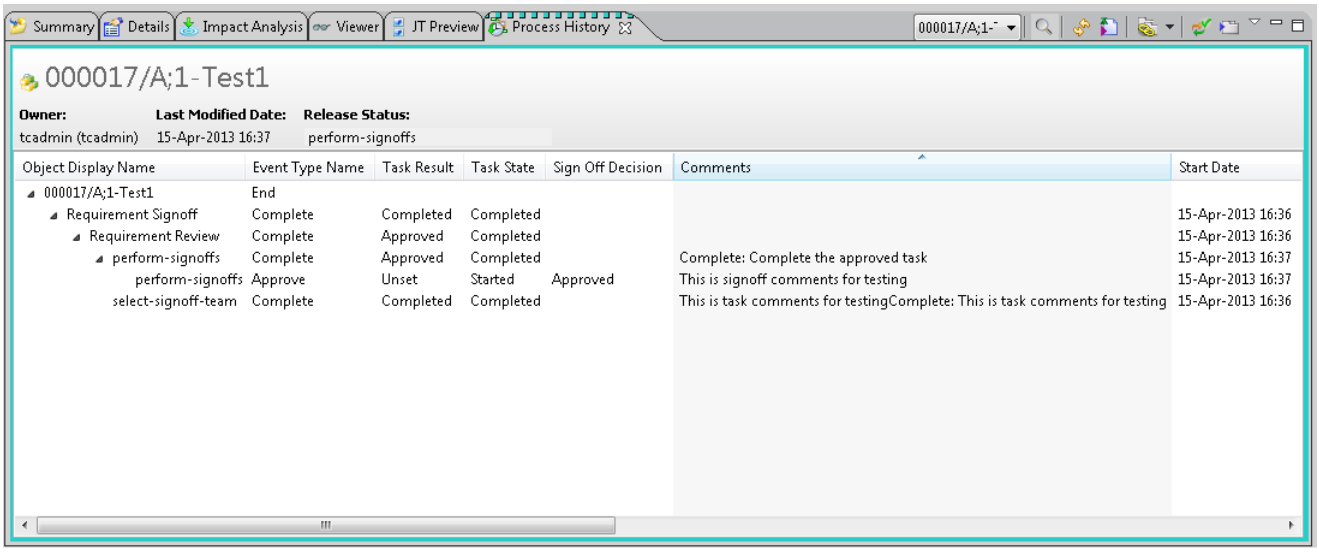
Note:

Only persistent properties of objects are tracked. Run-time, compound, and relational properties are not tracked by Audit Manager.

9. Viewing workflow and schedule progress

Reviewing workflow and schedule progress by viewing the process history

The **Process History** view displays the Workflow or Schedule Manager process of the business object selected in the **Home**, **My Worklist**, or **Search Results** view in My Teamcenter.



- If there is no audit data for the business object, the view displays a `No process history data available for selected object.` message.

- If the selected object has passed through more than one workflow process, you can choose which process to display from the list to the right of the tab.

In the **Process History** view, you can review the progress of a workflow or schedule and do the following:

- Determine the progress of an object in a schedule or workflow and who has responsibility for the object.

- Review comments by other workflow participants.

- Verify that the appropriate participants completed the required reviews.

- Debug a workflow that proceeded down an unexpected path.

- Identify workflows that require attention to continue processing.
- Review user activity to verify the appropriate users signed off.

> Note:
>
> If you migrate from Audit Manager version 2 to version 3, workflow-related events are migrated and are displayed in the **Audit Logs** tab. However, the events are not displayed in the **Process History** view.

> Tip:
>
> Administrators can configure display of the **Target Release Status** values in the **Process History** view.
>
> - **Target Release Status** values are only shown by the **Process History** view for a selected object.
> - **Target Release Status** is not shown in the **Process History** view for a workflow or task.

Customize the process history display

1. In the **Process History** view, click the **View Menu** button ▾ and then choose **Column** from the view menu.

   The **Column Management** dialog box appears.

2. Add or remove columns from the **Process History** view table.

   - To add a column, select a property from the **Available Properties** list and click the **Add to Displayed Columns** button ▸.
   - To remove a column, select a property in the **Displayed Columns** list and click the **Remove from Displayed Columns** button ◂.

3. (Optional) Click the **Move Up** ▲ and **Move Down** ▼ buttons, to the right of the **Displayed Columns** list, to adjust the order of the displayed columns.

4. Click **Apply** to apply the configuration to the current view, or click **Save** to save the configuration for later use.

   > Note:
   >
   > You can use the **Apply Column Configuration** command on the view menu to:

- Apply a saved configuration.
- Restore the default configuration. This is the only way to restore columns removed using the right-click **Remove this column** command.

You can use the **Save Column Configuration** command on the view menu to save the current configuration of the table display.

5. Click **Close** to close the **Column Management** dialog box.

View and print process reports

On My Teamcenter, choose **Tools→Reports→Report Builder Reports**, and then choose one of the following audit reports:

- **Audit - Workflow Attachment Report**
  Displays all attachment object details for the specified workflow process.
- **Audit - Workflow Detailed Report**
  Displays all actions and their statuses for the specified workflow process.
- **Audit - Workflow Signoff Report**
  Displays the signoff results and comments for the specified object in a workflow process.
- **Audit - Workflow Summary Report**
  Displays the start, complete, approve, rejected, assign status, demote, promote, fail, and update actions for the specified workflow process.
- **WF - Items In Process**
  Displays the *items* currently in a workflow process and where they are in their respective processes.
- **WF - Objects In Process**
  Displays the *objects* currently in a workflow process and where they are in their respective processes.

To print a process history report:

1. Export the audit report to Excel.
2. Use the Excel print function to print the report.

Print the process history report

1. Export the audit report to Excel.
2. Use the Excel print function to print the report.

Export audit logs or process history to Microsoft Excel

Teamcenter contains Extensions for Microsoft Office (also known as live Excel) which allows you to manage Teamcenter objects and properties from Microsoft Excel.

1. Display the **Process History** view and choose the rows you want to export.

   OR

   Run a saved query and select the audit logs you want to export from the **Details** tab.

   > Note:
   >
   > You can only run a saved query from My Teamcenter. The saved query functionality is meant to be executed only when the **Schedule tasks** folder is expanded in **My Worklist**. You cannot run this query from anywhere else in the system.

2. Choose **Tools→Export→Objects To Excel**.

   Teamcenter displays the **Export To Excel** dialog box.

3. Under **Object Selection**, select one of the following:

   - Select **Export Selected Objects** to export the rows you selected in the view.
   - Select **Export All Objects in View** to export all rows.

4. Under **Output Template**, select one of the following:

   - Select **Export All Visible Columns** to export all the columns in the view.
   - Select **Use Excel Template** to activate the template list.
     In the list, select the template that specifies the data that you want to export.

5. Under **Output**, select one of the following:

   - For a standard Excel file that is not connected to Teamcenter, select **Static Snapshot**.
   - For an interactive live Excel file that is connected to Teamcenter, select **Live integration with Excel (Interactive)**.
   - For a live Excel file that is not connected to Teamcenter, select **Live integration with Excel (Bulk Mode)**.
     You can accumulate changes and later connect the file to Teamcenter.

- To export the data to an Excel file that also contains import processing information on a separate sheet, select **Work Offline and Import**.

- To check out objects while exporting to live Excel, select **Check out objects before export**.

  Note:

  The checkout applies to all objects being exported. Use this option carefully if you are exporting a large number of rows.

6. (Optional) Click **Copy URL**.

   Note:

   - **Copy URL** is unavailable if you select more than one object to export.
   - **Copy URL** is unavailable if you select any of the following dialog box options:
     - **Work Offline and Import**
     - **Export All Visible Columns**
     - **Export All Objects in View**

   The export file is generated and the `URL Generated` message is displayed, confirming that the URL is in your Windows Clipboard and showing the URL details.

7. Click **OK** to generate the export Excel file.

   Excel opens a temporary file. You can create a permanent file by choosing **File→Save As** in Excel to display the **Save As** dialog box.

   If you save a live Excel file, you can open it later in My Teamcenter to reconnect it to the database.

   Note:

   Values that you cannot change in Teamcenter are unavailable in the cells of the live Excel file.

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