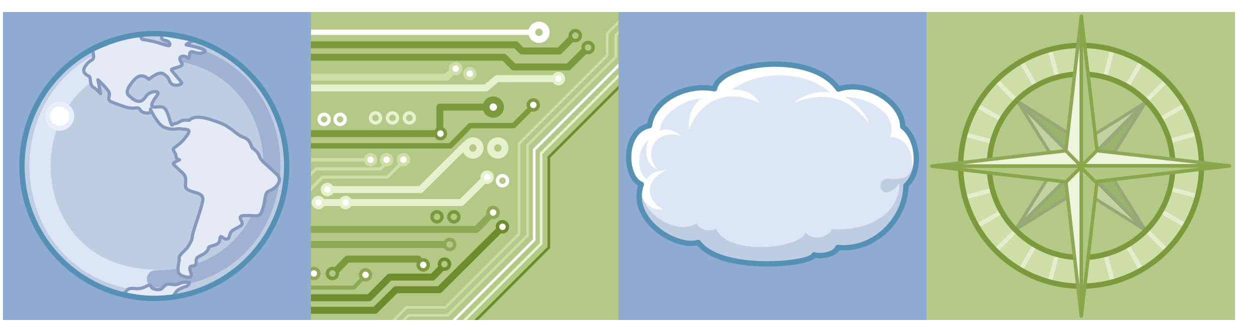
IBM Training

Student Notebook

IBM Case Foundation 5.2.1: Manage Work in Progress

Course code F234 ERC 1.0



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Course description

IBM Case Foundation 5.2.1: Manage Work in Progress

Duration: 4 hours

Purpose

This unit describes how to use Process Administrator to search for work and perform advanced searches. This unit also describes how to use Process Administrator to modify, process, and manage work, and to manage workflow exceptions.

You work with a functioning IBM Case Foundation system to practice the skills required to manage work in progress.

Audience

Workflow system administrators are responsible for ensuring that the workflow system is functioning properly,

Prerequisites

Prerequisite skills and knowledge for this unit are:

- Familiarity with Windows 2008 operating systems.
- General knowledge of P8 Platform security concepts.
- General workflow terminology:
  - Workflow
  - Workflow definitions
  - Queues
  - Rosters.
- Start a P8 Platform system.
- Familiarity with P8 Platform administration interfaces, including:
  - Administration Console for Content Platform Engine
  - IBM Content Navigator

Objectives

After completing this course, you should be able to:

- Search for work
- Perform advanced searches
- Modify work

- Process and manage work
- Manage workflow exceptions

Contents

Curriculum relationship

This section covers the courses planned for IBM Case Foundation 5.2.1. Refer to the IBM Training Paths for the curriculum relationship. The training paths will be updated as courses become available.

IBM Training Paths

http://www-304.ibm.com/jct03001c/services/learning/ites.wss/us/en?pageType=page&c=Y678448H04759K32

The courses are available as single SPVC modules, or multi-day courses delivered as instructor-lead training. Here is a list of the modules organized by roles. Some of the modules apply to multiple roles.

Solution Architect

- Introduction
- Workflow security

Workflow system administrator:

- Introduction
- Configure the workflow system
- Workflow security
- Maintain the workflow system
- Manage Work in Progress
- Migrate and deploy workflow applications
- Component Integration
- Workflow Analysis tools

Agenda

Day 1

"Search for work"

"Modify work"

"Process and manage work"

"Manage workflow exceptions"

Unit 1. IBM Case Foundation: 5.2.1: Manage Work in Progress

What this unit is about

This unit describes how to search for work and perform advanced searches. This unit also describes how to modify, process, and manage work, and to manage workflow exceptions.

What you should be able to do

After completing this unit, you should be able to:

- Use Case Foundation tools to search for work with basic and advanced search criteria.
- Modify work items.
- Process and manage work.
- Manage a workflow exception.

How you will check your progress

- Successfully complete the lesson exercises.

References

IBM Knowledge Center:

http://www.ibm.com/support/knowledgecenter/SSNW2F/welcome

Manage Work in Progress

Unit lessons

This unit contains these lessons:

- Search for work
- Modify work
- Process and manage work
- Manage workflow exceptions

Figure 1-1. Unit lessons F2341.0

Notes:

Lessons in this unit

This unit has four lessons. After the first lesson, each lesson relies on information and skills taught in the prior lessons. For best results, do these lessons in the sequence presented.

Search for work – In this lesson, you use Process Administrator to search for work with basic and advanced search criteria.

Modify work – In this lesson, you use Process Administrator to modify work items.

Process and manage work – In this lesson, you use Process Administrator to process and manage work.

Manage workflow exceptions – In this lesson, you use Process Administrator to manage a workflow exception.

Lesson 1.1. Search for work

Lesson

Search for work

Why is this lesson important to you?

- A workflow participant tries to locate a work item in a public queue, but cannot find it. The user calls you, the workflow system administrator, for help. You need to search for work in progress.
- ABC Bank received many loan applications. As the workflow administrator, you need to search for workflows and work items with certain loan IDs to resolve issues with those items.

Figure 1-2. Search for work F2341.0

Notes:

Search for work

Activities that you need to complete

- System Start
- Activity Preparation
- Search for work

Figure 1-3. Activities that you need to complete F2341.0

Notes:

These are the activities that you are going to perform in this lesson.

Search for work

Process Administrator

- You can search for the following objects:
  - Workflows, work items, and events.
- You can perform the following operations:
  - Modify field values, workflow groups, and trackers.
  - Complete work.
  - Delete workflows or work items.
  - Unlock work.
  - Assign or reassign work to users.
  - Open a work item or workflow in Process Tracker
- Access is controlled through Administration Console.
  - User must be a member of the Administrator role.
  - User must have security access rights to the queues and rosters.
  - To assign attachments, user must have access to the object store and documents.

Figure 1-4. Process Administrator F2341.0

Notes:

Help path

FileNet P8 Platform 5.2.0>Integrating workflow into document management>Administering work items>Getting started>Security issues for Process Administrator functionality

Although you can search for work items and events by using the New Workflow Search in Administration Console for Content Platform Engine, this interface does not currently provide all of the functionality that is found in Process Administrator. For this reason, this unit focuses on using Process Administrator for searching and managing workflows.

Access to Process Administrator is controlled through the workflow administrator group. In order to search queues and rosters, the user must have security access rights to the queues and rosters in the isolated region that is being searched. In order to assign attachments, the user must have access rights to view the specified object store and documents. You must log on as a member of the workflow system administrator group to modify items in an active workflow.

Process Administrator does not update work items in a queue to which you do not have access rights. For example, if you attempt to delete an expense reimbursement workflow that has one work item in the WriteChecks work queue and you do not have access rights to WriteChecks, Process Administrator deletes all work items for the workflow except that one.

Access to Process Administrator

As a workflow administrator, you need access to Process Administrator, to an object store, and to workflow rosters and queues. Security access rights to region objects affect the search results displayed in Process Administrator. This limitation applies to all search target types.

Example

You have access rights to the workflow roster but not to the queue. Search results are the following:

- In Edit mode, Process Administrator does not display the work item.
- In Read only mode, Process Administrator displays the work item.

Access to workflow rosters and queues

Viewing, opening, and modifying work items is controlled by the access rights defined for the specific workflow roster or queue. The workflow administrator user must have access rights to the queue or roster in order to see items.

Access to an object store

To assign a document or other object in an object store to an attachment, you must have security access to view the document or file in the object store or library.

Search mode option does not apply to searches for events. Search for workflow events is described in another unit.

Search for work

Search options

- Search Count
  - Returns an approximate count of objects that meet search criteria.
  - Is a fast operation.
  - Is useful for fine-tuning search parameters.
  - Use Search Count before you search in a high-volume environment.
- *Read only (exposed fields)* mode searches
  - Only exposed system and data fields are displayed.
  - Work cannot be edited.
  - Quicker than the same searches in Edit mode.
- *Edit (all fields)* mode searches
  - Display all workflow data fields.
  - Allow editing of data fields individually or globally.
  - Are resource-intensive and slower than Read only mode.

Figure 1-5. Search options F2341.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Administering work items>About workflow and event searches>Counting or searching for workflows

Search Count function

This option returns an approximate count of the objects that meet defined search criteria. This operation is fast and uses the RDBMS layer to give an estimate of how many objects the criteria are likely to return. The Search Count function is useful for fine-tuning search parameters, but might not return the exact number of objects that meet the search criteria. To view the entries that match the specified criteria, click Find Now.

In a high-volume, production environment, a good practice is to use the Search Count option before you perform a generalized search (especially in Edit mode). If Search Count reveals that your search is going to return too many items to be useful, refine the search criteria before performing the search.

Search modes

There are two search modes: Read only and Edit. These modes enable and disable different options. In Read only mode, work cannot be modified and only some data displays can be modified, but Read only mode searches execute more quickly than the same searches done in Edit mode. Edit mode searches expose all information in the item that can be modified, but takes longer to retrieve the data.

Edit mode gives you more information about the returned items and the ability to edit them.

Search for work

Viewing workflows and work items

- When searching for workflows:
  - Process Administrator displays only the root work item.
    - Root work item is the first work item that is created for the workflow.
- To see the current values of each work item:
  - Search for work items instead of workflows.
- The root work item can complete before other work items that belong to the same workflow.
  - The workflow is no longer displayed in the workflow view.
  - Remaining work items for the workflow are displayed in the work item view.

Figure 1-6. Viewing workflows and work items F2341.0

Notes:

Help paths

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Administering work items>About workflow and event searches>About workflows vs. work items

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Process applications concepts>Design and run workflows>System fields definitions

Each work item is assigned a unique identifier by the system and this value is contained in the F_WobNum system field for an item. The system field F_WorkFlowNumber for a work item contains the F_WobNum of the work item that initiated the workflow, also known as the root work item. In Process Administrator, you can view the value of these system fields for work items.

Search for work

View and customize search results

- Results pane displays information from a search.
- Each row represents a workflow, work item, or event from the event log.
- Each column represents a data field or system field in the workflow, work item, or event that is retrieved.
- After search results are retrieved, you can customize the columns (fields) that are displayed.
  - You can show, hide, and rearrange results columns.
- Results are returned in sets.
  - Set size is configured in the “Max returned per set” field.
  - Click the Next Set of Results button to get the next set of matches.
  - Smaller set sizes save retrieval time for the set that is returned, but multiple sets might have to be returned before the item is found.

Figure 1-7. View and customize search results F2341.0

Notes:

Help paths

FileNet P8 Platform 5.2.0>Integrating workflow into document management>Administering work items>About workflow and event searches>About search results

FileNet P8 Platform 5.2.0>Integrating workflow into document management>Administering work items>About workflow and event searches>Showing, hiding, and rearranging the results columns

FileNet P8 Platform 5.2.0>Integrating workflow into document management>Administering work items>About workflow and event searches>Viewing the next set of results

Results pane

Depending on the options that you selected for your search, Process Administrator returns the results in a table with each row representing a workflow, work item, event, or set of statistics.

- If you searched for workflows, each row corresponds to one workflow.
- If you searched for work items, each row corresponds to one work item.

Search results are displayed in tabular form in the results pane. Initial results are displayed according to the settings in the Search Pane Results Options tab. The results display can be changed in the results pane and persists until changed or until the next search is executed.

Not all fields are common to every row because each work item can contain different user-defined data fields. A field that does not apply to the row has dashes (------) in the field.

The columns that are displayed in the results pane depend upon which search mode is selected: Edit mode or Read only mode.

Results sets

You can set the number of items to return in a set. To change the number of rows retrieved in each set, increase or decrease the “Maximum returned per set” value. This value determines the number of workflows or work items to be retrieved at a time. You can increase this number to take better advantage of the ability to update multiple rows at a time. However, the higher you set the number, the longer the search takes to complete.

Results Options tab

You can select and order which workflow or work item fields are displayed in the results pane. More fields are available in Edit mode than in Read only mode.

Use the Results Options tab before executing your search to customize display of search results. Select the columns that you want to see in the results pane. Choose from a list of available columns and order the columns as needed.

You add and remove items from the list. The Available columns list includes all exposed system and data fields. The Selected columns list indicates columns that are selected for display.

Search for work

Ways to refine a search for work

- Enter filter conditions when searching for work.
  - Locate and view information on specific items.
  - Determine the order of results that are displayed by using an index.
  - Especially useful for high-volume systems.
- Limit search to specified users
  - Available only for Inbox and Tracker user queues.
- Set results options
  - Limit the columns that are displayed in the results pane so that finding the item that you want in the search results is easier.

Figure 1-8. Ways to refine a search for work F2341.0

Notes:

Help paths

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Administering work items>About workflow and event searches>Search examples for Process Administrator

Search for work

Use exposed fields in searches

- What are Exposed fields?
  - System and data fields in a roster, queue, or event log.
  - Made available for searches and sorting.
  - Specified in a roster, queue, or event log.
  - User-defined or data fields.
- You use exposed fields in a search filter or when defining an index
- The workflow system uses exposed fields when logging information to the event log

Figure 1-9. Use exposed fields in searches F2341.0

Notes:

Help paths

FileNet P8 Platform 5.2.0>Integrating workflow into document management>Process applications concepts>Design and run workflows>About workflow fields

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Configuring the workflow system>Getting started with Process Configuration Console>Queue, roster, and event log properties>Managing indexes

FileNet P8 Platform 5.2.0>Integrating workflow into document management>Process applications concepts>Design and run workflows>About workflow fields>Choosing from a list of exposed user-defined data fields

- Exposing a field makes it available for use in a search filter, when defining an index, and when logging information to the *event log*. Adding a field to the list of exposed fields does not create the field in a workflow definition—the workflow author does that. In the same way, removing a field from the list of exposed fields does not delete the field—it simply makes the field unavailable for the uses listed above.

- Important: Exposing workflow fields adds to the system overhead, both in space and performance.
- In Process Configuration Console, the workflow administrator creates an exposed field on the Data Fields tab in the Properties dialog for the roster, queue, or event log.
- In Administration Console for Content Platform Engine, the workflow system administrator creates an exposed field from the User Fields or System Fields tabs of the region object (event log, queue, or roster).

Search for work

Use the Criteria tab to filter a search

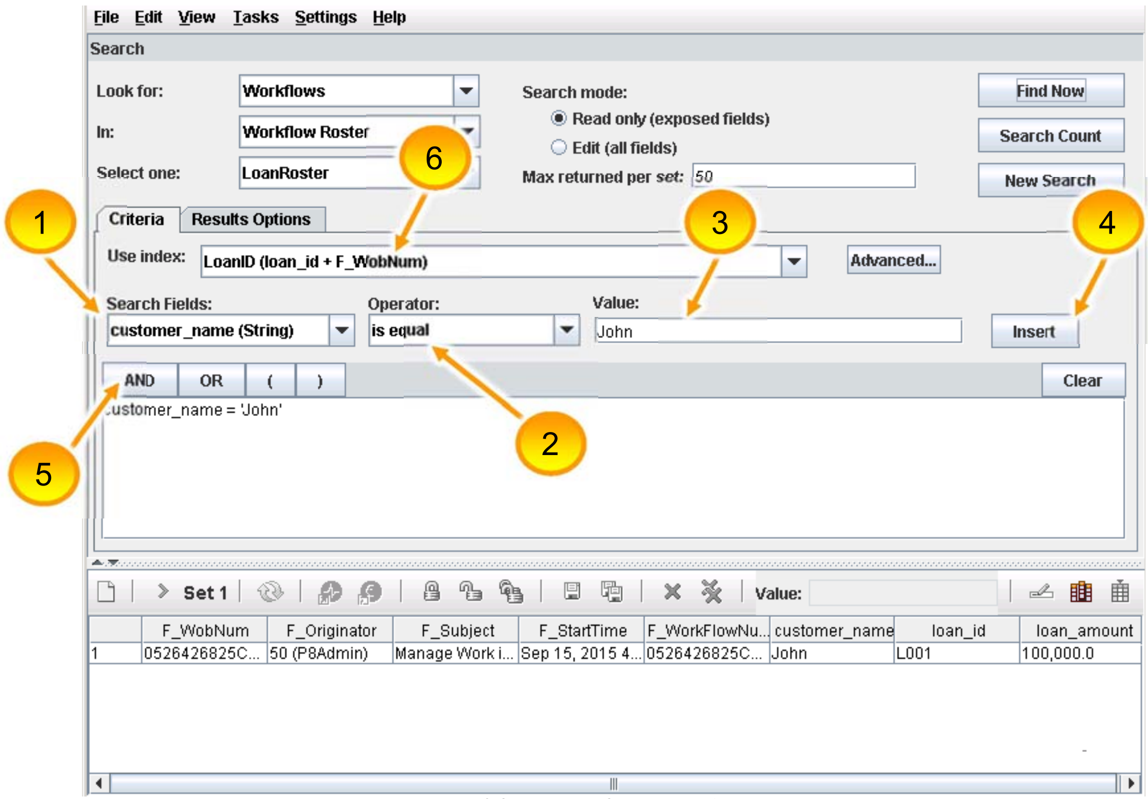


Figure 1-10. Use the Criteria tab to filter a search F2341.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Administering work items>About workflow and event searches>Specify advanced criteria

Build search criteria expression on the Criteria tab

a. Select search field from list of exposed fields.

b. Select operator.

c. Enter value.

d. Click Insert.

e. Add additional criteria

f. Optionally, select an index to further limit the results and determine the display order.

Criteria tab

Use the Criteria tab in Process Administrator to build search criteria expressions. Enter search criteria using a valid SQL expression, or use the expression builder to help create searches using defined fields and functions.

Select a defined index to order the search. This option is available only if an index is defined for the selected object.

You can click Advanced to further restrict the search results by entering minimum and maximum values for the indexed fields.

Search Fields

Select system and data fields that have been exposed for the workflow roster, queue, or event log.

Operator

What to perform on the other parts of the expression. Some operators have different meanings based on the data types.

Value

An expression containing a single variable or literal, or a complex combination of variables, literals, operators, or functions. Enter the value or expression that you want to compare to the Search Field that you selected. See IBM FileNet P8 Information Center for differences between Oracle and SQL in handling search strings.

Editing field

Build the expression for the search criteria in the editing field using the following buttons:

- Insert
- AND
- OR
- (
-)

Alternatively, you can type an expression directly in the editing field.

Index

Select from a list of predefined indexes. If an index is used, the search results are ordered according to the indexed property values. If you select an index, you can click Advanced to further restrict the search results by entering minimum and maximum values for the indexed fields.

Determining the integer ID of a user or workflow group

You might need to search for a particular user or workflow group associated with a work item. Because the value field in a search for users or workflow groups must be an integer, you must determine the number that the workflow system uses to identify that user or group. You can use the `environment` command in vwtool to display the ID for the user or workflow group.

Search for work

Search user queues

- Limit a search to one or more users in the Users tab.
  – Available only for user queues: Inbox and Tracker.
- Default search returns all users, if no users are specified.

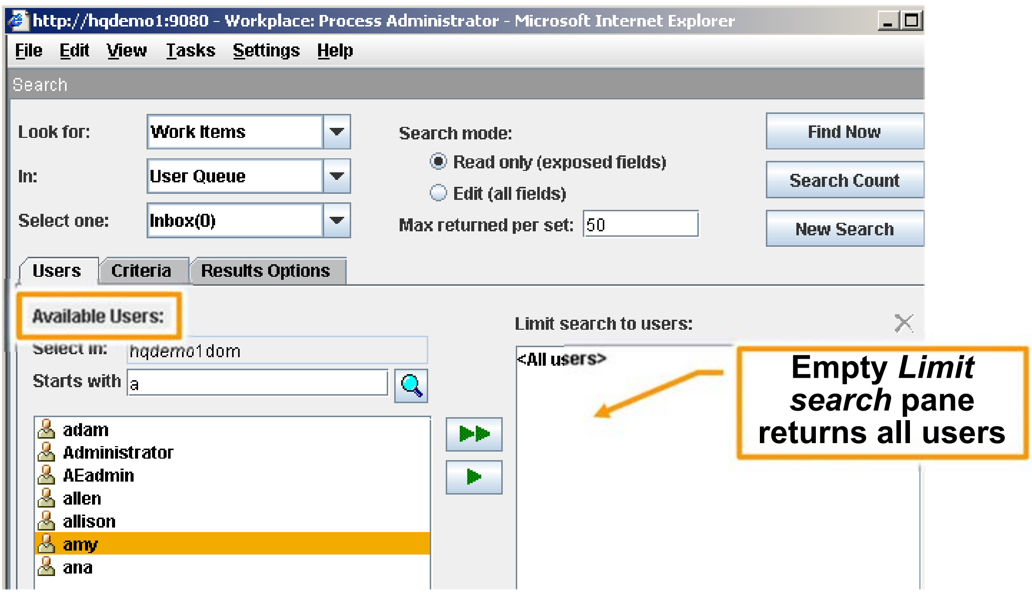


Figure 1-11. Search user queues F2341.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Administering work items>About workflow and event searches>Searching for work assigned to specific users

An additional Criteria tab called the Users tab, is available with the Inbox and Tracker queues. Use this tab to make searching for work by user easier.

This screen capture shows that the group of available users is being searched for by the first letter of the user name, and that the selected name is going to be moved into the column, Limit search to users. If the *Limit search to users* column does not list specific users, all users are searched for.

The Users tab limits the search to work belonging to selected users. By default, work belonging to all users is searched if no users are selected and moved to the *Limit search to users* list.

You select users from the list of available users and move them to the list of selected users using the arrow buttons.

Search for work

View workflow history in Process Tracker

- Locate a work item and view workflow history in Process Tracker.
  – Select a work item and click the Open Tracker button. 
  – View its process maps and identify the current step in the process.

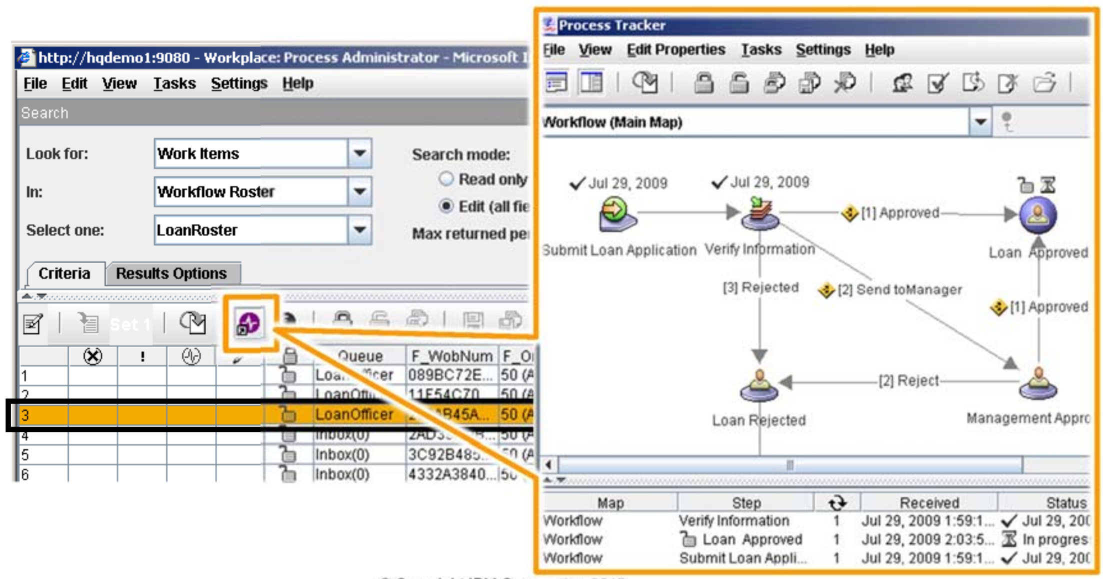


Figure 1-12. View workflow history in Process Tracker F2341.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Administering work items>About managing workflows>Opening work

Process Tracker is often used in combination with Process Administrator to obtain information about a work item. After you have searched for and located a work item or workflow, you can view more information about the work item or workflow using Process Tracker.

As shown in the screen capture, you select the item in the results pane and click the Open Tracker button on the results pane toolbar. A Process Tracker window opens and displays the selected tracker item.

In Process Tracker, you can view workflow history and information about steps and milestones.

From Process Tracker you can complete work, reassign work, open work in a step processor, and terminate work at a step. Methods for modifying and managing work are explained in a later lesson.

Search for work

Demonstrations

- Configure how search results are displayed in Process Administrator.

Figure 1-13. Demonstrations F2341.0

Notes:

Demonstration notes:

This demonstration can be performed only after some workflows have been launched (but not completed). This demonstration requires the Activities preparation activity in the Student Exercises guide for this lesson to have been completed.

Configure how search results are displayed

1. Sign in to ACCE as p8admin and start Process Administrator on LoanProcess object store.
2. Create an Edit mode search for workflows in the workflow roster named LoanRoster.
3. Set the number of search items returned per set to 20.
4. Click Find Now to execute the search.
5. In the search results pane, scroll to the right and confirm that, because the Edit search mode was used, more workflow data fields are displayed than with a Read-only mode search.
6. Click the Show/Hide Columns button in the results pane toolbar to open the Column Selection window.

7. Click the red, double left arrow button between the two lists to move all of the property names from the Selected Columns list to the Available Columns list.
8. Configure the Selected Columns list to include only the following data fields, and arrange the items in the order listed.
   - customer_name
   - loan_amount
   - Interest_rate
   - loan_term
   - F_StepName
9. Examine the search results and confirm that only the selected columns are displayed, and are arranged in the order specified.

Search for work

Activities

In your Student Exercises

- Unit: Manage Work in Progress
- Lesson: Search for work
- Activities:
  - System Start
  - Activity Preparation
  - Search for work

Figure 1-14. Activities F2341.0

Notes:

Use your Student Exercises to perform the activities listed.

Lesson 1.2. Modify work

Lesson

Modify work

Why is this lesson important to you?

- A customer submitted a loan application and the loan is being processed. He wants to change the loan amount in his application. As the workflow administrator, you need to search for this work item and change the value of the loan amount.

Figure 1-15. Modify work F2341.0

Notes:

Modify work

Activities that you need to complete

- Modify work items.

Figure 1-16. Activities that you need to complete F2341.0

Notes:

These are the activities that you are going to perform in this lesson.

Modify work

Reasons to modify work

- To ensure that work is processed according to business requirements.
- To accommodate situations in the work environment:
  - Unavailable users.
  - User errors.
  - Changing attachment links.
- Example

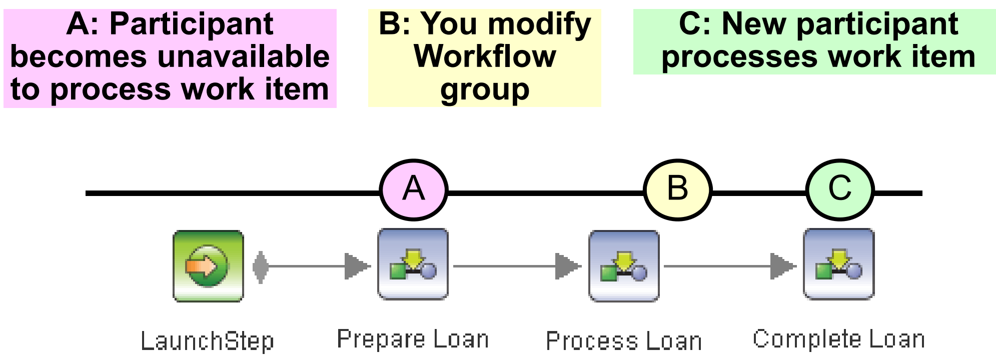


Figure 1-17. Reasons to modify work F2341.0

Notes:

The diagram on this page shows and example workflow map, which illustrates a business context for modifying work. The context is that a participant becomes unavailable, you add a new member to a workflow group before a work item proceeds to another step, and then the new participant processes the work item.

Modify work

Tools for modifying work

- This table identifies the tools that are used to do each modification task.
  – And identifies the work objects that are modified in each task with each tool.

To do this task:	Use this tool:	
	Process Administrator	Process Tracker
Lock work	Workflow, work item	Workflow, work item
Modify simple data types	Workflow, work item	Workflow, work item
Modify workflow groups	Workflow, work item	Workflow, work item
View workflow history	—	Workflow, work item
Edit attachment reference	—	Work item

Figure 1-18. Tools for modifying work F2341.0

Notes:

A workflow administrator uses the Process Administrator and Process Tracker tools to modify workflow elements. As this table shows, both tools allow you to lock work, modify simple data types, and modify workflow groups. Process Tracker also allows you to view workflow history and edit attachment references for a work item.

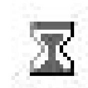
The task menu in each tool makes available the tasks that are applicable for workflows and work items.

Process Administrator does allow a view of a workflow or work item history by viewing event logs. However, this representation of historical information is not as easily viewable as the information that is displayed in the Process Tracker. Typically, an administrator uses Process Tracker to view workflow or work item history.

Modify work

Work item status

- Symbols indicate status of a work item.
  - An hourglass indicates an Active (in progress) step.
  - A check mark indicates a completed step.
  - An unvisited step has no special symbol.
- Work item status affects the ability to edit work items.
- Example from Process Tracker:



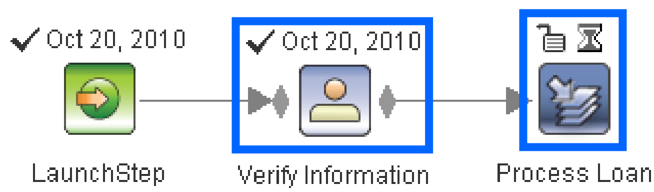


Figure 1-19. Work item status F2341.0

Notes:

Help paths

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Tracking work in progress>How Process Tracker is organized

The diagram is an example of the status of the steps in a workflow as shown in Process Tracker. The first two steps have a check mark that indicates completion of these steps. The third step has an hourglass symbol to indicate the step is currently in progress.

Refer to the IBM FileNet P8 Information Center reference to familiarize yourself with the other symbols used in Process Tracker.

Multiparticipant steps can have a combination of active and completed work items.

Because a step can be visited more than one time, a step can have one or more occurrences that are complete as well as an active occurrence. Process Administrator and Process Tracker treat these steps as active steps.

The status of a workflow step affects the ability to edit work items:

- **Active** status means that one or more work items associated with the step are in progress. You can modify fields, attachments, and workflow groups. You can complete or delete work for items not locked by other users.
- **Completed** status means that all work items for the step are completed. Historical information is available in event logs. Step properties cannot be modified.
- An **unvisited** step means that the step has never been reached in the course of the current workflow. Only workflow definition properties are displayed at unvisited steps. Step properties cannot be modified.

Modify work

Locking work

- You must lock an item before you can edit it.
  - Lock an item to prevent other users from processing the item while you are modifying it.
- You can explicitly lock a work item.
  - Or Process Administrator prompts you to lock (or unlock).
- Administrator with appropriate privileges can override a lock.
  - Example: Unlock work that is locked due to a client failure or other system error.
- Do not lock a work item in the following system queues:
  - Delay.
  - InstructionSheetInterpreter.
  - WSRequest.

Figure 1-20. Locking work F2341.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Tracking work in progress>About editing a workflow>Locking work items

Work items must be locked before you can modify them. You can request a lock at any time, or Process Administrator prompts you to do so when necessary. When you lock a work item, it remains locked until you explicitly unlock it.

When you request a lock on a workflow, Process Administrator must lock all of the work items that are associated with the workflow. In a complex workflow, multiple work items might be active simultaneously for a given workflow.

If one or more of the work items in a workflow have already been locked by the system or by another user, a participant cannot make modifications to work items in that locked workflow. They must wait until it becomes available.

Do not lock an item in the Delay, InstructionSheetInterpreter, or WSRequest system queues. The system controls these queues. If you lock an item in the Delay queue for example, the item might time out and generate an error.

Modify work

About workflow properties

- Workflow properties that can be modified:
  - Simple data types.
  - Arrays of simple data types.
  - Attachments.
  - Arrays of attachments.
  - Workflow groups.
- Examples
  - Simple data types:
    - customer_name, loan_amount
  - Attachments:
    - loan_document
  - Workflow groups:
    - LoanManagers

Figure 1-21. About workflow properties F2341.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Designing workflows>Define workflow properties

Modify work

Modify data field values

- To modify workflow field values:
  – Use Process Administrator to find the work items.
- For simple data types:
  – You can edit field values directly within Process Administrator.
- To edit array data types:
  – Use the Edit Field Values window.
- Most system fields are read-only and you cannot edit them.

Figure 1-22. Modify data field values F2341.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Administering>Administering Content Platform Engine>Administering the workflow system>Editing work items

An array data type is a series of objects, all of which are the same size and type.

Loan application example: bank_statements is an array of attachments data type.

Modify work

Modify workflow groups

- To add or remove users from a workflow group:
  – Use Process Administrator.
    - Tasks > Workflow Groups
- Users that make up the workflow group:
  – Can differ from one work item to another within the selected workflow.
- Users that are not common to all work items are not editable.
- Changes that are made to workflow groups at the workflow level:
  – Affect all work items that are contained in the workflow.

Figure 1-23. Modify workflow groups F2341.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Administering work items>About managing workflows>Managing workflow groups

The “Workflow groups” list contains all workflow groups found in the selected work items. This listing does not mean that each workflow group in the list occurs in every work item.

The Selected Users pane lists all of the users assigned to the workflow group that you have selected. Users that are common to all work items containing the workflow group are displayed in normal print. Users that are not common to all work items are not available for selection and are displayed as gray.

Modify work

Open workflow or work item in Process Tracker

- From the Process Administrator search results pane:
  - You can open a workflow or work item to view or modify it.
- In Process Tracker you can view:
  - A graphical representation of the workflow main map and submaps.
  - Workflow properties.
  - Historical information from the event logs.
- You can modify attachments only in Process Tracker.

Figure 1-24. Open workflow or work item in Process Tracker F2341.0

Notes:

When you open an item in Process Tracker, you can see the following elements:

Workflow main map – You can see a graphical representation of the workflow definition that a workflow author created in Process Designer for this item. The graphical representation shows the steps and routes defined for the workflow. The map also shows the current status of the workflow steps that are in progress, steps that have not been visited, and steps that are locked.

Submaps – In addition to the workflow main map, you can view its submaps. A workflow definition can contain one or more submaps. A submap is a call from one workflow map to another map in the same workflow definition. When the running workflow reaches the submap step, the steps on the called submap are processed beginning at the StartStep. At the end of processing for the submap, control returns to the calling submap step where routing conditions determine how the work advances.

Properties pane – This area shows the details of the selected item, which can be a workflow, step, or route.

History pane – This area lists the actions that have occurred for the workflow or for selected steps. Actions are displayed in a tabular format. You can double-click an item on the Milestones, Workflow History, or Work Items tabs to display the map and step.

Modify work

Modify an attachment reference

- An attachment is a reference to an external object (target).
- Each workflow definition specifies attachments and indicates steps at which each attachment is used.
- In Process Tracker, you can:
  – Assign or unassign a target to an attachment at an active step.
  – View attachment properties and security.
- You must have security access to the target in the object store.

Figure 1-25. Modify an attachment reference F2341.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Process applications concepts>Design and run workflows>Attachments

An attachment is a reference to an external object (target) used by participants to help complete a step in a workflow.

The most common target is a document stored in one of the following locations:

- Content Platform Engine object store
- Image Services (IS) library
- IBM CM8 system
- Fixed-content device

The following are examples of attachments from the Loan Application:

- bank_statements
- loan_document

In order to modify an attachment in Process Tracker, you must have security access that allows you to view the target in the object store or library for any action other than to unassign the target.

Modify work

Considerations for modifying work

- Edit workflows during times of low system activity.
- When modifying a workflow, the changes apply to all work items that make up that workflow.
  – For workflows with many work items, you might not be able to lock all of the work items without conflict.

Figure 1-26. Considerations for modifying work F2341.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Administering work items>About workflow and event searches>About workflows vs. work items

Modifying a workflow versus a work item

You can modify a workflow or a work item. When you modify a workflow, Process Administrator applies the changes that you make to all of the work items that make up the workflow. These wholesale changes can be an advantage when you want to make a single change to an entire workflow, but can be a disadvantage when you are working with workflows that have many participants and therefore many work items. As the number of work items increases, the likelihood of being able to lock all of the work items without conflict decreases.

Modify work

Demonstrations

- Modify single and multiple work items.

Figure 1-27. Demonstrations F2341.0

Notes:

Demonstration notes:

This demonstration can be performed only after some workflows have been launched (but not completed). This demonstration requires prior completion of the Activities preparation activity for the first lesson in the Student Exercises.

Modify single and multiple work items

1. Sign in to Administration Console as p8admin and start Process Administrator.
2. Create and execute an Edit mode search for work items in the workflow roster LoanRoster that have the value "L005" for the loan_id field.
3. Lock the returned work item and select the loan_amount field.
4. Click the Edit Field Values button and change the value to `400,000.0`.
5. Confirm that the loan_amount value in the search results pane has changed.
6. Click the Save Selected Changes button, and then unlock the work item.

7. Sign in to another instance of Workflow Author Desktop as the user mary and verify that the work item in her inbox for loan_id L005 has the new loan_amount value.
8. Create and execute an Edit mode search for work items in the work queue LoanOfficer.
9. Confirm that none of the work items has an Interest_rate value of 4.0.
10. Select the Interest_rate column for all the rows and lock the work items.
11. Click the Edit Field Values button and change the value to 4.0.
12. Confirm that the Interest_rate value in the search results pane has changed.
13. Click the Save Selected Changes button, and then unlock the work items.
14. Sign in to another instance of Workflow Author Desktop as the user Olivia using Internet Explorer.
15. Go to Tasks > Public Inboxes > LoanOfficer and open any of the work items.
16. Confirm that the value in the Interest_rate field has the value that you entered in Process Administrator.

Modify work

Activities

In your Student Exercises

- Unit: Manage Work in Progress
- Lesson: Modify work
- Activities:
  - Modify work items

Figure 1-28. Activities F2341.0

Notes:

Use your Student Exercises to perform the activities listed.

Lesson 1.3. Process and manage work

Lesson

Process and manage work

Why is this lesson important to you?

- A work item is waiting for some missing information. As the workflow administrator, you need to add the information and complete the workflow.
- An employee is out sick. As the workflow administrator, you need to reassign all work items in this employee’s Inbox to another employee.

Figure 1-29. Process and manage work F2341.0

Notes:

Process and manage work

Activities that you need to complete

- Use Process Administrator to process and manage work.

Figure 1-30. Activities that you need to complete F2341.0

Notes:

These are the activities that you are going to perform in this lesson.

Process and manage work

Tools for processing and managing work

To do this task:	Use this tool:	
	Process Administrator	Process Tracker
Complete work	Work item	Work item
Unlock work	Work item	—
Reassign work	Workflow, work item	Work item
Delete work	Workflow, work item	—
Terminate work	Workflow, work item	Work item
Change user availability status or select substitute	Workflow, work item	—
Add or remove trackers	Workflow	Workflow

Figure 1-31. Tools for processing and managing work F2341.0

Notes:

This table identifies the tools that a workflow administrator uses to do management tasks on particular workflow elements (workflow only, work item only, both workflow and work item, or neither).

A Process Tracker user can also delete tracker items from his Tracker Inbox.

Process and manage work

Ways to complete work items

- From Process Administrator, open the work item in the associated step processor.
  – Perform all the actions required to complete the step.
- From Process Administrator, select the work item and use the Complete Work window.
  – Enter responses and comments.
  – You can complete multiple items at one time.
- From Process Tracker
  – Use the Open Work Item window to open a work item in its associated step processor.

Figure 1-32. Ways to complete work items F2341.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Administering>Administering Content Platform Engine>Administering the workflow system>Controlling work item processing>Finishing work items>Completing work items

During normal processing, work items are locked, modified, and dispatched to the next step. Sometimes, an administrator must complete a work item.

To complete one or more work items from Process Administrator, select the compatible work items, and then click Tasks > Complete Work. Then select the work items in the Selected work pane and perform the actions necessary to complete the work item. If the selected items require responses, the items must be from the same workflow and at the same step. If the work items are at different steps, then you must complete each work item individually.

Process and manage work

Assign or reassign work to participants

- With Process Administrator or Tracker:
  - Assign a work item from a work queue to another user or workflow group.
  - Reassign a work item from one participant to another.
  - Return a work item to the work queue or participant from which it came.
  - Designate how reassigned work is approved.
- Important:
  - Do not assign or reassign work items in any system queue.

Figure 1-33. Assign or reassign work to participants F2341.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Administering work items>About managing workflows>Assigning or reassign work

If the *Have the currently assigned participant approve the work* check box is cleared, the work proceeds to the next step after the new participant completes the work. If the check box is selected, the work returns to the original participant's Inbox for review and completion before continuing to the next step. This option is not applicable to work in work queues.

If a user was assigned as a member of a workflow group by mistake, you can remove the invalid user and assign a valid user to the group.

Process and manage work

Terminate work

- When work cannot be completed as expected, do one of the following tasks:
  - Use Process Administrator to terminate workflows and work items.
  - Or, use Process Tracker to terminate a work item.
- Terminating work calls the Terminate system map.
  - Steps on that map are processed.
  - The work item is removed from the system.
- Terminating a workflow versus terminating a work item
  - Terminating a workflow terminates all work items for the workflow.
  - Terminating a work item does not affect other work items in the workflow.

Figure 1-34. Terminate work F2341.0

Notes:

Help paths

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Administering work items>About managing workflows>Terminating work

FileNet P8 Platform 5.2.1>Administering>Administering Content Platform Engine>Administering the workflow system>Controlling work item processing>Finishing work items>Terminating work items

When the Terminate map executes, all active, suspended, or disabled timers for the work item are ended.

When child work items are terminated, they are not routed to a Terminate submap.

The default Terminate submap does not have any additional processing, but a custom Terminate submap can contain steps as defined by the workflow designer.

Process and manage work

Delete work

- Use Process Administrator to delete workflows and work items.
- Delete work in the following situations:
  – A workflow is initiated in error.
  – Errors occur during processing that prevent completion.
- Deleted work is permanently removed from the system with no further processing.
- When you delete a workflow or work item, it cannot be recovered.
- Comparison of deleting a workflow and deleting a work item
  – Deleting a workflow deletes all work items for the workflow.
  – Deleting a work item does not affect other work items in the workflow.

Figure 1-35. Delete work F2341.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Administering work items>About managing workflows>Deleting work

Process and manage work

Designate a substitute participant

- Users can designate a substitute by using IBM Content Navigator workflow preferences.
- You can use the Process Administrator Out of Office option to:
  - Modify the availability status of a participant.
  - Specify a substitute participant.
  - Modify the personal Out of Office setting of a participant.
- Changes affect work items that enter the queue after the change.
- A change in the user's availability does not affect work currently in the queue for that user.
  - To reassign queued items, use the Assign/Reassign Work option on the Tasks menu.

Figure 1-36. Designate a substitute participant F2341.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Administering work items>About managing workflows>Changing the Out of Office settings for a user

Process and manage work

Unlock work

- A work item is locked when a user opens it in a step processor and is unlocked when the work is completed.
  - Other users cannot work on the work item while it is locked.
- Exception conditions
  - An application failure might cause a work item to remain locked.
  - A participant might leave work unprocessed, which results in locked work in that queue.
- Use Process Administrator to unlock work:
  - Search for, view, and unlock locked workflows.
  - View a list of all of the work items in a selected queue that are locked by selected users.

Figure 1-37. Unlock work F2341.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Administering work items>About managing workflows>Unlocking work by users or queues

When a user is working on a work item, that work item is locked in order to prevent other users from overwriting their work. Normally, the work is processed, then unlocked when it is completed.

Sometimes workflows are left locked because of an application failure that left the workflow in a locked state or because a user did not complete their pending work.

You must be a member of the workflow system administration group in order to unlock workflows locked by other users.

You can lock the work, overriding the previous user's lock, and then unlock the work.

Process and manage work

Add and remove trackers

- You can add and remove trackers from a workflow.
  - Use Process Administrator or Process Tracker.
- When you add or remove a tracker:
  - The associated work item in the Tracker queue is automatically added or removed.
- If an add tracker operation fails:
  - You might have locked the work items. You need to unlock them.
  - A workflow participant might have locked a work item. Wait until that user unlocks the work item.

Figure 1-38. Add and remove trackers F2341.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Administering work items>About managing workflows>Managing trackers

A tracker is a participant specified in the workflow definition to track a particular workflow. The tracker participant uses the Process Tracker application to track a particular workflow.

To add a tracker to all the workflows launched in the future, the workflow designer must assign the tracker in the workflow definition.

Process and manage work

Demonstrations

- Use Process Administrator to unlock a work item.

Figure 1-39. Demonstrations F2341.0

Notes:

Demonstration notes:

This demonstration can be performed only after some workflows have been launched (but not completed). This demonstration requires prior completion of the Activities preparation activity for the first lesson in the Student Exercises.

Use Process Administrator to unlock a work item.

Preparation: For this demonstration, you need two locked work items, one in a user's inbox, and one in a public queue. You can use the technique suggested in the student exercise instructions to lock the work items. **Note:** The user mary has work items in her inbox, and the user olivia has access to work items in the LoanOfficer queue.

Use this method to unlock the work item in the user mary's inbox.

1. Sign in to Workflow Author Desktop as the user mary and confirm that a locked work item is in the inbox. Leave the window open.
2. In a second browser window, sign in to Administration Console as p8admin and start Process Administrator.

3. Execute an Edit mode search for work items in the user queue Inbox (0) that have a value of F_LockUser not equal to 0 (zero).
4. Select the work item in the search results pane and click the Lock Selection button.
5. Override the lock on the item, and then click the Unlock Selection button.
6. Go back to the Inbox page for the user mary and refresh the list of work items.
7. Confirm that the lock icon has been removed.

Use this method to unlock the work item in the public queue:

1. Sign in to Workflow Author Desktop as p8admin and confirm that a locked work item is in the LoanOfficer public queue.
2. Start Process Administrator and click Tasks > Unlock Work By Users/Queues.
3. Add the user olivia to the Selected Users list.
4. Select all of the queues in the list and click Details to see how many locked work items there are for that user.
5. If you want to leave some work items locked, note the queue names for only the items that you want to unlock. Then reselect only those queue names in the Unlock Work By Users/Queues window and click OK.
6. Confirm that the work item is unlocked by looking at the public inbox from the Tasks page. If necessary, refresh the list of work items by clicking the name of the queue in the Path line near the top of the window.

Process and manage work

Activities

In your Student Exercises

- Unit: Manage Work in Progress
- Lesson: Process and manage work
- Activities:
  - Use Process Administrator to process and manage work.

Figure 1-40. Activities F2341.0

Notes:

Use your Student Exercises to perform the activities listed.

Lesson 1.4. Manage workflow exceptions

Lesson

Manage workflow exceptions

Why is this lesson important to you?

- A running workflow encountered a business process exception, and there is a work item in the Conductor queue. As the workflow administrator, you must determine what caused the exception and enable the workflow to be completed.

Figure 1-41. Manage workflow exceptions F2341.0

Notes:

Manage workflow exceptions

Activities that you need to complete

- Use Process Administrator to manage a workflow exception.

Figure 1-42. Activities that you need to complete F2341.0

Notes:

These are the activities that you are going to perform in this lesson.

Manage workflow exceptions

About workflow exceptions

- A workflow exception occurs when something goes wrong in a running workflow.
  - The exceptions can be business processing errors or user errors, but not system integrity errors.
    - For example, an invalid user is assigned to a workflow group.
  - The work item is sent to the Malfunction system submap.
  - By default, the Malfunction submap sends the work item to the Conductor queue.
- Generally, the workflow author designs the workflow to handle business processing exceptions.
  - Errors are typically corrected by using specialized error handling submaps and step processors.
  - Work items are then correctly processed rather than being sent to the Conductor queue.

Figure 1-43. About workflow exceptions F2341.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Process applications concepts>Administration and configuration>Troubleshooting>Displaying workflow exceptions

By default, the Malfunction map moves the work item to the Conductor system queue for review by the administrator.

However, the workflow designer generally makes a provision to handle business processing exceptions in a workflow. Errors can be handled by using a special exception processing submap and by using customized step processors to trap and handle the errors that might occur.

Typically, in a production workflow environment, work items do not appear in the Conductor queue if the workflow design has accounted for exceptional business situations.

However, if a work item does go to the Conductor queue, the workflow administrator must be able to identify the work item and research the reason for the exception. Corrective actions must be determined by the workflow administrator, workflow solution architect, and solution developer working together.

Manage workflow exceptions

Conductor queue

- A Conductor queue:
  - Is a system queue for work items in an exception state.
  - Is the default queue where a work item goes when a process exception occurs.
- Items in this queue require administrative action.
  - System cannot process these items without intervention.
  - Corrective action is dependent on the application.
  - Work with the solution designer to identify the recommended actions for your site.

Conductor Review step is the default malfunction process, unless overridden by the workflow designer.

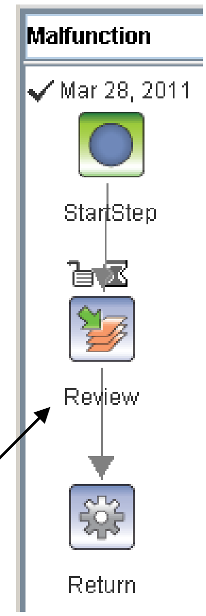


Figure 1-44. Conductor queue F2341.0

Notes:

When a problem in an executing workflow occurs, a workflow exception can occur. For example, if an empty workflow group is assigned as the participant for a step, a workflow exception occurs when processing reaches that step. When an exception occurs, the Malfunction submap is executed, and the work item by default goes into the Conductor queue. The diagram shows an example of the default Malfunction submap. As the diagram shows, the Conductor Review step is the default malfunction process, unless overridden by the workflow designer.

Several situations can cause a malfunction and cause the work item to be placed in the Conductor queue. In addition, a software application developer can define a custom step processor or other application to call the Malfunction system map when specific errors occur. The default Malfunction map moves the work item to the Conductor system queue using a Review step.

The workflow designer can choose to override the default behavior in the Malfunction submap. For example, the work item can be sent to an exception handling queue where a specialized step processor handles the error condition or the work item can be sent to a user who corrects the error.

Manage workflow exceptions

Get information about workflow exceptions

- Perform a search for all work items in the Conductor queue.
  - Results show work items in an exception state.
  - Work items are flagged with the exception icon.
- View information about the reason for the exception.
  - Use Process Administrator or Process Tracker.
  - View the information stack and see the error message.
- Example error message
  - **`Malfunction: [Err=5C020008] The user, group or device object information could not be found.`**
  - Possible causes:
    - User deleted from the directory service.
    - Invalid user assigned to a workflow group.
    - Invalid user assigned to a tracker.
    - Invalid user assigned to a step.

Figure 1-45. Get information about workflow exceptions F2341.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Process applications concepts>Administration and configuration>Troubleshooting>Possible problems

Workflow exceptions can be caused by events, such as division by 0 (zero), an invalid date or time mask, or an invalid participant in a workflow group.

Manage workflow exceptions

View the information stack

- In Process Administrator
  1. Right-click the work item in the search results pane.
  2. Click View Information Stack.
  3. Select the item to view the error message.
- In Process Tracker
  1. Select the Workflow History tab.
  2. Right-click the exception step and click View Information Stack.
  3. Select the item to view the error message.

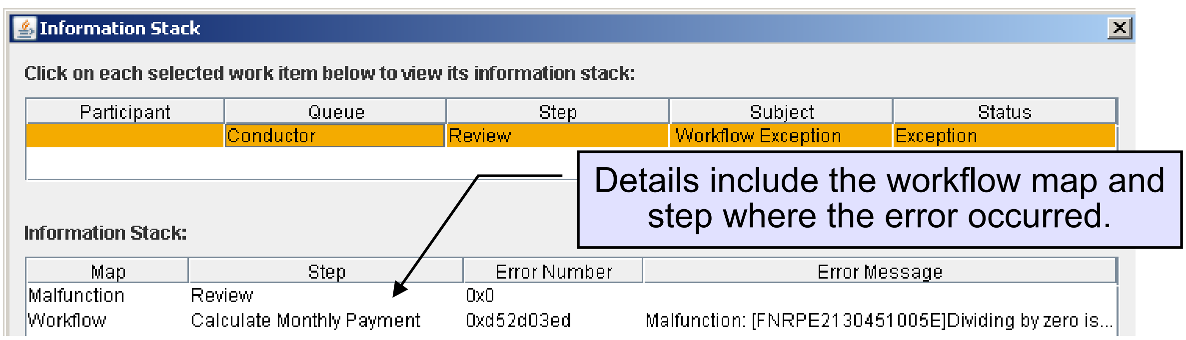


Figure 1-46. View the information stack F2341.0

Notes:

A workflow administrator can use Process Tracker and Process Administrator to examine a running workflow and determine the location and nature of the error. The screen capture shows an example Information Stack window, and points out that the details include the workflow map and step where the error occurred.

Display information stack in Process Administrator

To display any messages associated with an exception, you can view the information stack.

1. Set up and execute an Edit mode search for work items in the exception state.
2. In the returned list of work items, right-click the item with an Exception symbol and click View Information Stack. Or, from the menu bar, click View > Information Stack.
3. Click the work item in order to display the information stack for that item. The information stack lists the workflow map and step where the error occurred, and displays a message describing the error.

Manage workflow exceptions

Modify workflows and work items

- When a problem is found
  - Take corrective action in Process Administrator.
- Possible actions:
  - Delete or terminate workflows and work items.
  - Modify workflow properties, such as data fields or workflow groups.
  - Open work in Process Tracker or step processors.
  - Complete the work.
  - Reassign the work.

Figure 1-47. Modify workflows and work items F2341.0

Notes:

In some cases, the workflow that generated the exception can be corrected and dispatched to complete normally.

This page summarizes some of the corrective actions that can be performed by the workflow administrator using Process Administrator. These topics are explained in other lessons in this unit.

Manage workflow exceptions

Activities

In your Student Exercises

- Unit: Manage Work in Progress
- Lesson: Manage workflow exceptions
- Activities:
  – Use Process Administrator to manage a workflow exception.

Figure 1-48. Activities F2341.0

Notes:

Use your Student Exercises to perform the activities listed.